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Abstract

This research aims to establish, firstly, what the most common decision-making styles are for Asian-born and Australian-born consumers and, secondly, if cultural dimensions have an influence on consumer decision-making styles for high involvement purchases. While there has been considerable research on the relationship between cultural background and consumer decision-making styles with regard to low involvement purchases, not enough research has been done on consumer decision-making styles with regard to high involvement purchases, for example, of automobiles. An established measure of individualism-collectivism was used to identify the differences between two cultural groups and an adapted version of the widely used Consumer Styles Inventory (CSI) was used to measure eight consumer decision-making styles. CSI item content was adapted to refer to the purchase of a high involvement commodity: automobiles. For the purpose of this study several hypotheses were developed, and the hypotheses were tested using t-tests and Multivariate Analysis of Covariance (MANCOVA) with one between-subjects factor (country of birth: Asia, Australia) and six dependent variables (consumer decision-making styles of perfectionist, high-quality conscious; brand conscious; rational, price conscious; confused by overchoice; habitual, brand loyal and innovation conscious).

There were no differences in individualism observed between Australian-born and Asian-born respondents; however there were differences in collectivism observed between Australian-born and Asian-born respondents, such that Asian-born respondents scored higher on collectivism. While there were some differences in the consumer decision-making styles of Australian-born versus Asian-born respondents, these differences were not accounted for by the cultural value dimensions of individualism
and collectivism. Results indicated that Asian-born consumers scored significantly higher than Australian-born consumers on brand conscious and confused by overchoice decision-making styles. There were no significant differences between the two groups in terms of the perfectionist, high quality conscious, habitual, brand loyal and rational, price conscious and innovation conscious decision-making styles.

Managers could consider using different strategies when communicating with Eastern and Western consumer groups. More importantly, these consumer groups seem to have clear needs associated with their characteristics which marketers might engage with when designing new or refining existing automobiles. Possible strategies for Asian-born consumers include focusing on exclusivity of the brand and the status which consumers are able to obtain by buying expensive and prestigious automobiles. Automobile companies could train dealers to best communicate with potential and current consumers within this cultural group as Asian-born consumers are likely to develop a personal association with dealers when buying automobiles. If products and services can be better designed to meet consumer needs, then consumer behaviour could be better predicted decreasing uncertainty for organisations, and giving marketing managers more confidence in marketing strategies. Greater insight into consumer behaviour may facilitate economic stability.

This research has contributed to consumer behaviour theory, practices, and research methodology. The limitations and directions for further studies, which build upon either the theoretical framework, the methodology, or the findings, were also acknowledged.
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frustrated, but I will feel good when I finish. To be honest with you, Sharon, you were never so right.
Statement of declaration

This thesis contains no material which has been accepted at any other university for the award of a degree, and to the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except when due reference is made in the text of the thesis.

Geoff Vincent edited this thesis. The editing addressed only style and grammar and not its substantive content.

Tahmid Nayeem
2012
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<tr>
<td>AIDA</td>
<td>Awareness, interest, desire, action</td>
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<tr>
<td>CDMP</td>
<td>Consumer decision-making process</td>
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<tr>
<td>CDMS</td>
<td>Consumer decision-making style</td>
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<tr>
<td>CFA</td>
<td>Confirmatory factor analysis</td>
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<tr>
<td>CSI</td>
<td>Consumer styles inventory</td>
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<tr>
<td>CVS</td>
<td>Cultural values scale</td>
</tr>
<tr>
<td>df</td>
<td>Degree of freedom</td>
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<tr>
<td>EFA</td>
<td>Exploratory factor analysis</td>
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<tr>
<td>EM</td>
<td>Expected maximum</td>
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<tr>
<td>H</td>
<td>Hypothesis</td>
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<tr>
<td>ML</td>
<td>Maximum likelihood</td>
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<tr>
<td>MVA</td>
<td>Missing value analysis</td>
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<td>WOM</td>
<td>Word of mouth</td>
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1.1 Introduction

This thesis investigates the influence of cultural dimensions (individualism-collectivism) on the decision-making styles of Australian-born and Asian-born consumers with regard to high involvement purchases such as automobiles. This research aims to establish, firstly, what the most common decision-making styles are for Asian-born and Australian-born consumers and, secondly, whether cultural dimensions have an influence on consumer decision-making styles for high involvement purchases. The aim of this research in a marketing context is to understand how marketers might best communicate with potential and current consumers within these cultural groups.

Chapter one provides a rationale and context for this research study, as well as a roadmap for the thesis. The chapter also presents the statement of the research problem, including the background to the research problem. It commences with a short background to the study, which is underpinned by the domain of cultural background and consumer decision-making, followed by a discussion on consumer decision-making styles and Consumer Styles Inventory (CSI) in section 1.3. Section 1.4 provides a rationale for choosing automobiles as a high involvement purchase for this study. Section 1.7 presents a summary of the research methodology and the chapter concludes with an outline of the structure of the thesis. Overall the chapter provides a context for the research and an overview of the arguments to be advanced.
1.2 Culture and consumer-decision making

Until recently, the impact of culture on consumer behaviour was not well understood (de Mooij 2010). Ignoring culture’s influence on consumer behaviour has led to enormous losses for many companies (Bond et al. 2004). People from different countries have different needs and value orientations that raise variations in preferences for products and brands (Manrai et al. 2001). To adopt successful marketing communication strategies, marketers must understand these differences and use this information to make better decisions.

Over the last 20 years, there has been much focus on cross-cultural studies in consumer behaviour research (de Mooij 2010). However, the effect of cultural influences on consumer decision-making styles is under researched (Mokhlis & Salleh 2009). Theoretical models of cultural values and consumer decision-making styles are lacking (Hanzaee & Aghasibeig 2008). Theoretical models that have been developed in cross-cultural consumer behaviour research have focused on complaint behaviour (Watkins & Lui 1996; Abe, Bagozzi & Sadarangani 1996), responses to information technology (Lascu, Manrai & Manrai 2001), and responses to advertising (Piron & Young 1996). For instance, Watkins and Lui (1996) distinguished the individualist and collectivist cultural patterns and offered several propositions dealing with the effect of collectivism on three types of consumer complaint behaviours, such as exit, negative word-of-mouth and voice.

These models are criticised in previous studies (Luna & Gupta 2001; Blodgett, Bakir & Rose 2008). For instance, they do not offer a framework in which literature can be adequately integrated, are not firmly grounded in theory, or do not contain a full explanation of how specific cultural dimensions affect specific consumer buying behaviour components. They are often too complicated to explain consumer decision-
making in terms of cultural differences (de Mooij 2010). Psychological literature concerning consumer decision-making reveals some theoretical models which attempt to describe rational decision-making or explain failures to make rational decisions (Abelson & Levi 1985). However, existing models have failed to fully address the relationship between culture and consumer decision-making (Brew, Hesketh & Taylor 2001; de Mooij 2010).

Consumers with different cultural backgrounds may adopt different purchasing behaviours/styles even for the same product (de Mooij 2010). Climate, raw materials, availability and the country of origin, for example brand name, all influence the preferences of consumers when they are choosing and buying (de Mooij 2003). In addition, in some cultures it is important to follow what society suggests as suitable and meaningful selection criteria for product purchases (Blodgett, Bakir & Rose 2008). This is particularly the case for specialty/high involvement purchases which are very important to consumers and often convey social meaning such as personality, social status, and brand name (Belk et al. 1982). This cultural diversity has led to differences in consumer preferences for products including different demands and tastes for product design, colour, and shape. Product success and popularity heavily depends on cultural trends and preferences (de Mooij 2010). Cultural preferences influence criteria for purchases; in some cultures, prestige, brand name, price, and image, make packaging more important than the intrinsic quality of the products (Lowe & Corkindale 2008). It is important to find out how a product’s symbolic associations differ across cultures to understand consumer decision-making and formulate international marketing strategies (Blodgett, Bakir & Rose 2008). Therefore, marketers might consider developing strategies for brand awareness, brand personality or even product positioning with the impact of cultural differences in mind such as preference, demand, symbolic meaning,
trend, etc. Although several marketing strategies have been developed with culture such as international market in mind (Kotler et al. 2007), there is not enough research on cultural influences on consumer decision-making styles for specific products (Leo, Bennett & Hartel 2005). Such research is needed to help marketers to develop an appropriate marketing mix for different cultural groups.

The aim of the current research is to investigate the relationship between cultural dimensions and consumer decision-making styles used for a specific product such as automobiles. The research may help marketers to identify appropriate communication source and techniques and to target different consumers (in terms of cultural differences) more effectively.

1.3 Consumer decision-making styles and the Consumer Styles Inventory (CSI)

The investigation of consumer decision-making has a long tradition in marketing and consumer behaviour research (Bauer, Sauer & Becker 2006). It is useful to identify consumers' decision-making styles so advertisers and marketers can use such a profile to segment consumers into profitable clusters (Lyonski, Durvasula & Zotos 1996). The most commonly used measure of consumer decision-making styles in cross-cultural studies is Sproles and Kendall’s (1986) Consumer Styles Inventory (CSI) (Radder & Pieterson 2006; Bauer, Sauer & Becker 2006; Hanzae & Aghasibeig 2008). However, the CSI has not been found to be particularly reliable, and this may cause problems for current and future interpretations of its cross-cultural generalisability (Hiu et al. 2001; Bauer, Sauer & Becker 2006). It is unclear whether the CSI, validated with student samples, is suitable for use with different types of consumers. The CSI needs to be tested on non-student samples in order to establish its generalisability to broader
consumer groups (Mitchell & Bates 1998; Leo, Bennett & Hartel 2005). A further limitation of the CSI is that it measures general shopping orientation, with studies focusing on non-specific product types (Lyonski, Durvasula & Zotos 1996; Shim 1996; Mitchell & Bates 1998; Hiu et al. 2001). Recently, a small number of studies have examined the CSI in relation to low involvement purchases (for example, see Leo, Bennett & Hartel 2005; Radder, Li & Pietersen 2006). However, the validity of the CSI in the context of high involvement purchases is not known (Hanzaee & Aghasibeig 2008). Another problem with previous research on the CSI relates to cross-cultural studies of the measure. Past research has examined cultural groups across countries rather than within countries (for example, see Hafstrom, Chai & Chung 1992; Lyonski, Durvasula & Zotos 1996; Leo, Bennett & Hartell 2005). Differences between countries may be due to variability in the climate, demographics, economy and the retail environment rather than cultural differences per se (Lyonski, Durvasula & Zotos 1998; Mitchell & Bates 1998; Leo, Bennett & Hartel 2005). Therefore, it is difficult to compare consumer decision-making styles between two different countries unless the countries have the same consumer environment (Li & Pietersen 2006). The final problem is that the factor structure of the CSI is unstable (Durvasula, Lyonski & Andrews 1993; Lyonski, Durvasula & Zotos 1998; Radder, Li & Pietersen 2006). One of the shortcomings of Sproles and Kendall’s (1986) CSI can be found in the formulation of the items which leads to poor construct validity (number of factors varies across studies) and, as a consequence, in the low to average reliability coefficients (Mitchell & Bates 1998). This also indicates that more improvement and development of the scale is needed. Further studies could develop scales which are culture- and product-specific (Mitchell & Bates 1998; Bauer, Sauer & Becker 2006). In light of the above limitations, this research administered the CSI to an adult sample in the general
population and focused on a specific product: automobiles. The generalisability of the CSI was tested within this context. The study also compared consumer decision-making styles between individualist and collectivist participants in Australia.

This research is important for a number of reasons. First, the findings will extend the literature by determining the effect of cultural background on consumer decision-making styles using the CSI within the context of a specific product. Second, the findings will assist managers and practitioners who need to consider cultural background in recruiting, selecting and training workers who deal with consumers of goods. Third, the findings will provide insight into how automobile companies could position themselves with respect to their marketing strategies in different cultural settings.

1.4 High involvement purchases: automobiles

People may have more than one consumer decision-making style, for example brand conscious, quality conscious, price conscious, innovation conscious etc., and their preferred style may or may not change depending on the situation (Kotler et al. 2009). Research suggests that consumer decision-making styles for high involvement purchases, such as cars, apartments and other specialty products, are likely to be more rational, more money- and labour/time-intensive, and to involve a high degree of information searching and problem solving (Kotler et al. 2007; Satish & Bharadhwaj 2010).

This thesis has chosen to focus on automobiles as a high involvement purchase for a number of reasons: it is an infrequent purchase, not volitional because resources are necessary, and there is risk involved: therefore, information, time and extensive research is required (Satish & Bharadhwaj 2010) and consumers would see the product
as important. The automobile purchase decision is most likely to be made prior to making a brand decision and major car manufacturers provide a full range of car types, for example, sports, sedan, SUV, van etc. As a result, consumers usually know what type they are buying and will not be influenced by the immediate purchase environment. Therefore, it is usually a rational purchase behaviour (Veroplanken & Herabadi 2001; Dann & Dann 2003), and consumers have a clear idea about their car preference.

1.4.1 The Australian automobile industry: at a glance

The Australian automobile industry is essential to the nation’s economy, employing over 64,000 people and accounting for almost 6% of manufacturing employment (Automotive Review Secretariat (ARS): 2008). However, the Australian automotive industry is currently facing intense pressure due to factors such as rising demand for foreign-made cars, increasing fuel costs and the need for cleaner emissions (ARS 2009). A recent report by the ARS (2009) indicated that production of Australian vehicles numbered 327,984 in 2007, a drop of 5% from 2000. In comparison to the global market, this level of production is relatively small, accounting for less than 0.5% of world of production (DIISR 2010). These figures, in combination with the currently unstable global economic environment, mean that it is a crucial time for automobile production and increased in sales in Australia.

Australia has the capability of taking automobile products all the way from concept to full production; the Australian automotive industry is a major investor in innovation, accounting for approximately 17% of all research and development (R&D) manufacturing business expenditure (ARS 2009). Therefore, there is considerable scope to modify Australian automobile products to accommodate consumer preferences. The role of marketing experts is to identify customer preferences and understand the
differences in terms of cultural background to develop communication strategies that target people from different cultural groups.

1.5 Cultural dimensions: individualism-collectivism

In cross-cultural research, the most well-known and broadly analysed dimension of cultural values is individualism-collectivism (Singelis & Brown 2006). Research on individualism and collectivism theory has come a long way since Hofstede (1980) initially proposed the empirically-driven unidimensional construct at the cultural level. The dimension individualism-collectivism is recognised as a defining element of culture (Blodgett, Bakir & Rose 2008).

The individualism-collectivism dimension has been used across numerous disciplines in the behavioural sciences and has been applied in a variety of consumer marketing contexts, for example, studies of advertising (Alden, Hoyer & Chol 1993; Gregory & Munch 1997), complaint behaviour (Liu & McClure 2001; Mattila & Patterson 2004), global brand strategies (Roth 1995), consumer innovativeness (Steenkamp, Hofstede & Wedel 1999), impulsive buying (Kacen & Lee 2002), persuasion (Aaker & Maheswaran 1997), and ethical decision-making (Blodgett, Bakir & Rose 2008). However, more research is needed to explore the influences of individualism and collectivism on consumer decision-making (Lee 2000). To date, little research has been developed to identify how consumer decisions are made in different cultures, including which styles are adopted (Soares, Farhangmehr & Shoham 2007).

Hofstede’s work (1980, 1983, 1984, & 2001) has established that the United States, Australia, the United Kingdom (UK) and other Western countries cluster toward the individualist end of the continuum, whilst India, Pakistan, Thailand, Hong Kong, Taiwan and other Asian countries cluster toward the collectivist end (Hofstede 2001).
According to Hofstede, every national population shares a national culture. ‘National culture’ is the only culture within a nation, culturally distinguishing the population of one nation from the population of another (Hofstede 2001). McSweeney (2002) critiqued Hofstede’s model of national cultural differences, arguing that assumption of equating nation with culture provided a limited representation of culture. McSweeney suggested that alternative conceptions of culture should consider multiple, non-national influencing factors. Perhaps the most significant alternative view to Hofstede’s national culture to have emerged is the view that cultural dimensions such as individualism and collectivism operate in all societies, and individualistic and collectivistic tendencies can be found within any given culture at different levels (Ho & Chiu, 1994; Triandis, 1995; Schwartz, 1990). While Hofstede’s view suggests that Eastern cultures are collectivistic and Western cultures are individualistic, the alternative view suggests that Easterners and Westerners do not necessarily differ from one another on these dimensions.

There are some attempts to identify the cultural differences in decision-making between these two groups (East vs. West) (Omar 2009). For example, decision-making in Eastern cultures is generally a group activity (Doran 2002), with reliance on word-of-mouth communication such as informal channels because of the high contact rate among group members (Gurhan-Canli & Maheswaran 2000). They usually follow their traditions and are less likely to show interest in innovation. New things are often viewed with great skepticism and may only be acknowledged after long resistance (Cowley 2002). On the other hand, decision-making in Western cultures is an individual activity (Gurhan-Canli & Maheswaran 2000) and innovation is more readily accepted (Lee, Bennett & Hartel 2005). It is important to identify similarities in, and differences between, the behaviours of these two cultural groups, in particular within consumer decision-making contexts (de Mooij 2000). This research compares the decision-making
styles of Australian-born (Western) and Asian-born (Eastern) consumer groups within
the context of high involvement purchases.

1.5.1 Singelis’s individualism and collectivism measure

Inspired by Hofstede (1980), Singelis and his colleagues (1995) identified four
cultural syndromes: complexity, individualism, collectivism and tightness. The
individualism-collectivism dimension has been articulated and validated most notably
by Singelis, Hui and other colleagues (for example, see Yoo, Chang & Han 2006), and
has been used in several studies to verify the implications of a range of psychological
and marketing theories in a cross-cultural setting. Singelis’s individualism-collectivism
has received much attention in social psychology, anthropology, management,
marketing and other social sciences. Although other taxonomies have been developed
(Gurhan-Canli & Maheswaran 2000), it is Singelis’s framework that has provided the
foundation upon which most cross-cultural marketing and consumer behaviour research
has been based (Yoo, Chang & Han 2006). The current research adopts the Singelis et
al. (1995) framework in order to measure cultural differences between the Australian-born
and Asian-born consumer decision-making styles within the context of automobile
purchase behaviour. The following research questions are developed for the purpose of
this study:

1. How does cultural background affect consumer decision-making styles
   applied to high involvement purchases such as automobiles?

2. What are the decision-making styles of Australian-born and Asian-born
   consumers when purchasing automobiles?

3. Do the decision-making styles associated with purchasing automobiles
differ for these two cultural groups?

4. In what areas do these groups behave similarly or dissimilarly?
1.6 Conceptual framework

For the purpose of this study, a conceptual framework has been developed which is shown below in Figure 1.1. The overall aim is to develop and empirically test a model that is capable of predicting the consumer decision-making styles of Australian-born and Asian-born consumers. The framework is developed within knowledge and information based on existing literature in cross-cultural consumer behaviour and consumer decision-making studies. The framework also integrates Hofstede’s (1980) ideas about the differences between Western and Eastern cultures with Sproles and Kendall’s (1986) model of consumer decision-making styles which assumes the existence of eight styles: perfectionist, high quality conscious, brand conscious, recreational shopping conscious, price conscious, impulsive buying, confused by overchoice, brand loyal and innovation consciousness. The framework outlines the hypothesised differences in consumer decision-making styles between the two cultural groups of Australian-born and Asian-born consumers. The idea behind developing the conceptual framework is to answer the above-mentioned research questions (see previous section 1.5.1). The hypotheses shown in the conceptual framework needed to be tested to answer research questions one, two and three. The answer to research question four will be informed by the combined answers to questions one, two and three. In the following Figure 1.1, arrows indicate positive relationships.
1.7 Methodology adopted for the thesis

The methodology adopted for this research is described in detail in chapter three. The methodology was adapted from Kumar (1990). In order to provide a better understanding of consumer decision-making styles between the two different cultural groups, Australian-born and Asian-born, in terms of a high involvement purchase, a quantitative method was used to collect and analyse data. The research process essentially consisted of various stages that guided the project from its conception to analysis and recommendations (Kumar 1990). These stages lay a foundation for a
logical and planned approach to conducting marketing research, prior to its instigation (Kumar 1990). However, as Aaker et al. (2001) suggested, these stages are not mutually exclusive; rather, they are integral to the ongoing planning process that determines the strategies to be implemented. Therefore, a model systematic approach to research was applied in this thesis (see below Figure 1.2).

**Figure 1.2: Systematic research approach/method**

Source: Adapted from Kumar (1990).
The research project is positioned at a theory building level, in that the aim is to contribute to the corpus of theory regarding cultural differences in consumer decision-making styles. The research uses self-administered questionnaires to measure the following consumer decision-making styles: (1) perfectionist, high quality conscious, (2) price conscious, (3) confused by overchoice, (4) habitual, brand-loyal, (5) impulsive, (6) recreational, hedonistic shopping conscious, (7) brand conscious and (8) innovation conscious. The research also uses an established measure of individualism-collectivism (Singelis et al. 1995) to identify the differences between the two cultural groups. In addition, it uses an adapted version of Sproles and Kendall’s (1986) widely used consumer styles inventory (CSI). In particular, item content has been adapted to measure consumer decision-making styles for high involvement purchases, specifically, automobiles. Reliabilities are reported for the final subscales (see Results chapter). The factor structure, including discriminant validity, was established using confirmatory factor analysis (see Results chapter, section 4.9).

All data were quantitative in nature and variables represented a combination of nominal, ordinal and scale (continuous) variables. Quantitative data were appropriate, given that the aim was to compare means on the key study variables across the two cultural groups. As a result of the nature of the data, the hypotheses were tested using t-test and Multivariate Analysis of Covariance (MANCOVA), with one between-subjects factor (cultural background: Australian-born versus Asian-born), and eight dependent variables, which were the consumer decision-making styles.
1.8 Structural outline of the thesis

The thesis is divided into five chapters and is organised as follows:

1.8.1 Chapter one

Chapter one presents the statement of the research problem, including the background to the research problem. It provides a context for the research and an overview of the arguments to be advanced.

1.8.2 Chapter two

Chapter two provides a critical assessment and evaluation of the relevant literature, including the nature of consumer decision-making styles, and cross-cultural differences in consumer decision-making styles as reported in previous research. In addition, the chapter explores variables that might explain cross-cultural differences in consumer decision-making styles, for instance, the differences between cultural dimensions such as individualism and collectivism. The differences between high involvement and low involvement purchase situations are also discussed, and it is argued that cross-cultural differences in consumer decision-making styles associated with low involvement purchases might not be generalisable to high involvement purchases. The chapter also presents the research questions and hypotheses to be tested, including the rationale for each hypothesis.

1.8.3 Chapter three

In chapter three, the research design and methods are described. The chapter commences with a discussion of the research design and research paradigm employed, including a rationalisation of the quantitative method approach supporting this research. The reliability and validity of tests for measures used in the study are discussed. The chapter provides information about data preparation, including missing value analysis,
and also the reason for using factor analysis, for example, exploratory and confirmatory factor analysis, for this research.

**1.8.4 Chapter four**

In chapter four, statistical analysis of the data is described and the results are presented. The chapter provides the results of the exploratory factor analysis (EFA) and the confirmatory factor analysis (CFA) for the consumer styles inventory outcomes. Chapter four also discusses the assessment of the validity and reliability of the constructs. Finally, the chapter ends by examining several hypotheses which explore the relationship between the cultural groups and consumer decision-making styles. Data related to each hypothesis is examined and the findings reported. The confirmation or rejection of the research hypothesis is also presented.

**1.8.5 Chapter five**

In chapter five, the findings are discussed and synthesised with the literature. This is followed by analysis of each of the hypotheses. The original research questions are reviewed. The theoretical and managerial implications are discussed and the main contributions to knowledge are detailed. The limitations of the research are acknowledged and suggestions for future research are made. Finally, conclusions are drawn from the research findings.

Figure 1.3 provides a road map to the structure of the thesis.
Figure 1.3: Road map of the thesis

Chapter 1
Introduction

Chapter 2
Literature review
- Cultural backgrounds
- Consumer decision-making styles
- High involvement purchases: automobiles

Chapter 3
Research method
- Quantitative approach/method
- Self-administered questionnaire

Chapter 4
Results
- Data sources
- Findings

Chapter 5
Discussion
- Research discussion
- Contribution to theory and practice
- Conclusion
1.9 Chapter Summary

The chapter provides a rationale and context for this research study and a roadmap for the thesis. This chapter also presents the statement of the research problem, including the background to the research problem. It commences with a short background to the study which is underpinned by the domain of cultural background and consumer decision-making, followed by a discussion on consumer decision-making styles and the consumer styles inventory (CSI). The rationale for choosing automobiles as a high involvement purchase for this study is also provided. At the end of the chapter, a summary of the research methodology is presented, followed by an outline of the structure of the current study. Overall, the chapter provides a context for the research and an overview of the arguments to be advanced.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of the literature that relates to the current study drawn from the three principal domains, namely cultural backgrounds, consumer behaviour and consumer decision-making styles, with a focus on and specific reference to high involvement purchase situations, for example, automobiles. This chapter is divided into four sections. Firstly, it aims to provide a broad introduction to the influence of the cultural dimension of individualism-collectivism on consumer behaviour. Secondly, the chapter introduces the context of high involvement purchases, including the decision-making process behind automobile purchases and the rationale for choosing automobiles as the focus of this research. Thirdly, the chapter presents a detailed overview of consumer decision-making styles, their measurement (the consumer styles inventory (CSI); Sproles and Kendall 1986) and the rationale for using the measure for this study. Finally, the chapter presents eight hypotheses regarding cultural differences between Australian-born and Asian-born consumers’ decision-making styles in relation to automobile purchases. In the following, Figure 2.1 provides a road map to this chapter.
2.1 Introduction

2.2 The impact of culture on consumer behaviour

2.3 Introducing Hofstede’s cultural dimensions

2.3.1 Power distance

2.3.2 Uncertainty avoidance

2.3.3 Masculinity-femininity

2.3.4 Individualism-collectivism

2.3.5 Long-term and short-term orientation

2.4 Hofstede’s cultural dimensions in consumer behaviour studies

2.4.1 Use of individualism-collectivism in consumer behaviour studies

2.5 Cultural differences in purchase behaviour between individualist and collectivist consumers

2.6 Product involvement

2.6.1 High involvement purchases

2.7 Consumer decision-making process for automobile purchases

2.8 The Neal, Quester and Hawkins model (2000) model

2.8.1 Relationship with the model

2.8.1.1 Information search

2.8.1.2 Evaluation and selection

2.8.1.3 Purchase

2.9 Consumer decision-making styles

2.9.1 Consumer styles inventory (CSI)

2.10 Application of the CSI in this study

2.11 The influence of individualism and collectivism on consumer decision-making styles

2.11.1 Hypothesis 1

2.11.2 Hypothesis 2

2.11.3 Hypothesis 3

2.11.4 Hypothesis 4

2.11.5 Hypothesis 5

2.11.6 Hypothesis 6

2.11.7 Hypothesis 7

2.11.8 Hypothesis 8

2.12 Chapter summary
2.2 Impact of culture on consumer behaviour

Culture is a powerful force in regulating human behaviour. It consists of a common set of behaviour patterns that are transmitted and maintained by the members of a particular society through various means (Arnolds & Thompson 2005). For example, members within the same culture have similarities of language (Lee 2000), pattern instruction (Kelley & Wendt 2002) and imitation (Barney 1986), and they share the same values (Hofstede 2001). These values are likely to affect consumer behaviour and set the choice of criteria used by individual consumers.

Cultural values are the vehicles which carry culturally-determined knowledge from one generation to another; that is, they are the form in which culture is stored and expressed (Mourali, Laroche & Pons 2005). These values are socialised into a particular group and are passed on to the next generation (Triandis 1995). As a result, values persist over time and, therefore, may have an influence on the way consumers behave. This further influences the choices that individuals make regarding consumer decisions from everyday products to major purchases (Luna & Gupta 2001).

There is hardly any aspect of life that cultural values do not affect (Mourali, Laroche & Pons 2005). The cultural value system includes cultural elements that people have in common with the group to which they belong, as well as idiosyncratic values unique to that individual (Luna & Gupta 2001). Societal culture, as well as regional subculture and familial values, all influence the formation of an individual’s cultural values. Thus, from the beginning of an individual’s existence, he/she experiences the benefits and restrictions of a particular culture, and those benefits and restrictions may become a major influence upon consumers’ purchasing decisions (de Mooij 2000). For example, some cultures have a general trait of caution towards new experiences. Consumers from these cultural backgrounds are more likely to rely on traditional values...
(Manrai et al. 2001), which means, first of all, that they learn through observation rather than immediately purchasing new or innovative products. This approach creates limitations in terms of product preferences or choices (Leo, Bennett & Hartel 2005). Cultural value differences among consumers may cause difficulties for researchers in understanding consumer behaviour in a multicultural environment.

However, culture is generally accepted by marketing researchers as one of the most important underlying determinants of consumer behaviour (de Mooij 2002). Marketing researchers have used cultural dimensions, for example, individualism-collectivism, to measure the impact of cultural values in consumer behaviour research (see Luna & Gupta 2001). Previous studies include cultural differences in consumer complaint behaviour (Liu & McClure 2001), consumer innovativeness (Steenkamp 2001), consumer retailing (de Mooij & Hofstede 2002) and impulse buying (Kacen & Lee 2002). Individualism-collectivism is, a key concept that has been successfully used in cross-cultural marketing research (Bond et al. 2004).

With so much emphasis on individualism-collectivism in cross-cultural marketing research, it is surprising to note that there is very little information regarding the influence of individualism-collectivism when buying specific products (Luna & Gupta 2001). In more general terms, research has shown that culture may act as an intention inhibitor for specific products (Henry 1976). Therefore, it may be reasonable to assume that commonly held individualism-collectivism values can shape (to some extent) the choice of what is or is not valued among specific products. These values may lead to different product choices being made by individuals within particular cultural groups such as Western (Australian-born) and eastern (Asian-born) (Doran 2002). If this relationship between cultural group and specific product purchases can be demonstrated, then culture can become an even more useful and valuable marketing tool.
(Manrai & Manrai 1996; Jung & Sung 2008). This study aims to achieve this by investigating individualist and collectivist consumers’ purchasing behaviour for specific products, namely automobiles.

Previously, several marketing researchers (see, for example, Gregory & Munch 1997; Jung & Sung 2008; de Mooij 2010) have adopted Hofstede’s (1997, p. 5) definition of culture, “the collective programming of the mind which distinguishes the members of one group or category of people from another”, to examine cultural differences between two or more countries or cultures (Mourali, Laroche & Pons 2005). Hofstede is highly renowned for his definition of culture (de Mooij 2000), and his dimensions are widely used in marketing research (Fam & Grohs 2007). The following discussion introduces Hofstede’s five cultural dimensions.

2.3 Introducing Hofstede’s cultural dimensions

Hofstede’s dimensions have been used in several studies to verify the implications of a range of psychological (Triandis 1990; Mak, Law & Teng 2011) and marketing (Green & Paez 2005) theories in a cross-cultural setting. In a study of 50 countries and three regions, Hofstede (1980) identified four dimensions of culture: power distance (the extent to which a less powerful group accepts and expects that power is distributed equally); uncertainty avoidance (the degree to which a society tries to control the uncontrollable); masculinity-femininity (the distribution of emotions between the genders, ranging from tough masculine to tender feminine); and individualism-collectivism (“self” versus “in-group”). Together with Bond (1988), Hofstede also identified a fifth dimension, which has become known as long-term/short-term orientation, a Confucian dynamic which measures the degree to which members of
a society are programmed to accept delayed gratification of their needs. Below is a brief
description of Hofstede’s five cultural dimensions.

2.3.1 Power distance

According to Hofstede (1984), Eastern countries are high on power distance and
Western countries are low on power distance. This dimension measures citizens’
expectations and acceptances of the power distribution within a society (Hofstede
1984). It is reflected in the values of both the less powerful and more powerful members
of a society. Hofstede’s cultural dimension of power distance explains inequality in
prestige, wealth and power. People from low power distance cultures, such as United
States and Australia, accept power relations that are more consultative or democratic.
They relate to one another more as equals, regardless of formal positions. In contrast,
people from power distance cultures, for example, countries in Asia, accept power
relations that are autocratic or paternalistic. In power distance cultures, one’s social
status must be clear so that others can show the proper respect (de Mooij 2010). As Ho
(1995) noted, the concept of face value is emphasised in power distance cultures, which
leads to a greater need to maintain status and prestige. As a result, the members of
power distance cultures find significance in such items as English tea, French perfume,
German cars, Chinese silk and Japanese electronics (Triandis et al. 2008) because they
are expensive and stylish. They purchase expensive brands in order to fulfil a need to
earn high prestige or high social status (Dhar 2007). For example, buying expensive
brands of automobiles can serve the purpose of displaying a high social status (Wong &
Ahuvia 1998).
2.3.2 Uncertainty avoidance

According to Hofstede (1984), Eastern countries are strong on uncertainty avoidance and Western countries are weak on uncertainty avoidance. This dimension measures how anxious members of a society are about the unknown and, as a consequence, how they attempt to cope with anxiety by minimising uncertainty (Hofstede 1984). In cultures with strong uncertainty avoidance, such as in Asian countries people prefer precise rules about such aspects as religion and food or drink and formally structured activities. Consumers from strong uncertainty avoidance cultures are more interested in the process of how the decision is made than in the results. On the other hand, in weak uncertainty avoidance cultures, such as Australian people favour hidden or flexible rules or guidelines and informal activities.

The uncertainty avoidance dimension discriminates between cultures in which innovations are adopted early and cultures in which people delay the adoption process (de Mooij 2004). Consumers within a weak uncertainty avoidance culture are less likely to be concerned with the image they portray to others. They tend to appreciate new things and, therefore, adopt variety-seeking tendencies due to the cultural assumption that they are very self-expressive in their decision-making process (Jung & Sung 2008). They are less concerned with others’ reactions to their ideas and actions than consumers from cultures with strong uncertainty avoidance. Consumers from weak uncertainty avoidance cultures are more likely to try new things and to want to be creative by seeking variety and novelty in their purchase decisions (Burns & Brady 1992).
2.3.3 Masculinity and femininity

According to Hofstede (1984), Western countries are high on femininity and Eastern countries are high on Masculinity. This dimension indicates the extent to which dominant values in a society tend to be assertive or sympathetic (Hofstede 1984). Masculinity and femininity refer to the degree to which persons see themselves as masculine or feminine, given what it means to be a man or woman in society (Arrindell, Steptoe & Wardle 2003). Masculinity and femininity are rooted in social distinction (gender), rather than in biology (one's sex). Members of society decide what being male or female means, such as dominant or passive, brave or emotional, and men will generally respond by defining themselves as masculine, while women will generally define themselves as feminine.

A person with a more masculine identity engages in behaviours whose meanings are more masculine such as behaving in a more autonomous, competitive and dominant manner (Ashmore, Del Boca & Bilder 1995). In masculine societies, status is also important to show success (Arrindell, Steptoe & Wardle 2003). In contrast, societies that score low on the masculinity index (feminine cultures) are more service-oriented. Quality of life is more important than competition and status, and it is not so important to show success. In feminine cultures, men can take female roles or jobs without appearing “weak”. In this culture, people consume products for use, and not for ‘show’ or to represent status (Arrindell, Steptoe & Wardle 2003). The masculine/feminine dimension distinguishes cultures, particularly with respect to values related to winning, success and status (de Mooij 2004). For example, consumers with more masculine identities may purchase expensive brands of automobiles to show that they are very successful because expensive brands are associated with high price and high social status (Wong & Ahuvia 1998). Conversely, consumers with more feminine identities
are likely to buy more functional products that will be useful to them because they want their products to perform well and be more durable (Ashmore, Del Boca & Bilder 1995).

### 2.3.4 Individualism and collectivism

According to Hofstede (1984) Western countries are individualistic and Eastern countries are coolectivistic. Individualism-collectivism is a commonly used cultural dimension in marketing research because of its appropriateness in measuring cultural differences between Eastern and Western cultures (de Mooij 2003). Individualism describes a culture in which everyone is expected to look after himself or herself and his/her immediate family only. In individualist cultures, identity is defined by what one owns, experiences and accomplishes (Kim et al. 2003). Individualist values mainly encompass the ideas of being independent from others and in control of surrounding environments. People from individualist cultures tend to think only of themselves as individuals and as “I” distinct from other people. Therefore, consumers from individualist cultures are less likely to involve others in their purchase decisions (Phau & Lau 2001).

In contrast, people from collectivist cultures, focus more on others and on making sure that behaviours, expressions and desires fit into what is welcomed and acceptable to the collective (Hofstede 2001). Collectivists from birth onwards are integrated into strong cohesive in-groups which, throughout their lifetimes, continue to protect them in exchange for unquestioning loyalty (Hofstede 1994). People from collectivist cultures emphasise groups and think more in terms of “We” than “I”. Consumers from collectivist cultures are more likely to look for social approval from others and, therefore, to involve other people in their purchasing decisions (Phau & Lau 2001).
2.3.5 Long-term and short-term orientation

According to Hofstede (1984), Western countries exhibit short-term orientation and Eastern countries exhibit long-term orientation. Long-term/Short-term orientation is Hofstede’s fifth dimension, and was added after the original four to try to distinguish the differences in thinking between Eastern and Western cultures (Bond et al. 2004). According to Hofstede (2001, p. 359), “long-term orientation stands for the fostering of virtues oriented towards future rewards, in particular perseverance and thrift. Its opposite pole, short-term orientation, stands for the fostering virtues related to the past and present, in particular, respect for the tradition, preservation of ‘face’ and fulfilling social obligation”.

The consequence of long-term orientation is that there is not one truth. There is acceptance of change, perseverance, thrift and pursuit of peace of mind. The opposite is short-term orientation, where spending today is more important than saving for tomorrow. In addition, cultures that exhibit a short-term orientation show the importance more of self-belief and short-term thinking. In contrast, cultures characterised by a long-term orientation show the importance of family bonding and long-term thinking. In terms of purchasing behaviour, they are likely to follow group decision-making and in that case they are expected to involve several people when seeking opinions and advice for their purchasing decision. For example, Brew and Taylor (2004) found that consumers from long-term orientation cultures are family-orientated and are more likely to respect familial goals, honour obligations to friends and work as a team with family members in a decision-making situation than consumers from short-term orientation cultures. This dimension is not very widely used in consumer behaviour research because its measurement started later than the other four dimensions (Bearden, Money & Nevins 2006).
The following section explains the use of Hofstede’s dimensions in consumer behaviour research.

2.4 Hofstede’s cultural dimensions in consumer behaviour studies

All five of Hofstede’s cultural dimensions have been used in several studies in the area of consumer behaviour research (Green & Paez 2005). For example, dimensions such as uncertainty avoidance (see Vishwanath 2003), masculinity-femininity (Ndubisi 2006), power distance (see, for example, Lynn, Zinkhan & Harris 1993) and individualism-collectivism (see Fam & Grohs 2007) have been used in several marketing studies. However, the dimension individualism-collectivism has received more use in cross-cultural consumer behaviour studies because of its ability to describe differences in consumers’ preferences in a buying situation (Green, Deschamps & Paez 2005). The following discussion highlights the importance of the individualism-collectivism dimension in consumer behaviour studies.

2.4.1 The use of individualism and collectivism in consumer behaviour studies

Individualism-collectivism is the most widely used cultural dimension in consumer behaviour research and is considered to be one of the most effective and useful ways of describing cultural differences between Eastern and Western cultural groups (Liu & McClure 2001). For example, Mann et al. (1998) focused on individualist societies such as United States, Australia and New Zealand, and collectivist examples such as Japan, Hong Kong and Taiwan in order to study the influence of cultural values on how people make decisions. Results showed that Western (individualist) consumers were more confident in their decision-making abilities than Eastern (collectivist) consumers because they used their own knowledge
and information rather than relying too much on friends/family or reference groups. These findings were consistent with Ohubuchi, Fukushima and Tedeschi’s (1999) study, which similarly investigated these cultural groups. They found that Western consumers preferred assertive tactics and Eastern consumers favoured avoidance tactics in their decision-making. Individualist consumers are likely to make the decision to purchase on their own using the knowledge and information they have gathered personally (Doran 2002). In contrast, collectivist consumers are reluctant to make the decision to purchase on their own and, therefore, prefer family and friends’ involvement in their decision-making. As the study by Mann et al. (1998) shows, there is a connection between Western cultures such as those of the United States and Australia and individualism, and Eastern cultures such as Japan and India and collectivism.

A number of studies in cross-cultural marketing research are based on the theory that cultures differ in the extent to which they emphasise individual or group outcomes; that is, whether they are individualists or collectivists (Fam & Grohs 2007). However, none of these previous studies have managed to identify the areas in which these groups behave similarly or dissimilarly when making purchase decisions, or how these similarities and differences can be understood. Due to globalisation and the increase in multinational companies, marketers are required to communicate with a wider cultural range of consumers (Bond et al. 2004). The differences between purchasing behaviours in individualist and collectivist cultural groups is one of the central topics for cross-cultural consumer behaviour research, because it will help to identify how marketers might best communicate with potential and current consumers within these consumer groups (de Mooij 2003). In order to identify how marketers might best communicate, researchers need to understand the differences or similarities that exist between these consumers in terms of making a decision to purchase. There is a need for more research,
building on previous research that identifies the differences and similarities between Western and Eastern consumers’ buying behaviour, so that the information can be used to aid in the development of successful communication strategies (Bond et al. 2004).

Previous studies have found that people from collectivist countries prioritise collective goals and social interests, and reject personal goals and self-interests (see Singelis et al. 2001). Individualist societies, on the other hand, are often characterised by what is called “rugged” individualism, a mentality according to which each person is a unique entity, separate from the group (Bond et al. 2004). The culture in which a person is raised influences the way he/she is socialised in terms of individualist and collectivist tendencies (Gudykunst et al. 1996), and these tendencies are likely to be noticed in all types of behaviour from social interaction to consumer decision-making (de Mooij & Hofstede 2002). Despite the proven connection between cultural dimensions and consumer decision-making, previous studies have not examined how cultural dimensions such as individualism-collectivism influence consumer behaviour when purchasing specific products. This research focuses on this previously unexamined area using automobiles as an example of a specific product. As mentioned above, in order to examine how cultural dimensions influence consumer behaviour, an understanding of similarities and differences between Western and Eastern is necessary.
2.5 Cultural differences in purchase behaviour: The effect of individualism and collectivism

Cross-cultural consumer behaviour studies have shown the importance of recognising basic cultural influences on consumers, in order to develop effective marketing strategies (Jamal 2003). Researchers have noted that consumers’ individualist and collectivist values are likely to have an influence on their purchasing behaviour (Manrai & Manrai 1996). Collectivist consumers value status and image, and this mentality affects their purchasing decisions; expensive products reflect high status and promote an image of superiority in society (Wong & Ahuvia 1998). Therefore, in terms of making purchasing decisions, collectivist consumers are likely to focus on symbolic value rather than performance or function.

In contrast, consumers from individualist cultures prioritise status or image to a lesser extent than collectivists (Leo, Bennett & Hartel 2005). Purchasing decisions are more likely to be based upon ideas regarding functionality. These differences in consumer decision-making processes are likely to be reflected in their purchasing behaviour. However, there is a lack of research in cross-cultural consumer behaviour studies regarding these influences (Luna & Gupta 2001). Therefore, there is a need for researchers to study the interaction between individualism-collectivism values and consumer behaviour in order to identify cultural differences that are likely to have an influence on consumers’ purchasing decisions (Jamal 2003).

The study of individualism-collectivism is concerned with the relationship of the individual to the collective (Singelis et al. 1995; Triandis 1998). Individualists believe that the Self is the basic unit of survival, while collectivists believe that survival lies within the group or several groups. According to Triandis (1995), there are four major dimensions to the construct of individualism-collectivism: (1) the definition of ‘self’,
(2) personal and communal goals, (3) cognitions that focus on norms, obligations and duties, and (4) emphasis on relationships. These four dimensions have been widely used in previous cross-cultural consumer behaviour studies (see, for example, Manrai & Manrai 1996; de Mooij 2001; Liu & McClure 2001), as they provide an effective basis for comparison (Liu & McClure 2001). The discussion that follows uses these four dimensions to discuss likely differences between individualist and collectivist consumers.

In terms of Self, individualists define this independently of groups (Hui 1998). Their independent view of the Self highlights separateness, internal attributes and uniqueness. Personal goals are given priority over communal goals or interests. Therefore, in individualist cultures, identity is defined by what one owns, experiences and accomplishes. Individualists generally do not feel strong obligations towards family or community. Their own needs are very important and, as such, they are usually more focused on fulfilling their own interests, which they place above those of the group (Kim et al. 2003). They take care of themselves and downplay the needs of the group if they conflict with personal desires (Wagner 1986). In contrast, people from collectivist cultures generally hold an interdependent view of the Self that highlights relationships, social context, and connectedness with others in society (Triandis 1984). Thus, in collectivist cultures, identity is defined by one’s relationship to others within the community or in-group (Triandis 1989). Collectivists tend to sacrifice personal goals for those of the in-group and emphasise harmony, interdependence and concern for the collective (Triandis 1995). Therefore, collectivists are more focused on others and making sure that behaviours, expressions and desires fit into what is welcomed by and acceptable to the collective (Kim et al. 2003).
Table 2.1 was adopted from Aaker and Maheshwaren (1997) to demonstrate some basic differences between people from individualist and collectivist cultures.

**Table 2.1: Relative attitudinal and behavioural differences associated with individualism and collectivism.**

<table>
<thead>
<tr>
<th></th>
<th>Individualism</th>
<th>Collectivism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Construal</td>
<td>Defined by internal attributes, personal traits</td>
<td>Defined by important other, family, friends</td>
</tr>
<tr>
<td>Role of Others</td>
<td>Self-evaluation (e.g. standards of social comparison, sources of appraisal regarding self)</td>
<td>Self-definition (e.g. relationship with others defines self and impact personal preferences)</td>
</tr>
<tr>
<td>Values</td>
<td>Emphasis on separateness and individuality</td>
<td>Emphasis on connectedness, relationships</td>
</tr>
<tr>
<td>Motivational Drives</td>
<td>Focus on differentiation, relatively greater need to be unique</td>
<td>Focus on similarity, relatively greater need to blend in</td>
</tr>
<tr>
<td>Behaviour</td>
<td>Reflective of personal preferences and needs</td>
<td>Influenced by preferences, needs of close others</td>
</tr>
</tbody>
</table>

Source: Aaker and Maheshwaren (1997).

There are several attitudinal and behavioural differences between these two cultures which have been identified in previous studies (Straughan & Roberts 1999). For example, individualists’ attitudes are usually more oriented towards differentiation and uniqueness. Moreover, their behaviour tends to be motivated by personal preferences and inner-drives (Singh 2006). In contrast, collectivists’ behaviour is more likely to be influenced by the preferences and needs of close others (Maheshwaren & Shavit 2000). Collectivists emphasise heavily the building of relationships and maintenance of connections with people in their society. In collectivist cultures, the relationship of the individual to the in-group tends to be stable and, even when the in-group makes highly costly demands, the individual will submit, rather than leave (Triandis 1984). Value is usually placed more upon people than tasks. In individualist cultures, the focus is usually on tasks and better performance (Leo, Bennett & Hartel
These cultural differences between the two groups influence their consumer behaviour (Wang, Siu & Hui 2004). The next section discusses the interaction of individualism and collectivism and consumer behaviour.

2.5.1 The effect of individualism and collectivism on consumer behaviour

The interaction between individualism-collectivism and consumer behaviour is an exciting phenomenon for cross-cultural consumer behaviour researchers to observe (Leo, Bennett & Hartel 2005). Cross-cultural researchers have recognised culture as one of the most influential determinants of consumer behaviour (Cleveland & Chang 2009). Consumers’ cultural background not only shapes their needs and wants, but also influences the way marketing strategies are developed to target market behaviours, attitudes and preferences (Venkatesh 1995). This influence is displayed in the variation in strategies marketers use when targeting buyers in different cultural contexts. For example, in collectivist societies, the focus of advertising is upon status, symbolism, prestige and also on family or in-group benefits (de Mooij 2004). However, in individualist societies the focus is on features such as design and performance (Farhangmehr & Shoham 2006). Individualist consumers are more interested in knowing about the capabilities of the product before they purchase, as opposed to collectivists who rely a great deal on other factors for decision-making such as status and symbolism (Dhar 2007). However, the way in which these factors influence consumers’ purchasing decisions in individualist and collectivist cultures has not been extensively studied (Latvin & Kar 2007). Therefore, in order to effectively communicate with consumers in these cultural groups, research focusing on the connection between culture and consumer behaviour is needed (Luna & Gupta 2001).
Individualism-collectivism affects consumer behaviour and, as such, marketing communication messages need to be developed on the basis of these effects. This means the communication techniques selected could differ according to cultural background (Luna & Gupta 2001). As discussed above, in terms of decision-making, collectivists are likely to focus on family and in-group benefits. On the other hand, individualists are likely give priority to personal benefits over communal benefits or interests. In terms of decision-making, collectivists tend to rely a great deal on external information sources, such as family, whilst individualists base decisions upon information gathered through personal experiences (Doran 2002). Therefore, it is important to identify which types of information sources are more preferable for targeting individualist and collectivist consumers. Previous studies have not examined the importance of information sources in consumer decision-making (Luna & Gupta 2001), such as what type of information sources individualists and collectivists prefer when they are making high involvement purchases like automobiles. Research into this area could help to provide an understanding of how to best communicate with consumers from different cultural groups.

Since cultural dimensions such as individualism-collectivism are a major determinant of a variety of attitudes and behaviours (Healey, Bradley & Mukherjee 2004), they are considered to have a strong influence on the types of needs consumers attempt to satisfy through their purchase and consumption behaviour (Tse et al. 1989). Consumers from individualist and collectivist backgrounds develop different types of needs, which are reflected in the way they prioritise the product attributes which influence their buying behaviour (Gregory & Munch 1996). As a consequence, preferences for product attributes such as brand or quality across these two cultural groups may not be the same (Vinson et al. 1997). For example, in individualist cultures,
consumers may prefer particular brands or products because those products provide expected functional benefits. Individualists are not really worried about social status or prestige when they make purchasing decisions; they are more likely to focus on the performance of the product. By comparison, collectivists may prefer particular brands/products because those products can be used for symbolic purposes which are important within their culture. Collectivists may purchase products that represent status, or that reassert their similarity to members of their reference group, while individualists may purchase products that differentiate them from referent others (Aaker & Mahesh 1997). In terms of automobile purchases, individualists are likely to choose power and better performance over prestige or brand, whereas collectivists may choose high-priced automobiles due to the associated status and prestige element (Wong & Ahuvia 1998). In addition, consumers may even draw on cultural values when searching/collecting information with regard to high involvement product purchases. Previous studies have revealed the variation in preferences for information searches between individualists and collectivists (see, for example, Gursoy & Chen 2000; Mooney & Crotts 2003).

In collectivist cultures, it is expected that one will involve family and friends in the information search process (Doran 2002). For example, in the situation of buying an automobile, consumers from collectivist cultures may seek the opinions of others regarding what information to collect and which types of sources are valuable to use. They are likely to first consult with their colleagues, friends and families, and to consider their advice or opinions before collecting information. They may also consider advice from friends and family in terms of which information sources are likely to be reliable such as magazines, word of mouth, spending time with dealers and test driving, to complete the information search process. As a whole, consumers from collectivist
cultures may look for social approval from others, especially for highly visible or high involvement products like automobiles (Wong & Ahuvia 1998; Luna & Gupta 2001).

In contrast, since individualism is mainly reflected in being independent from others and being in control of one’s surrounding environment, consumers from individualist cultures may be less likely to rely on others for example family members, peers and social groups in their purchase decisions. Individualists rely on internal knowledge based on their personal experience, and seek out new experiences to expand upon that knowledge (Doran 2002). They are less likely to rely on other people’s opinions. For example, in terms of automobile purchases, they may spend a large amount of time looking at websites or speak to several dealers and test-drive several cars to extend their internal knowledge through their own personal experience. They are likely to utilise a much greater variety of patterns of information search rather than relying on friends and family. Friends and family might make suggestions, but decisions are made individually. To be more specific, the final decision might involve consultation with friends or family, but the purchaser usually feels that the decision is their own (Green, Deschamps & Paez 2005). These variations in consumer information preferences might be utilised in marketing communication to create a more effective message when targeting consumers from these two different cultural backgrounds.

Marketing communication messages may influence consumers’ purchasing decisions through recognising the cultural differences mentioned throughout the previous section, and focusing on how best to communicate with potential and current consumers within individualist and collectivist groups. Since collectivists generally give preference to group goals over individual goals or interests, it may be more effective for marketers to communicate with them at a group-level rather than at an individual level. For instance, marketing messages could be developed more in terms of family and
social/cultural values which emphasise group-consensus appeals, family ties and family security. Appeals such as “working together” and “it is so good that you want to share it with others” are particularly popular in these societies (de Mooij 2000). On the other hand, for individualists messages might be developed more in terms of functional or performance benefits.

In summary, researchers, together with marketing practitioners, need to acknowledge cultural differences in order to better understand the consumer behaviour of individualists and collectivists. Marketers also need to develop their strategies in terms of consumers’ product involvement, for example, high and low (Mittal 1995). Consumers’ purchasing behaviour for high involvement purchase situations such as automobiles is different from low involvement purchase situations such as candy. The next section explains the differences between high- and low involvement purchasing situations in more detail.
2.6 Product involvement

The purpose of this section is to define the high involvement purchase context. For the purpose of this study, Neal, Quester and Hawkins’ (2000) conceptual model of consumer decision-making processes is adapted to explain automobile purchase behaviour. The influence of cultural dimensions such as individualism-collectivism with regard to automobile purchases is also highlighted within several stages of this model.

The degree of intensity of interest or drive that a buyer shows for a certain product in a particular purchasing decision can be expressed as product involvement (Holmes & Crocker 2007). Product involvement is defined as an internal state variable that indicates the amount of interest or drive evoked by a product class (Mittal & Lee 1989). Research has shown that product involvement strongly influences consumer purchasing behaviour (Mittal 1995) and can, therefore, be used to gain an understanding of why and how consumers usually form certain preferences in a particular purchasing decision (O’Cass 2000). This idea about product involvement is used throughout this section to discuss consumer behaviour in the context of automobile purchases.

Previously, researchers have analysed the influence of product involvement for the purpose of assisting market segmentation (Satish & Bharadwaj 2010). This has included several facets of consumer behaviour, such as brand preferences (Warrington & Shim 2000), and consumers’ attitudes (Petty, Cacioppo & Schumann 1983) and perceptions (Bloch & Richins 1983). However, there are not enough studies which have explored the relationship between consumer decision-making and high involvement purchase behaviour (Satish & Bharadhwaj 2010). Previous research has suggested that this exploration could be carried out using the specific example of automobiles, due to the nature of automobile purchases which include a high level of consumer involvement (Macdonald & Sharp 2000). This research focuses on the question of the most common
decision-making process consumers follow when purchasing automobiles. The findings may help researchers to develop better approaches to communicating with potential and current automobile consumers. The section that follows explains high involvement purchases and the high involvement decision-making process in more detail.

2.6.1 High involvement purchase

Consumer decision-making for high involvement purchases is defined as the thought process of selecting a logical choice from variable options (Grewal, Cline & Davies 2003). Previous studies have classified involvement into the two categories of high- and low involvement purchase (Holmes & Crocker 2007). In order to define more clearly the concept of high involvement, a comparison can be made between high- and low involvement purchases. A low involvement decision may be a convenience good (Sullivan 1990) that is frequently purchased with little risk involved and little/no information required. Conversely, a high involvement decision may be a durable good (Cuoco & Liu 2000; Blackwell et al. 2006), and is a product requiring extensive thought and information search due to its higher price, as well as its degree of purchase and/or social risk (Shamdasani, Stanaland & Tan 2001). Prior to a high involvement purchase, consumers usually collect enough information to minimise the risk that is involved in the purchase act. Consumers usually follow the sequence of learn, evaluate, purchase for high involvement decision-making (Dholakia 2001). Examples of high involvement decisions may include the purchase of automobiles, apartments, and luxury goods.

High involvement purchases, such as automobiles, may be considered by consumers to reflect a particular image or social status (Wong & Ahuvia 1998) and this embedded symbolic meaning may influence consumers’ purchasing decisions (Radder & Huang 2006). However, these symbolic meanings could differ according to consumers’ cultural backgrounds (Luna & Gupta 2001). Research has shown that
consumers from different cultures vary in terms of the way they perceive brands (Radder & Huang 2006), for example, regarding the attributes they associate with those brands in their memories. Images and symbolic meanings attached to brands are shaped by a local society/culture in which the social values of a brand might vary greatly based on collective ideas about the brand (Jung & Sung 2005). For example, the symbolic meaning is likely to be different for individualists and collectivists because of the differences in their cultural backgrounds, influencing high involvement decision-making for products such as automobiles.

In terms of high involvement decisions, consumers may prefer certain automobiles not only because these products provide the functional or performance benefits expected, but also because products can be used to express consumers’ cultural values (Manrai et al. 2001). Consumers’ preferences in their decision-making for automobiles can be affected by very complex social or cultural influences. In collectivist cultures, product preferences are often based on the product’s inherent reflection upon status, leading to a greater appreciation of expensive and well-known brands in collectivist societies (Wong & Ahuvia 1998). However, in individualist cultures, the focus may not to be on status. Consumers from individualist cultures are likely to prefer products with perceived better performance; they do not have to be expensive (Manrai & Manrai 1996). Previous studies have mentioned that these types of cultural differences between individualists and collectivists are likely to have an influence in consumer decision-making for high involvement purchases (Henry 1976; Yau 1994).

Despite the high level of interest in cross-cultural consumer behaviour research, there are very few studies that have used automobiles as a high involvement product to identify the effect of cultural dimensions, for example, individualism-collectivism on
consumers’ purchase decisions (Henry 1976). As mentioned above, more research is needed in this area to investigate how cultural background affects consumers’ decision-making processes for high involvement purchases. The next section explains the consumer decision-making process in terms of the specific high involvement purchase of automobiles.

2.7 Consumer decision-making process for automobile purchases

In the context of making a high involvement automobile purchase, consumers are usually aware of all the positives and negatives of each choice in terms of brand, quality, price and innovation (Mittal 2006). Consumers attempt to forecast the outcome of each option in order to determine which is best for that particular situation so that they may make a reasoned decision (Punj 1987). Consumers’ decision-making for automobile purchases consists of a sequential process involving problem recognition, information search, brand evaluation and selection, purchase and post-purchase (Sridhar 2007), and is explained more in detail below. The influence of cultural dimensions, such as individualism-collectivism in several stages of the decision-making process, is also presented and illustrated diagrammatically (see Figure 2.2). The aim of this section is to identify the influence that cultural background has upon individualists and collectivists consumers in several stages of their consumer decision-making process for automobile purchases.
2.7.1 Automobile purchase: a complex problem solving situation

Previous studies have stated that consumer decision-making for a high involvement purchase is a complex problem solving process (Quester et al. 2007). This is reflected in automobile purchase situations. These situations are likely to be characterised by (a) active information seeking about various brands (Peterson & Merino 2003), (b) major comparison of product attributes (Radder & Huang 2006), (c) special preferences for a particular brand, such as brand loyalty (Dholakia 2001), and (d) choices that are likely to be made with a high degree of awareness (Greenleaf & Lehmann 2005). For example, consumers usually require knowledge and preparation, such as an extensive information search, to learn about the product, and enough time to process and evaluate the available information so as to reach an appropriate automobile purchase decision (Bosnjak & Rudolph 2010).

Several models of consumer decision-making processes have been used in marketing research (see, for example, Nicosia model 1966; Howard-Sheth 1969; Engel, Blackwell & Miniard 1995; Sheth et al. 1999; Neal, Quester & Hawkins 2000). However, this research has adapted the model of Neal, Quester and Hawkins (2000) to explain the automobile decision-making process (see below, Figure 2.1).
2.8 The Neal, Quester and Hawkins (2000) model

Neal, Quester and Hawkins’ (2000) model has been used in previous studies regarding the decision-making process in high involvement purchases (Okumus, Okumus & McKercher 2007). This model was found to be effective due to its thorough five-stage (problem recognition, information search, evaluation and selection, purchase and post-purchase) explanation of the high involvement decision-making process (Quester et al. 2007). Moreover, the model illustrates that psychological variables, such
as society and culture, are likely to have certain influences on consumers’ attitudes and
needs when they make decisions to purchase (Anurit, Newman & Chansarkar 1998).
The existence of a cultural influence factor in the model makes it an effective cross-
cultural behaviour study tool, especially in the comparison between East and West
(Okumus, Okumus & McKercher 2007). This research has adapted the model to discuss
the consumer decision-making process between Australian-born and Asian-born
consumers, who are presumed to differ on the dimensions of individualism and
collectivism. The model of the consumer decision-making process shown in Figure 2.1
is described below within the context of a high involvement product purchase,
specifically automobiles. The following discussion is based on the shaded areas of
cultural influence, information search, evaluation and selection and purchase.

2.8.1 Relationship of the automobile purchase situation with the model

Consumer decision-making processes include the main aspects of information
search, evaluation and selection and purchase behaviour (Grewal, Cline & Davies
2003). This section looks at how these stages are related to the situation of automobile
purchase and how cultural dimensions such as individualism and collectivism influence
consumer decision-making within these three stages of the Neal, Quester and Hawkins’

2.8.1.1 Information search

The information search involves an active search for information that is
appropriate to the decision being made. The information search can be divided into the
categories of internal and external, and both of these types of search are utilised by
consumers for automobile purchases (Peterson & Merino 2003). The internal
information search is memory-based and relies on the consumer’s experience with the
product, based on their previous information search activity (Sheth, Mittal & Newman
An external or active information search is concerned with obtaining new information to assist in the making of the purchase decision, because the consumer feels that he/she does not have enough existing information with which to make an informed choice (Schmidt & Spreng 1996).

In addition, it is also important to mention that cultural dimensions, such as individualism and collectivism, may influence the pattern of information searches individual consumers are likely to follow (Piron 2000). For example, collectivists’ information searches are likely to focus on friends, family and reference groups as sources of information. In contrast, individualists are less likely to rely on the opinion of others. They are more likely to rely on information they have collected by themselves (Doran 2002).

Despite the influence that cultural dimensions have in consumer information searches, many previous studies seem to have ignored this aspect (de Mooij 2002). For example, Bloch and Richins (1986) looked at a variety of potential determinants, motives and outcomes of both pre-purchase behaviour and the ongoing search, such as income and occupation, but did not look at any cultural differences in information search (Doran 2002).

However, there are some basic differences between individualists and collectivists’ information searches and usage which could be considered because those differences may be the reason for consumers’ variation in product preferences (Doran 2002). In terms of collecting information for automobile purchases, individualists may speak to more dealers or even test-drive several cars to extend their internal knowledge through their personal experience. In contrast, collectivists may speak to fewer dealers and are likely to rely more on the opinions of their friends and family. These different patterns of information searches may be the reason for consumers from different
cultural groups choosing different brands of automobiles (Schmidt & Spreng 1996). In terms of the consumer decision-making process, the information search is followed by evaluation and selection, which is explained in the discussion below.

2.8.1.2 Evaluation and selection

Once the consumer has gathered the appropriate information, he/she is likely to assess the automobiles based on a range of evaluative criteria. The evaluation and selection stage is one of the most complex aspects of the decision-making process because of the wide variety of criteria (Bauer, Sauer & Becker 2006). Evaluative criteria may vary according to product type (Mittal 2006). Evaluative criteria for high involvement products or automobile purchases are the various features that consumers consider such as brand (Lockshin, Spawton & Macintosh 1997), price (Lichtenstein, Bloch & Black 1988), quality (Prendergast & Wong 2003), brand loyalty (Bloemer & Kasper 2003), prestige (Vigneron & Johnson 1999) and innovation (Leo, Bennett & Hartel 2005). Consumers’ evaluation and selection processes may be the result of their emotional desires, which drive consumers to select products that fulfil specific and particular needs (Tsang & Prendergast 2009). For example, some consumers are prestige conscious and, therefore, they tend to focus more on perceived prestige in their purchase decisions. They are highly likely to choose products with apparent prestige, even when they are more expensive than other options.

Cultural background may also drive consumers towards particular selections. Consumers’ individualist or collectivist backgrounds may influence preferences for a specific brand of automobile (Anurit, Newman & Chansarker 1998). For example, collectivists are more likely to prefer expensive automobile brands that reflect on their status or prestige. If the consumers’ criteria for evaluation and selection are fulfilled, they will generally progress to make a purchase.
2.8.1.3 Purchase

The purchase stage, in terms of buying automobiles, is the culmination of the decision-making process (Tsang & Prendergast 2009). Having completed the information search and fulfilled the evaluation and selection criteria, consumers usually purchase the automobile in a transaction involving giving money to acquire the rights to the product (Yoo & Donthu 2002). Although culture is an important influence in the stages leading up to purchase, it has little bearing in the final transaction (Kim et al. 2002).

There are few, if any, studies that examine these differences in terms of automobile purchase decisions between Western and Eastern (Anurit, Newman & Chansarkar 1998). This research attempts to identify whether cultural background has an influence on consumer decision-making for high involvement purchases, which may help marketing practitioners to communicate with potential and current consumers within these cultural groups.

In summary, consumer decision-making for automobile purchases is a complex process (Manrai & Manrai 1996). Individualist and collectivist values may exert influences at different stages, for example, during the information search, evaluation and selection, purchase and post-purchase phases, thereby increasing the complexity of this process, but also creating a means for differentiating consumer cultural groups (Huu et al. 2001). The identification of cultural value differences between Western and eastern consumers provides a basis for classifying consumers into separate categories or segments on the basis of their preferences in brand consciousness, price consciousness, perfectionist, high quality consciousness, innovation consciousness and recreation shopping consciousness (see Leo, Bennett & Hartel 2005). This research used Sproles and Kendall’s (1986) consumer decision-making styles measure (which is
known as the consumer styles inventory, or CSI) to identify consumer differences in these preferences between Australian (individualist) and Asian (collectivist), consumers with regard to a high involvement purchases such as automobiles.

The purpose of the section that follows is to define consumer decision-making styles and their measurement (the consumer styles inventory (CSI), Sproles and Kendall (1986)), as used in this study to establish the most common decision-making styles for Australian-born and Asian-born consumers. The importance of the CSI in consumer decision-making research is also explained, focusing on the way in which the CSI has previously been used in cross-cultural consumer decision-making studies.

2.9 Consumer decision-making styles

Consumer decision-making styles can be defined as a cognitive and affective or ‘mental’ orientation characterising a consumer’s approach to the overall decision-making process (Sproles & Kendall 1986). People may have more than one decision-making style and it may change depending on the product (Bauer, Sauer & Becker 2006). For example, consumers’ decision-making styles for automobile purchases may develop for some in terms of brand, quality or innovation, whereas others’ decision-making styles may be based on their preferences for in price. In addition, consumers may initially be both quality and price or innovation conscious although their decision-making styles may change after becoming familiar with different brands of products. (Leo, Bennett & Hartel 2005).

Consumers’ decision-making styles influence how they negotiate their way through the decision-making process, for example, how they approach the information search, evaluation and selection, while also shaping their purchase behaviour (Durvasula, Lyonski & Andrews 1993). The characteristics of decision-making styles
can be effective in profiling an individual’s consumer style in terms of their product evaluation and selection process (Canabal 2002; Hanzae & Aghasibeig 2008). With this in mind, Sproles and Kendall (1986) developed a measure (the CSI), which can be used to identify the characteristics of consumers’ decision-making styles. The CSI is described below.

2.9.1 Consumer styles inventory (CSI)

The CSI is based on preliminary work done by Sproles (1983), in which he argued that there are certain fundamental styles that all consumers apply to their shopping and buying. These styles included brand, price or quality consciousness, and provided a conceptual framework for describing consumer decision-making styles. Sproles, together with Kendall (1986), later developed a revised model of eight consumer decision-making styles based on cognitive and personality characteristics. Each of these styles independently characterises a fundamental intellectual approach to consumption (Hanzae & Aghasibeig 2008). Sproles and Kendall’s (1986) model of eight consumer decision-making styles is outlined below and is explained in more detail in the next section which contextualises it in terms of cultural influences.

(1) *Perfectionist, high quality conscious* decision-making style: A consumer has specific ideas about best quality products and consistently looks for these qualities. This style is characterised by a consumer’s search for the very best quality in products. Consumers scoring high on this factor are expected to be systematic or comparison shoppers.

(2) *Brand conscious, “price equals quality”* decision-making style: A consumer associates quality with higher priced brands. The consumer with this style is expected to buy expensive, well-known brands, believing that the higher the price of a product, the
better the quality. Those scoring high on this factor are likely to display some level of fashion consciousness.

(3) **Recreational / hedonistic shopping decision-making style:** A consumer gains pleasure from the shopping experience. This style characterises people who are likely to shop just for fun/leisure and find shopping pleasant. Recreational shoppers engage themselves in the purchase situation, since they like to know more about the product as a form of enjoyment (Bellenger & Korgaonkar 1980). They also think the information they have gathered might help them to choose products for future purchases. They continually track product information and thus engage themselves in an ‘ongoing search’.

(4) **Price conscious, “value for money” decision-making style:** A consumer consistently searches for sales, bargains and lower-priced products. This style identifies consumers who exhibit price and value for money consciousness. People scoring high on this factor shop carefully for low or sale prices.

(5) **Impulsive, careless decision making style:** This style describes a consumer who does not plan their shopping, and is not concerned with how much they spend or with value for money. Impulsive buyers do not reflect on their thinking and are very emotionally attracted to the object.

(6) **Confused by overchoice decision-making style:** The consumer is confused and overwhelmed with too much product information and/or too many product choices. Therefore, these consumers may not make decisions that satisfy them in the long term. This style characterises consumers who are confused about the quality of different brands and by the information available.

(7) **Habitual/brand loyal decision-making style:** The consumer tends to consistently stick with the same brand of product. This style characterises shoppers who
have favourite brands and stores and use these habitually. Habit presumes that the consumer identifies a decision satisfactorily and follows a similar purchase pattern with little re-evaluation.

(8) Novelty fashion conscious decision-making style: These consumers are characterised as novelty seekers. They find seeking out new things pleasurable and exciting. Consumers are likely to shop less carefully, are more impulsive, and are also less-price sensitive.

Table 2.2 shows a comparison of the consumer decision-making traits in the literature.

Table 2.2: Consumer decision-making traits identified within several studies.

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The CSI has become the most commonly used measure of consumer decision-making styles, and has been widely applied and validated in several countries including Australia, China, India, Malaysia and the United States (Leo, Bennett & Hartel 2005; Bakewell, Mitchell & Rothwell 2006). The CSI has also proven to be a useful instrument for marketers, enabling the segmentation and positioning of consumers (Bauer, Sauer & Becker 2006). However, as discussed previously, the CSI is characterised by a number of limitations including low reliability, an unstable factor structure and poor construct validity, an almost exclusive application non-specific product types in previous research, and questionable generalisability to broad customer groups (Durvasula, Lysonski & Andrews 1993; Hiu et al. 2001; Mitchell & Bates 1998; Leo, Bennett & Hartel 2005; Lyonski, Durvasula & Zotos 1996; Radder, Li & Pietersen 2006; Shim 1996). Furthermore, past research has examined cultural groups across countries rather than within countries, and it is unclear whether differences between countries are simply due to variability in the climate, demographics, economy and the retail environment (Hafstrom, Chai & Chung 1992; Lysonski, Durvasula & Zotos 1998; Mitchell & Bates 1998; Leo, Bennett & Hartel 2005). It is difficult to compare consumer decision-making styles between two different countries unless the countries have the same consumer environment (Li & Pietersen 2006). To address the above limitations, this research developed a product-specific (high-involvement purchases) version of the CSI, which was administered to an adult sample to compare consumer decision-making styles between two groups of consumers – individualist (Australian-born) and collectivist (Asian-born) in Australia. The following discussion highlights the rationale for adapting the CSI in this research.
2.10 Application of the CSI in this study

Previous studies using the CSI have either focused on non-specific product types (see, for example, Hafstrom, Chae & Chung 1992; Leo, Bennett & Hartel 2005), or low involvement products (see, Radder, Lee & Pietersen 2006). With so much interest in the CSI, it is surprising to note that there is very little research involving use of the measure for high involvement purchases. Application of the CSI to high involvement purchases may result in findings that differ from previous studies (Hanzaee & Aghasibeig 2008). For example, high involvement purchases require more knowledge and preparation, such as an extensive information search to enable a consumer to learn about the product, and more time to process and evaluate the available information so as to reach an appropriate purchase decision. As a result, the consumer’s behaviour towards high involvement, high risk, and important purchases may differ from that engaged in when making low involvement, low commitment and unimportant purchases (Keller 2003). There is not enough research have examined the differences in decision-making styles with regard to cultural background for high involvement purchases (Radder, Lee & Pietersen 2006). Therefore, in order to fully investigate the influence of cultural background on consumer decision-making styles, researchers need to use the CSI with high involvement purchase of products such as automobiles.

Previous studies have not incorporated actual measures of cultural values in consumer decision-making styles research (Bauer, Sauer & Becker 2006); instead they have compared cultural groups on the basis of location, for example, Eastern versus Western countries, and have assumed differences in cultural values such as individualism and collectivism, but have not measured these differences directly (Bauer, Sauer & Becker 2006). Therefore, previous studies did not look at how cultural background affects consumer decision-making styles when applied to high involvement
product purchases, or whether decision-making styles associated with purchasing high involvement products differ as a function of individualism and collectivism. However, previous studies have highlighted the importance of using cultural value scales in future consumer decision-making styles research to identify the differences between consumers (Hanzaee & Aghasibeig 2008). The confirmation of individualism-collectivism value differences between consumers from Eastern and Western cultures in consumer decision-making styles research may help researchers to profile automobile purchase behaviour and classify consumers into separate categories or segments based on their preferences for product attributes such as brand, quality, price and innovativeness (Bauer, Sauer & Becker 2006). Identification of these preferences may also help marketing practitioners communicate more efficiently with potential and current consumers within these cultural groups.

The following section presents a discussion of how the cultural dimensions of individualism and collectivism may influence each of the consumer decision-making styles introduced in this section. Several hypotheses have been developed around with the eight consumer decision-making styles (perfectionist, high quality conscious, brand conscious, recreation conscious, price conscious, impulsive buying, confused by overchoice, brand loyal, and innovation conscious) and are also reported in this section.
2.11 The influence of individualism and collectivism on consumer decision making styles

Studies have shown that factors in a cultural background such as individualism and collectivism have certain influences on consumer decision-making styles, and consumer behaviour differs between cultures (Blodgett, Bakir & Rose 2008). Consumers have been characterised as quality seekers (Chao 1993), novelty-fashion seekers (Sproles & Sproles 1990), information seekers (Doran 2002), and habitual or brand loyal consumers (Hiu et al. 2001). In addition, several researchers have pointed out the importance of studying cultural dimensions, and their impact in purchase situations to understand consumer decision-making styles (Hanzaee & Aghasibeig 2008).

Previously mentioned in chapter one, this research compares the consumer decision-making styles of individualist and collectivist consumers in the context of automobile purchases. The research questions, which have arisen in this research, are:

1. **How does cultural background such as Australian-born and Asian-born affect consumer decision-making styles applied to high involvement purchases (automobiles)?**

2. **What are the decision-making styles of Australian-born and Asian-born consumers when purchasing automobiles?**

3. **Do the decision-making styles associated with purchasing automobiles differ for these two cultural groups?**

4. **In what areas do these groups behave similarly or dissimilarly?**
The answers to these questions are useful for researchers as well as marketers, as they need to understand cultural differences (which have not been greatly discussed in previous literature), in order to improve the body of knowledge in consumer decision-making studies, and also to develop appropriate marketing strategies for these two cultural groups.

The following discussion explains how cultural dimensions, specifically individualism and collectivism, might influence the following consumer decision-making styles: perfectionist, high quality conscious, brand conscious, recreation conscious, price conscious, impulsive buying, confused by overchoice, habitual, brand loyal and innovation conscious. The effects of other aspects which motivate a consumer’s automobile purchase behaviour, for example, number of family/friends involved, number of dealers consulted, make of cars, influenced by type of information sources etc., are also explained.

2.11.1 Perfectionist, quality conscious decision-making style

Quality conscious consumers search for the best quality products by shopping carefully and systematically (Sproles & Kendall 1986). Doran (2002) noted that people from collectivist cultures are more likely to be quality conscious, because quality relates to hierarchy versus equality. Collectivists are more anxious about the hierarchy among people in society (Hofstede 2001). Social recognition and status are very important to people in collectivist cultures, and they are keen to establish their superiority at the familial, societal or even national level (Ackerman & Tellis 2001). High quality products are associated with status and social recognition, which may influence consumers’ purchase decisions (Phau, Teah & Lee 2009). Buying high quality automobiles could be one of the tactics that collectivists use to portray a superior image
of themselves in their society. Doran (2002) found that collectivist consumers engaged in a longer and more comprehensive information search process, devoting more time to searching for quality and performance.

**Hypothesis 1:**

- **H1a** - There is a significant difference in quality consciousness between Australian-born and Asian-born consumers.
- **H1b** - Collectivist consumers are more perfectionist, high quality conscious.

### 2.11.2 Brand conscious decision-making style

Brand conscious consumers purchase expensive and well-known brands (Leo, Bennett & Hartel 2007). Brand consumption symbolises respect, consideration and envy from others (Phau, Teah & Lee 2009). Moreover, it includes the social ranking or recognition awarded by a society or culture to an individual for consuming prestigious brands or products (Shukla 2008). It is not only the wealthy who are prone to brand consumption, as consumers from any income group may seek self-satisfaction through purchasing (Shipman 2004). Phau, Teah and Lee (2009) argued that brand consumption is for consumers who are seeking self-satisfaction and want to display their status and prestige to others surrounding them, usually through visible evidence.

People from collectivist cultures are copious luxury consumers and are developing into the world’s largest brand name luxury goods consumer market (Li & Su 2007). As discussed above, in collectivist cultures, perceived status and social recognition are very important. Therefore, collectivist people have a higher need to maintain status, and image and prestige are likely to be important factors in collectivist consumers’ purchase decisions.

Consumers learn a great deal from their cultural background (Hofstede 2001), and expensive brands of products have become symbols for high status and prestige.
Consumers from collectivist societies have a tendency to prefer imported brands to commodities produced in their own country (Watson & Wright 2000). For example, driving an imported car in some collectivist countries creates an image of prestige and is a symbol of high status. Collectivists may purchase an automobile, not just to satisfy themselves, but society as a whole. In an early study, Nagashima (1970) noted the fact that wealthy people in Japan bought German cars, as these were associated with high social recognition and status.

**Hypothesis 2:**

- **H₂ₐ** - There is a significant difference in brand consciousness between Australian-born and Asian-born consumers.
- **H₂₉** – Asian-born consumers are more brand conscious.
- **H₂ₑ** - There is a significant relationship between cultural background and brand ratings. Collectivist consumers are more likely perceive European brands to be superior to Australian brands. (d) There is a significant relationship between cultural background and make of car purchased. Asian-born consumers are more likely to purchase European brands for example BMW, Mercedes and Audi, whereas Australian-born consumers are more likely to purchase Australian brands such as Ford, Holden, Mitsubishi etc.
2.11.3 Recreation conscious decision-making style

Recreation conscious consumers shop for recreation, pleasure or fun (Sproles & Kendall 1986). Collectivist consumers involve family members, friends and colleagues in the decision-making process and generally prefer to shop in groups (Doran 2002). As such, searching for product information may be an enjoyable activity for them as they can connect with others during the buying process (Leo, Bennett & Hartel 2007). In contrast, searching for product information may be less recreational for individualist consumers because they do not involve many friends or family members and tend to rely on their own opinions, preferences, tastes and choices (Triandis 1995). Consider the situation of buying an automobile: Individualist consumers will most likely consult just one or two members of their family before buying the car. The individualist consumer is likely to have an exchange relationship with the dealer – pay money and receive the car. In contrast, collectivist consumers will most likely invite members of their in-group to view the cars and express their opinions. They may find a member of their kin group or other social network who sells cars, fostering a personal relationship with the dealer by telling this person about their needs and giving details of their income and family life to establish a rapport.

Hypothesis 3:

- There is a significant difference in recreational shopping between Australian-born and Asian-born consumers.
- Asian-born consumers are more recreational.
- There is a significant relationship between cultural background and number of family members and friends involved in the final automobile purchasing decision. Asian-born consumers are likely to involve more family members and friends than Australian-born consumers.
2.11.4 Price conscious decision-making style

Price conscious consumers are characterised by an ‘unwillingness’ to pay a higher price for products and an ‘exclusive focus’ on paying low prices (Sproles & Kendall 1986). Collectivist consumers are likely to seek products that convey status and prestige (Phau & Lau 2000), and they believe that one’s position in society is determined largely by economic advancement or displays of wealth (Miller & Volker 1985). As Zheng (1992) noted, by buying expensive automobiles, ostentatious jewellery, clothes and rare antiques, collectivists become socially recognised and respected, placing them in a more influential social class. Therefore, collectivist consumers are likely to invest more money in their high involvement purchase decisions and be less price conscious. However, in individualist country people are more likely to conspicuously consume luxury/expensive products because they ‘want to’, as the products reflect personal preferences, not because they feel they ‘have to’ in order to conform to social norms and get social attention (Wong & Ahuvia 1998).

Expensive automobiles symbolise high status/prestige for collectivist consumers. On the other hand, automobiles do not have the same symbolic meanings for individualist consumers, and they may be more inclined to seek bargains rather than focusing on the display of wealth (Crucicni, Telmer & Zachariadis 2005). In short, collectivists, relative to individualists, place more importance on symbolic value (Wong & Ahuvia 1998) and are, therefore, more likely to buy expensive brands and less likely to search for value for money (Gong 2003).

**Hypothesis 4:**

$H_{4a}$ - There is a significant difference in price consciousness between Australian-born and Asian-born consumers.

$H_{4b}$ – Australian-born consumers are more price conscious.
2.11.5 Impulsive buying decision-making style

Impulsive buying characterises those who buy on the spur of the moment and are unconcerned about how much they spend (Sproles & Kendall 1986). Impulsive buying behaviour is a widely recognised phenomenon in individualist countries, creating up to 80% of all purchases in certain low involvement purchase categories (Hassay & Smith 1996; Abrahams 1997). Mogelonsky (1998) reported that in the United States (US) an estimated $4.2 billion in annual volume was generated by impulse purchases of items such as candy and magazines. This suggests that US (individualist) consumers commonly adopt an impulsive decision-making style when purchasing low involvement products, but the question remains as to whether they are still impulsive when purchasing high involvement products. Furthermore, there are not many studies about impulse buying in collectivist countries, so it is unclear whether the impulsive consumer decision-making style is frequently used in these cultures (Vohs & Faber 2007).

Studies have identified several factors that influence impulsive buying behaviour, including the consumer’s mood or emotional state (Donovan et al. 1994; Rook 1987; Rook & Gardner 1993; Weinberg & Gottwald 1982), trait buying impulsiveness (Rook & Fisher 1995; Weun & Beatty 1998), and demographic factors, such as age (Wood 1998) and income (Hausman 2000). For example, Bellenger, Robertson and Hirschman (1978) found an inverse relationship between age and impulse buying, which increases between 18 – 39 years and then declines. However, other researchers have prioritised culture over other variables as an indicator for impulse buying (Burns & Brady 2001; Leo, Bennett & Hartel 2005), with factors such as normative evaluation of the appropriateness of impulse buying (Rook & Fisher 1995) and self-identity (Dittmar, Beattie & Friese 1995) playing a role. Kacen and Lee (2002)
noted that collectivists are less likely to engage in impulse buying than are individualists, because they evaluate the effect of their behaviour on in-group members and thus spend more time justifying the reason for their behaviour and weighing up potential negative consequences before making a purchase (Triandis 2008). As such, collectivists may be more rational than impulsive (Kacen & Lee 2002; Doran 2002).

Consider the situation of buying an automobile. Individualists are most likely to shop around and find one or two cars within the price range they are willing to pay, while collectivists are likely to proceed in a more comprehensive way. First, they are likely to develop a personal relationship with the dealer. Ideally, they will find a member of their kin group who sells cars, or a friend of a member of the kinship group who does so. They will tell this person about their needs and give details of their income and family life. Having established trust with the dealer, they will examine the stock and find a number of cars that may be suitable. On the other hand, individualists give priority to their own preferences, and see themselves as autonomous and independent from others (Triandis 1995; Kacen & Lee 2002). They are less responsive to normative pressure and less likely to suppress internal desires to act impulsively, because they do not take into account the potential negative consequences of their impulse buying behaviour on others.

**Hypothesis 5:**

\[ H_{5a} \] - There is a significant difference in impulsive buying between Australian-born and Asian-born consumers.

\[ H_{5b} \] – Australian-born consumers are more impulsive than collectivist consumers.

\[ H_{5c} \] - There is a significant relationship between cultural background and time spent (i) with dealers, (ii) researching the final purchase decision.
Australian-born consumers spend less time reaching a decision than Asian-born consumers.

2.11.6 Confused by overchoice decision-making style

Consumers are confused by overchoice when they have too much information, which makes it harder for them to select the ‘right’ product and reach a decision (Durvasula, Lysonski & Andrews 1993). Collectivists may be less cognitively overloaded than individualists because of the types of cues they use to make choices (Leo, Bennett & Hartel 2007). Collectivists rely heavily on social networks for information (Doran 2002) and take advice from reference groups such as their family members and friends (de Mooij 2000) or dealers in relation to automobile purchases. Thus, collectivists essentially ‘share’ the task of gathering and processing information, thereby reducing the cognitive load. Furthermore, collectivists usually have particular product choices in mind, due to being more brand conscious or less innovative (Leo, Bennett & Hartel 2007; Dhar 2007). Therefore, purchase decisions are more straightforward. In contrast, individualists do not involve many people in gathering and processing information and tend to rely on their personal experience and knowledge rather than advice or opinions from others (Lowe & Corkindale 2008). They are likely to rely on information sources which help them to expand their internal knowledge, based on both their personal experience with products and ongoing, non-directed search (Doran 2002) such as magazines, television advertisements, etc. Additionally, individualists are not afraid to try new things; they are open to innovation and change, and are less likely to avoid uncertainty, taking more risks in their product preferences (Leo, Bennett & Hartel 2005). These factors may result in individualist consumers being more confused by overchoice.
Hypothesis 6:

H_{6a} - There is a significant difference in confusion by overchoice between Australian-born and Asian-born consumers.

H_{6b} – Australian-born consumers are more confused by overchoice.

2.11.7 Habitual / brand loyal decision-making style

Habitual/brand loyal consumers form habitual purchasing behaviours and remain with their favourite brands or stores (Sproles & Kendall 1986). Previous studies have suggested that brand loyalty can be seen as a risk reduction strategy (Singh 2006). For example, individualists are likely to spend less time on information searches, and brand loyalty removes the need to find new information (Doran 2002). Delong et al. (2004) argue that collectivists are less likely to rely on brand loyalty as a risk reduction strategy because they follow a more comprehensive decision-making process than do individualists. Collectivists spend more time on information searches and utilise a variety of information sources such as friends and families and reference groups. Therefore, they do not need to choose the same brand over and over to minimise risk. Research by Verge et al. (1990) showed that US consumers are more brand loyal and concerned about risk than Thai consumers. This supports the idea of a connection between risk reduction and brand loyalty. Another study showed that Australians made more habitual purchases than consumers in Asian countries such as China, Korea and India (Lowe & Corkindale 2008).

Hypothesis 7:

H_{7a} - There is a significant difference in brand loyalty between Australian-born and Asian-born consumers.

H_{7b} – Australian-born consumers are more habitual, brand loyal.
2.11.8 Innovation conscious decision-making style

Innovation decision-making style applies to consumers who seek novelty and variety in their purchase decisions (Leo, Bennett & Hartel 2005). Innovativeness requires one to initiate behaviours that differ from group norms (Hofstede 2001). Individualists are less concerned with the image they portray to others and how others will react to their ideas and behaviour. Hence, individualists may be more likely to try new things when making a purchase decision. In addition, individualists may use novelty and variety as a form of self-expression (Burns & Brady 1992). Individualists see themselves as inherently separate from others and emphasise the importance of the expression of the inner-self, such as individual preferences, satisfaction, taste, abilities and personal values (Wong & Ahuvia 1998). In contrast, collectivists emphasise familial, ethnic/national, professional and social relationships and roles (Wong & Ahuvia 1998). Spears, Lin and Mowen (2001) reported that American consumers made more innovative purchases than Chinese consumers, who focused more on tradition and continuity. Similarly, Leo, Bennett and Hartel (2005) found that Australians were more innovative in their product preferences than Malaysians.

Hypothesis 8:

H₈a - There is a significant difference in innovativeness between Australian-born and Asian-born consumers.

H₈b – Australian-born consumers are more innovation conscious.
2.12 Chapter summary

This chapter discussed extant literature on consumer behaviour in cross-cultural settings in relation to high involvement purchases, for example, automobiles. The chapter also introduced Hofstede’s five cultural dimensions (power distance, uncertainty avoidance, masculinity and femininity, individualism and collectivism, and long term/short term orientation) and discussed the importance of individualism-collectivism in consumer decision-making research. The chapter presented Neal, Quester and Hawkins’ (2000) consumer decision-making process model. The influence of individualism and collectivism within several stages of this model were also shown. The consumer styles inventory (CSI) (Sproles & Kendall 1986) was introduced in this chapter as a key measure in consumer decision-making research. The CSI assumes the existence of eight styles: perfectionist, high quality conscious, brand conscious, recreation conscious, price conscious, impulsive buying, confused by overchoice, habitual, brand loyal and novelty (replaced with the innovation conscious decision-making style in the current study). The chapter then discussed the influence of cultural background on consumer decision-making styles in relation to automobile purchases. The key information in this chapter was that cultural background is likely to influence consumer decision-making styles, and so automobile purchasing behaviour. Finally, the chapter presents several hypotheses which were further tested in this study.
CHAPTER THREE: RESEARCH METHOD

3.1 Introduction

The previous chapter consisted of a literature review which assisted in the identification and explanation of appropriate hypotheses that form the basis for solving the research problem. The chapter also introduced the theoretical framework, research questions and the hypotheses for this research. The current chapter presents the conceptual framework. The quantitative research methodology which was adopted in this research is discussed and justified in this chapter. The chapter also gives a detailed description of the methodological approach. The road map of the chapter is shown in Figure 3.1.

The chapter continues with an overview of the research methodology, followed by research paradigm and research design, data collection method, sampling technique, including sample population, participant recruitment and the procedure for collecting data for this research. Thereafter, the chapter provides information about data preparation, including missing value analysis, and also the rationale for using factor analysis, such as exploratory and confirmatory factor analysis, for this research. The chapter is brought to a conclusion with a discussion of the rules of overall model fit testing which were applied in assessing the measurement model for the adapted consumer styles inventory (CSI) and the cultural values scale (CVS) in the current study.
Figure 3.1: Road map of the research method chapter

3.1 Introduction

3.2 Overview of the research methodology

3.3 Research paradigm and research design

3.4 Primary and secondary data

3.5 Research questions

3.6 Conceptual framework

3.7 Data collection method

3.7.1 Survey method

3.7.2 Population under consideration

3.8 Sampling technique

3.8.1 Sample size justification

3.8.1.1 Statistical criteria for significance

3.8.1.2 Level of statistical power

3.8.1.3 Effect size

3.8.1.4 Data analysis procedure

3.8.1.5 Appropriate sample size

3.8.1 Sample size justification

3.9 Measures

3.10 Procedure

3.11 Data coding and data entry

3.12 Reliability

3.13 Validity

3.14 Factor analysis

3.14.1 Exploratory factor analysis

3.14.2 Confirmatory factor analysis

3.15 Overall model fit testing

3.16 Hypotheses testing

3.17 Ethical considerations in this research

3.18 Chapter summary
3.2 Overview of the research methodology

The research project is positioned at a theory building level in that the aim is to contribute to theory regarding cultural differences in consumer decision-making styles. In particular, previous work is extended to high involvement purchases. This research also develops a new measure of consumer decision-making styles for a high involvement purchase situation, automobile purchases. In this context, theory building is used with regard to the categories outlined by Wacker (2008).

This research can be classified as replication with modification category, for example, Type III (see Easley, Madden & Dunn 2000). Easley, Madden and Dunn described replication research and its relationship to knowledge advancement, identifying four types of replication: Type 0, Type I, Type II and Type III. This research can be classified as Type III replication under the Easley, Madden and Dunn (2000) framework, in that it uses similar concepts to previous consumer decision-making styles research but uses an adapted version of the popular consumer styles inventory (CSI) and to compare the consumer decision-making styles of Eastern and Western consumers. Individualism and collectivism is also measured. Previous studies of consumer decision-making styles have used a generic rather than non-generic, product-specific consumer styles inventory and have compared cultural groups based on location in the absence of comparing them on cultural dimensions per se.

The research uses self-administered questionnaires to measure the study variables: country of birth (Australian-born, Asian-born) and the following consumer decision-making styles: (1) perfectionist, high-quality conscious, (2) price conscious, (3) confused by overchoice, (4) habitual, brand-loyal, (5) impulsive, (6) innovation conscious, (7) brand conscious and (8) recreational, hedonistic shopping conscious. The research also uses an established measure of individualism-collectivism (see Singelis et
al. 1995) to identify the differences between two cultural groups. In addition, it uses an adapted version of Sproles and Kendall’s (1986) widely used consumer styles inventory. In particular, item content has been adapted to measure consumer decision-making styles for a high involvement product purchase – automobiles. Reliabilities are reported for the final subscales (see Results chapter, section 4.8). The factor structure, including discriminant validity, was established using confirmatory factor analysis (see Results chapter, section 4.10).

The sampling frame is Australian-born and Asian-born consumers who have purchased an automobile in the past twelve months. This sampling frame was selected on the basis that participants needed to be able to answer questions about their consumer decision-making styles in relation to purchasing a car; twelve months was expected to be a reasonable time frame for recalling consumer decision-making styles (Park & Kim 2003). In addition, given that the research questions are framed around comparing the consumer decision-making styles of Eastern and Western consumers, these criteria also had to be met. The sample size was 100 participants per cultural group, which was the requirement for planned statistical analyses (Kline 2005).

The sampling technique employed was non-probabilistic sampling; the researcher specified the characteristics of the population of interest (Australian-born and Asian-born consumers who had purchased a car within the last twelve months) and then located individuals who matched the needed characteristics. The researcher then recruited 100 participants per cultural grouping, Australian-born and Asian-born, who met the inclusion criteria and were willing to participate and included them in the research study. Participants were recruited through twelve motor vehicle dealerships in Melbourne, and by posting the Participant Recruitment Advertisement notices (see
Appendix 1) on notice boards at four Swinburne University campuses (Hawthorn, Lilydale, Prahran and Croydon).

The researcher acknowledged that this sampling methodology has implications for the validity and reliability of the responses in the sense that participants were not randomly sampled and, therefore, may not be representative of the total population of automobile consumers from these cultural groups (Morrison 1969). However, as recommended by Evanschitzky, Baumgarth and Armstrong (2007) and Easley, Madden and Dunn (2000), in replication studies it is sometimes more important to validate the measurement instrument before being overly concerned with generalisability. A primary aim of this extension was to ascertain whether concepts such as cultural background could be indeed be used to differentiate between behaviours. As a consequence, a necessary first step was to validate the instrument from a face, content and semantic validity perspective (Brennan, Voros & Brady 2011).

In order to improve response rates, participants were provided with reply paid envelopes to return their completed questionnaires. The survey was lengthy, hence the use of a paper-based version (see Appendix 2). It was felt that people would be more likely to comply with such a long survey if they could complete it at home. In addition to questions regarding the sample’s buyer behaviour characteristics, there were a number of questions that provided information of background interest for the motor vehicle dealers who allowed the conduct of the research on their premises. Not all questions are used in the final analysis.

All data were quantitative in nature and variables represented a combination of nominal, ordinal and scale (continuous) variables. Quantitative data were appropriate, given that the aim was to compare means on the key study variables across the two cultural groups. As a result of the nature of the data, the research questions were tested
using Multivariate Analysis of Covariance (MANCOVA) with one between-subjects factor (cultural background: individualism versus collectivism); and eight dependent variables (the consumer decision-making styles of perfectionist, high quality conscious; brand conscious; price conscious; confused by over-choice; habitual, brand loyal; impulsive; innovation conscious; and recreational, hedonistic shopping conscious. MANCOVA was used because it is an extension of Analysis of Covariance (ANCOVA), which covers cases in which there is more than one dependent variable and in which the dependent variables cannot simply be combined (Tabachnik & Fidell 2007). It is similar to Multiple Analyses of Variance (MANOVA), but allows the researcher to exercise control for the effects of supplementary continuous independent variables - covariates. For this study, this analysis allowed for a comparison of means across the two groups on all of the consumer decision-making styles, controlling for demographic variables that were correlated with one or more styles (see Results chapter). MANCOVA analysis treats cultural background as a discrete variable (participants are assigned to one group or the other, in this case Australian-born – ‘individualists’, Asian-born – ‘collectivists’), therefore information pertaining to actual variability in individualism and collectivism scores between the groups is lost, which is a limitation of the approach in comparison to alternative approaches. For example, regression analysis treats individualism and collectivism as continuous variables and therefore shows how the variability in the consumer decision making styles is related to variability in individualism/collectivism. Regression models are used for prediction purposes rather than comparing independent samples. It provides information about the relationship or correlation between variables, however comparison of means was more appropriate for the purposes of the current research project as the aim was to provide
information about differences in consumer decision making styles across two cultural groups.

The research is based on a positivist approach, which takes the view that the world is external and objective to the researcher (Diamantopoulos & Winklhofer 2001) - the approach focuses on objective description and explanation – and quantitative data are gathered to test hypotheses. More details about the research paradigm and research design are discussed in the following section (see section 3.3).

3.3 Research paradigm and research design

The concepts of research paradigm and research design are illustrated in this section. As mentioned in the previous section, the research paradigm adopted in this research is one of positivism. This is in recognition of the body of knowledge being one of marketing and consumer psychology, both positivist foundations for this replication with extension. The following sections outline the justification for the use of positivism as the research paradigm.

3.3.1 Research paradigm

A research paradigm is defined as a basic set of philosophical beliefs about the nature of the world (Cavana, Delahaye & Sekaran 2001). Research paradigms provide guidelines on how the research should be conducted and offer a framework comprising an accepted set of theories, methods and ways of defining data (Hussey & Hussey 1997). In marketing and consumer behaviour studies there are two main traditional research paradigms, positivist and phenomenological (Hunt 2003).

**Positivist paradigm**

The positivist paradigm is derived from the natural sciences and treats research as independent observation of events occurring within a system (Fisher 2004). It is
founded on the belief that the study of human behaviour should be conducted in the same way as studies in the natural sciences, and is based on assumptions that social reality is independent of us and exists regardless of whether or not we are aware of it (Hunt 2003). It assumes that observations can be made that lead towards some objective ‘truth’. These observations are most often gathered by means of some kind of survey and reported in terms of their aggregate values (means, standard deviations and so on).

This paradigm is associated with a quantitative research method that typically incorporates tools to measure numbers indicating cause-and-effect relationships. The positivistic approach also seeks to produce general laws as the basis of scientific explanation to discover, anticipate, predict, document and control the behavioural or phenomena (Hussey & Hussey 1997). Its explanation consists of establishing causal relationships between variables by establishing causal laws and linking them to deductive or integrated theory. The positivistic paradigm is typified by data collection methods using quantitative techniques such as surveys, experiments and statistics. These methods seek facts or causes of social phenomena. The paradigm aims at rigorous, exact measures and objective research, and tests hypotheses by carefully analysing numbers from the measures (Neuman 2006).

As this research aims to replicate and extend previous research conducted within the paradigm, it will be necessary to replicate the entire process and system of data gathering and reporting.

**Phenomenological paradigm**

An alternative view is that of the phenomenological approach. The phenomenological paradigm usually adopts a different framework of data collection and analysis. It attempts to understand subjective human behaviour by focusing on meaning rather than measurement (Neuman 2006). That is, it is essentially concerned with the
understanding of human behaviour from the participant’s own frame of reference. It differs from positivism in that it does not posit a truth as such. It presents a variety of truths and aims to deeply understand the subject (not the aggregate object as in positivism). This paradigm is founded on the belief that social reality is within the individual and, therefore, the act of investigating reality has an effect on that reality (Green & Rosemann 2002). Therefore, it is based on ‘hunches’, experience and intuition as the means of investigating research problems. The phenomenological paradigm is normally associated with qualitative research methods. The research approach used under this paradigm is an array of interpretative techniques, such as action research, case studies, ethnography, triangulation and hermeneutics. These methods seek to describe, translate and come to terms with meanings (Saunders, Thornhill & Lewis 2007). Both approaches are valid, within their respective contexts, and phenomenology is often used in the process of theory building during the inductive (observation gathering) phases (Sekaran 2005).

3.3.1.1 Applicable paradigm for this study

As a result of the above considerations, a positivistic approach was adopted for this research because:

(1) this approach allowed the researcher to search for truths of observation by empirical evidence via the hypothetico-deductive method (Hair et al. 2005).

(2) several studies and observations on the consumer styles inventory (CSI) had been conducted and the extant literature was well developed (Jankowicz 2005).

(3) consumer decision-making styles between Australian-born and Asian-born cultures have been tested based on highly structured methodology and intensive statistical analysis in this research (Saunders, Thornhill & Lewis 2007).
(4) this approach is in line with the requirements of replication and it is necessary to replicate the whole system as far as is possible; other authors have used positivism and it is necessary to do so here.

3.3.2 Research design

Research design is defined as a master plan specifying the methods and procedures for collecting and analysing the required information (Zikmund 2007). Research design provides guidance and focus for researchers in carrying out their research (Hussey & Hussey 1997). It can be classified into exploratory research, descriptive research and causal research (Burns & Bush 2003), which are briefly discussed below.

Exploratory research allows the researcher to look for more insight into a particular problem if there is a lack of prior knowledge of the problem and ill-defined hypotheses (Aaker, Fournier & Brasel 2004). In descriptive research, researchers are able to identify the “answers to the what, who, when, where, and how questions” that are related to a particular business problem (Hair et al. 2006), and these questions can be investigated through hypothesis testing. Researchers use causal research to establish cause-and-effect relationships of a particular business problem (Malhotra et al. 2004). However, causal research is most appropriate for researchers who intend to identify, determine and explain “causality among critical market factors” (Hair et al. 2005, p. 42). The comparison of the three basic research designs is made in Table 3.1.
Table 3.1: A comparison of the three basic research designs

<table>
<thead>
<tr>
<th>Objective</th>
<th>Exploratory</th>
<th>Descriptive</th>
<th>Causal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discover ideas and insights.</td>
<td>Describe market characteristics or functions.</td>
<td>Determine cause and effect relationships.</td>
<td></td>
</tr>
<tr>
<td>Characteristics</td>
<td>Flexible; versatile; often the front end of the total research design.</td>
<td>Marked by the prior formulation of specific hypotheses; pre-planned and structured design.</td>
<td>Manipulation of one or more independent variables; control of other mediating variables.</td>
</tr>
<tr>
<td>Methods</td>
<td>Expert surveys; pilot surveys; secondary data; qualitative research.</td>
<td>Secondary data; surveys; panels; observational and other data.</td>
<td>Experiments.</td>
</tr>
</tbody>
</table>

Source: Adapted from Malhotra (2004).

This study falls within in the ‘causal’ category, due to the nature of the data and the nature of the issues involved (replication with extension). However, because there are also ‘unknowns’ at play, it is also descriptive in nature. In addition to basic analyses, the research design for this study involves several research questions that can be answered by testing several hypotheses (see page no. 81 for hypotheses; Table 3.3). A hypothesis is defined as an empirically testable version of a theoretical proposition that has not yet been tested or verified with any empirical evidence (Saunders, Thornhill & Lewis 2007). Researchers can confirm the relationship between two or more variables by testing the hypothesis and, as a result, possible solutions can be formed to solve a particular problem (Hair et al. 2005). Hypothesis testing will be affected by the research design.

3.3.2.1 Applicable research design for this study

A descriptive/causal research design was adopted in this research because the study has clear problem statements, specific hypotheses and a detailed body of knowledge (see, Malhotra 2004) that can be used for the purpose of drawing inferences about the phenomena of interest (Hair et al. 2004). According to Kumar (2005), the
major aim of a descriptive study is to describe and provide information on what is prevalent regarding a group of people, cultural background/community, a phenomenon or a situation. It may also be considered causal because the population of interest is new and the analytical method implies causality in the testing processes.

In order to achieve the objectives of this study, the researcher needed to provide information on Australian-born and Asian-born consumers’ reasons for purchasing and the decision-making styles they are likely to follow in automobile purchase situations. This study used known theoretical perspectives to derive the hypotheses of the study and to name the research variables. Descriptive research also allowed the researcher to navigate the relationship among the constructs, though it does not reflect the notion of causality (Aaker et al. 2004). In the section that follows, the research questions are presented (Table 3.2) in two parts, as primary and secondary research questions.

### 3.4 Research questions

The primary and secondary research questions are presented in the Table 3.2:

<table>
<thead>
<tr>
<th>Primary Research Question</th>
<th>1. How does cultural background affect consumer decision-making styles for high involvement purchases, for example, automobiles?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Research Questions:</td>
<td>2. What are the decision-making styles of Australian-born and Asian-born consumers when purchasing automobiles?</td>
</tr>
<tr>
<td></td>
<td>3. Do the decision-making styles associated with purchasing automobiles differ for these two cultural groups?</td>
</tr>
<tr>
<td></td>
<td>4. In what areas do these groups behave similarly or dissimilarly?</td>
</tr>
</tbody>
</table>

For the purpose of this study, a conceptual framework has been developed which is shown in the next section (Figure 3.2). The conceptual framework is designed to
answer the above-mentioned research questions. The research questions will be answered based on the results of hypotheses one to eight (see Table 3.3). The following paragraph presents the conceptual framework below.

3.5 Conceptual framework

Figure 3.2 below presents the conceptual framework for this study. The framework integrates Hofestede’s (1980) ideas about the differences between national cultures (Eastern and Western countries) with Sproles and Kendall’s (1986) model of consumer decision-making styles which assumes eight styles: perfectionist, high quality conscious, brand conscious, recreational shopping conscious, price conscious, impulsive buying, confused by overchoice, habitual, brand loyal, and innovation conscious. The framework outlines the hypothesised differences in consumer decision-making styles between the two cultural groups, which are Australian-born and Asian-born consumers. As discussed in detail in the previous chapter, Australian-born consumers are expected to be more individualist and, therefore, to score higher on confused by overchoice, habitual, brand-loyal, impulsive, price conscious and innovation conscious decision-making styles. On the other hand, Asian-born consumers are expected to be more collectivist and, therefore, to score higher on recreational, brand and perfectionist, high quality conscious decision-making styles. Arrows in Figure 3.1 below indicate positive relationships. The hypotheses shown in the conceptual framework are explained in detail in the previous chapter (see section 2.11).
The following sections in this chapter present the proposed hypotheses (see Table 3.3) which were tested in this study, and also explain the data collection method, survey administration, measures, procedure, treatment of missing values and data analysis methods used, and also present an overview of the analyses.
| Hypothesis 1 | $H_{1a}$: There is a significant difference in quality consciousness between Australian-born and Asian-born consumers.  
$H_{1b}$: Asian-born consumers are more perfectionist, high quality conscious. |
| Hypothesis 2 | $H_{2a}$: There is a significant difference in brand consciousness between Australian-born and Asian-born consumers.  
$H_{2b}$: Asian-born consumers are more brand conscious.  
$H_{2c}$: There is a significant relationship between cultural background and make of car purchased. Asian-born consumers are more likely to purchase European brands (for example, BMW, Mercedes, Audi), whereas Australian-born consumers are more likely to purchase Australian brands (for example, Ford, Holden, Mitsubishi etc.) |
| Hypothesis 3 | $H_{3a}$: There is a significant difference in recreational shopping between Australian-born and Asian-born consumers.  
$H_{3b}$: Australian-born consumers are more recreational shopping conscious.  
$H_{3c}$: There is a significant relationship between cultural background and number of family members and friends involved in the final automobile purchasing decision. Asian-born consumers are likely to involve more family members and friends than are individualist consumers. |
| Hypothesis 4 | $H_{4a}$: There is a significant difference in price consciousness between Australian-born and Asian-born consumers.  
$H_{4b}$: Australian-born consumers are more price conscious. |
| Hypothesis 5 | $H_{5a}$: There is a significant difference in impulsive buying between Australian-born and Asian-born consumers.  
$H_{5b}$: Australian-born are more impulsive than Asian-born consumers.  
$H_{5c}$: There is a significant relationship between cultural background and time spent (i) with dealers, (ii) researching the final purchase decision. Australian-born consumers spend less time reaching a decision than collectivist consumers. |
| Hypothesis 6 | $H_{6a}$: There is a significant difference in confused by overchoice between Australian-born and Asian-born consumers.  
$H_{6b}$: Australian-born consumers are more confused by overchoice. |
| Hypothesis 7 | $H_{7a}$: There is a significant difference in brand loyalty between Australian-born and Asian-born consumers.  
$H_{7b}$: Australian-born consumers are more habitual, brand loyal. |
| Hypothesis 8 | $H_{8a}$: There is a significant difference in innovativeness between Australian-born and Asian-born consumers.  
$H_{8b}$: Australian-born consumers are more innovation conscious. |
3.6 Primary and secondary data

The two types of data that can be used in any business research project are primary and secondary. Primary data is defined as data originating with the researcher specifically to address the research problem, while secondary data is defined as data that have already been collected for purposes other than the problem at hand (Malhotra et al. 2004). The major differences between primary and secondary data are described in Table 3.4.

Table 3.4: A Comparison of primary and Secondary Data

<table>
<thead>
<tr>
<th></th>
<th>Primary Data</th>
<th>Secondary Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection Purpose</td>
<td>For the problem at hand</td>
<td>For other problems</td>
</tr>
<tr>
<td>Collection Process</td>
<td>Very involved</td>
<td>Rapid and easy</td>
</tr>
<tr>
<td>Collection Cost</td>
<td>High</td>
<td>Relatively low</td>
</tr>
<tr>
<td>Collection Time</td>
<td>Long</td>
<td>Short</td>
</tr>
</tbody>
</table>

Source: Adapted from Malhotra (2006).

For the purpose of this study, the researcher had to collect primary data. Secondary data was not available/or sufficient and did not serve the purpose and objectives of this study. In addition, secondary data may be outdated, rendering it unreliable (Malhotra et al. 2004). Therefore, primary data was collected by using the research methods previously described to test the hypotheses (see Table 3.3), and to answer the proposed research questions (see Table 3.2). The aim of quantitative research is for the sample studied to be representative of the wider population of interest. In this case, the aim was to study a sample of Australian-born and Asian-born automobile consumers with a view to ascertaining the instrument’s ability to be generalised to the wider population of consumers in these groups. The research
questions and models regarding the differences between the two groups of consumers were developed in advance of the empirical part of the study.

3.7 Data collection method

Different data collection methods are discussed in this section, together with the justification of the usage of the self-administered survey method. Methods of data collection are determined by the types of data needed and pre-set research design (Burns & Bush 2003). These can be classified, based on the various types of research design. Methods of data collection under exploratory research include experience surveys, protocol interviews, projective interviewing techniques, role-playing interviews, in-depth interviews and focus group interviews (Hair et al. 2004). Methods of data collection under descriptive research include survey and observation (Saunders, Thornhill & Lewis 2007). Methods of data collection under causal research consist of experimentation and market tests (McDaniel & Gates 2008). For the purpose of this study, descriptive research (using a survey method) was adopted because these methods allow the researcher to validate the facts, estimates, relationships and predictions as laid down by the research objectives.

3.7.1 Survey methods

Surveys as a method of data collection were preferred over observation in this study, because survey methods can accommodate large sample sizes in order to create generalisable results and easy administering and recording of questions and answers (Hair et al. 2004). Most researchers in the extant literature have adopted survey methods to navigate the determinants of the consumers’ decision-making styles (Canabal 2002; Leo, Bennett & Hartel 2005).
There are different types of survey methods. These include person-administered, telephone-administered, self-administered and on-line surveys (Hair et al. 2004). In order to conduct person-administered surveys, a well-trained interviewer will interact with interviewees during the interview process (see McDaniel & Gates 2008). The telephone-administered survey method is one of the cheapest and fastest data gathering methods for large numbers of respondents. Self-administered surveys are a data collection technique in which the respondent reads the survey questions and records his or her own responses without the presence of a trained interviewer (Hair et al. 2004). Lastly, online survey methods are utilised by researchers due to the advancement of technology. Self-administered methods were adopted in this research because of the advantages of low cost per survey and less interviewer bias (Hair et al. 2004). Several researchers in the extant literature have also adopted the self-administered survey method to navigate the determinants of consumer decision-making styles (Sproles & Kendall 1986; Wang et al. 2004; Radder & Pieterson 2006).

There are three types of self-administered survey: direct mail, mall panel surveys and drop-off surveys. The drop-off survey technique was used in this research because it enables the researcher to access people who can answer general questions, identify potential respondents and enhance the survey response rates (Hair et al. 2004).

3.7.2 Population under consideration

The planning and establishment of administering the survey commenced with the adoption of the drop-off survey technique. The sample population for this research was Australian-born and Asian-born consumers who had purchased a car within the last twelve months. It was reasoned that participants would not be able to recall their purchase accurately if the purchase was made more than one to two years ago (Park & Kim 2003). The sampling frame consisted of Australian-born and Asian-born
consumers living in Melbourne, Australia, who (a) were aged between 18 and 75 years, (b) held a current driver’s license and (c) purchased a car within the past twelve months.

The potential respondents were given a self-administered survey questionnaire for the purpose of ensuring the confidentiality and non-obligatory aspects of participating in the survey. The voluntary nature of the participation was explained verbally, as well as being mentioned in the consent information statement for the survey. Potential respondents were invited to complete an anonymous survey questionnaire that would take approximately 25 minutes of their time. It was also mentioned in the questionnaire that all information collected would be treated in the strictest confidence and stored securely, and at no time would any individual be identified in any reports resulting from the research.

In addition to verbal communication with the potential respondents, a covering consent information sheet was attached to the questionnaire (see Appendix 3: Project Consent Information Statement) which informed potential respondents that: (1) they have the right to decide for themselves whether or not they wanted to be part of the research; (2) the survey would not invade their privacy; (3) they should not feel obligated at any time, pressured or coerced to participate; (4) all information collected would be strictly confidential; (5) they were selected on a convenience sampling basis, and (6) consent for participating in this anonymous questionnaire survey is implied when the respondents return the completed questionnaire using the pre-paid envelope.

Potential respondents were assured that there was no potential conflict of interest for any party involved, and that no incentive would be offered to the participants in this research. Participation was undertaken only on a voluntary basis.
3.8 Sampling technique

The decision to adopt probability or non-probability sampling is one of the key decisions in the sampling decision process (Malhotra et al. 2006). Probability sampling is defined as “a sampling procedure in which each element of the population is selected by chance” (Malhotra et al. 2006, p. 367). Non-probability sampling is defined as “a sampling technique that relies on the judgement of the researcher” (Malhotra et al. 2006, p. 367). Due to the inapplicability of a probability sampling frame, non-probability sampling was adopted in this research. The non-probability sampling technique had been widely used for both consumer and industrial surveys in developed countries (Malhotra et al. 2006). As such, the non-probability sampling technique is applicable in Australia since it is a developed country. In addition, consistent with previous studies, it is important to mention that the non-probability sampling technique was also adopted by Durvasula, Lysonski and Zotos (1993) in examining the decision-making styles of consumers from New Zealand samples. However, it is noted that a non-probability sample does not allow for objective evaluation of the precision of the sample characteristics and it will undermine the ability of this research to generalise the research findings.

The four types of non-probability sampling are convenience sampling, judgemental sampling, quota sampling and snowball sampling (Malhotra et al. 2006). Given that there were a number of criteria for inclusion in the sample, this research adopted a convenience sampling technique, targeting participants who met the above criteria. Convenience sampling is commonly used when it is not very easy to identify members of the desired population (Saunders, Thornhill & Lewis 2007). In addition, convenience sampling is considered to be by far the least time consuming, as well as the least expensive, sampling technique.
Suitable participants were also obtained by approaching colleagues, family members and friends of the researcher, and through Participant Recruitment Advertisements. The eligibility criteria for inclusion were stated on the Participant Recruitment Advertisement and Participant Consent Information Sheet (see Appendices 1 and 3, respectively).

3.8.1 Sample size justification

Determining the sample size in the sample plan is dependent on a range of considerations. These include statistical criteria for significance, level of statistical power, effect size, data analysis procedure and sample size. Sample size is defined as the number of units to be included in a study (Malhotra et al. 2006). Sample size has to be large enough to minimise the sampling error of the non-probability sampling and to enhance the precision of the sampling outcome. There were a number of criteria to be met for inclusion in the sample. For example, participants were only eligible if they had purchased an automobile in the past twelve months. Therefore, the researcher had set 200 potential respondents as the sample size in this research to meet the criteria for the satisfactory criteria for statistical analysis.

3.8.1.1 Statistical criteria for significance

The rule of thumb in marketing research is to use a .05 level of significance (Zikmund 1986). This is consistent with the rule/convention in the social sciences, in which .05 is also the arbitrary rule of thumb (Olejnik 1984). Olejnik questioned the use of a .05 level of significance because of its impact on sample size. Olejnik (1984) also suggested that a lower level of significance is possible for large effect. The higher the degree of significance required, for example, .05 or .01, it is conventionally held to mean the lower the likelihood of a Type I error; this type of error occurs when the null
hypothesis is incorrectly rejected (Kenkel 1989). This study requires at least a .05 level of significance.

3.8.1.2 Level of statistical power

A second factor that affects the number of respondents needed in hypothesis testing research is statistical power. Statistical power measures the likelihood of a Type II error occurring. Type II errors exist when the null hypothesis is accepted when it is actually false (Kenkel 1989). To be precise, a relationship may in fact exist but it is not observed. Olejnik (1984) suggested that statistical power should be .70 or above, though Kenkel pointed out that it is possible to have a range as low as .50. A sample size of 200 would be sufficient to detect moderate effects and have a statistical power of .998 at a .05 level of significance (Sakaran 2000).

3.8.1.3 Effect size

The next consideration when assessing the sample size is effect size. If a previous study indicates that there is a large difference between population means, then sample size can be decreased. Only a few subjects will be needed to detect a difference (Olejnik 1984).

3.8.1.4 Data analysis procedure

A fourth factor affecting the size of the sample is the data analysis procedure. Sakaran (2000) suggested that, in order to identify behavioural differences between two populations, such as those used in this study, the total sample size needs to be around 200 respondents for sufficient reliability to be obtained. However, Olejnik (1984) mentioned that quantitative studies can have smaller sample sizes than qualitative studies.
3.8.1.5 Appropriate sample size

The sample size selected for this study was 100 respondents per cultural group (100*2). This sample size is (1) large enough to detect any differences should they exist, (2) appropriate for multivariate analysis and factorial design, (3) will have sufficient statistical power to reliably detect any medium effects, (4) be able to produce results at the statistical significance level of .05, and (5) be large enough to allow sufficient useful responses in case of non-response (Qazi et al. 2010).

3.9 Measures

The study measures were selected for the purpose of examining whether there are cross-cultural differences in consumer decision-making styles. The questionnaire was divided into the following five sections:

(1) Demographic Questions: This was used for the purpose of describing the characteristics of the respondents and, in particular, identifying any differences in the characteristics of Australian and Asian-born Australian respondents so that these could be controlled in the main analyses.

(2) Consumer Styles Inventory (CSI; Sproles & Kendall 1986): This was used to measure respondents’ consumer decision-making styles in the context of automobile purchases.

(3) Cultural Values Scale (CVS; Singelis et al. 1995): The Cultural Values Scale was used to test the hypothesis that locally-born and Asian-born Australians differ in their endorsement of collectivist versus individualist values.

(4) Driving History Questions: This was used to collect information regarding time of purchase, make of purchased automobile, cost of purchased automobile and the ratings of different makes of cars.
External Influences on Consumer Decision-making Questions: These sections were used to identify the importance of dealers, internet, magazines, television advertisements and ‘word of mouth’ as an information sources when purchasing an automobile. The details of each of these five sections are discussed below.

3.9.1 Demographic questions (16 questions)

Information on participants’ demographic characteristics was sought to enable sample description and facilitate replication of the current findings in future research. Participants were asked to provide information about their age, citizenship, country of birth (Asian-born participants only), gender, education, first spoken language, household income, length of time in Australia (Asian-born participants only), marital status, number of children under 18, and parents’ country of birth. Asian-born participants were asked how long they had been living in Australia, to control for the possibility that this may have influenced their endorsement of collectivist versus individualist values. ‘Age’ and ‘number of years living in Australia’ were used to calculate Asian-born participants’ age on arriving in Australia, as this may also have affected their identification with individualist versus collectivist values. That is, collectivist values may be less strongly instilled in children and, therefore, Asian-born participants who began living in Australia as children may have assimilated more thoroughly the individualist values of the Australian society in which they have grown up (Leo, Bennett & Hartel 2005) (see Results for more details). The demographic questions were also used to capture respondents’ characteristics in order to confirm that all respondents met the requirements for inclusion in the study, which were: (1) being an Australian citizen, (2) being aged between 18 and 75 years, (3) holding a current Australian driving license, and (4) having purchased a car within the past twelve months.
3.9.2 Consumer styles inventory – high involvement purchase (automobiles; 45 questions)

The CSI has become the most commonly used measure of consumer decision-making styles and has been widely applied and validated in several countries including Australia, China, India, Malaysia, New Zealand, United Kingdom and the United States (Leo, Bennett & Hartel 2005; Bakewell, Mitchell & Rothwell 2006). As noted in the literature review chapter, the CSI is an established scale consisting of 45 statements that assess cognitive and affective characteristics of a consumer’s approach to making choices, such as consumer decision-making styles (Sproles & Kendall 1986). Participants rated their agreement or disagreement with each statement on a six-point scale ranging from “strongly disagree” (1) to “strongly agree” (6). A sample item is, “A product does not have to be perfect, or the best, to satisfy me”. For the purpose of this research, original item wording was altered to be specific to a high involvement purchase, for example, automobiles (see Appendix 4 for a comparison of original item wording and item wording used for the high involvement purchase situation in the current research). The original item wording was altered because the original items in the scale were generic. For example, “I make my shopping trips fast” or “I shop quickly, buying the first product or brand I find that seems good enough”. They did not ask participants about their consumer decision-making styles for a particular product type and, therefore, did not fit with the automobile purchase situation.

Table 3.5 lists the name of the CSI subscale and the number of items, and provides one sample item for each.
Table 3.5: CSI subscales: items per scale with sample items

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscale</th>
<th>Original Authors</th>
<th>Items</th>
<th>Sample Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSI</td>
<td>Perfectionist</td>
<td>Sproles and Kendall (1986)</td>
<td>1, 10, 19, 28, 35, 40, 43, 45</td>
<td>I make a special effort to choose very best quality products</td>
</tr>
<tr>
<td></td>
<td>Brand</td>
<td></td>
<td>4, 13, 22, 30, 37</td>
<td>The well-known national brands are the best for me</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td></td>
<td>5, 14, 23</td>
<td>The lower price products are usually my choice</td>
</tr>
<tr>
<td></td>
<td>Impulsive</td>
<td></td>
<td>6, 15, 24, 31, 38</td>
<td>I am impulsive when purchasing</td>
</tr>
<tr>
<td></td>
<td>Confused</td>
<td></td>
<td>7, 16, 25, 32</td>
<td>Sometimes it’s hard to choose stores in which to shop</td>
</tr>
<tr>
<td></td>
<td>Habitual</td>
<td></td>
<td>8, 17, 26, 33</td>
<td>I have favourite brands I buy over and over</td>
</tr>
<tr>
<td></td>
<td>Innovation</td>
<td>Raju (1980)</td>
<td>2, 9, 11, 18, 20, 27, 34, 39, 42, 44</td>
<td>I am the kind of person who would try a new make of car</td>
</tr>
</tbody>
</table>

*Note: As the CSI was an adapted version of the scale it was subjected to Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Therefore, final item loadings and reliabilities are reported in the results chapter. Innovation conscious decision-making style (Raju 1980) replaced Novelty-Fashion conscious from the original CSI in this study. A very slight change in wording was made for CSI items so that they fitted well in the automobile purchase situation (see Appendix 4 for the Comparison of Original Item Wording for the Consumer Styles Inventory (CSI) and Wording Used for the High Involvement Purchase Situation).

As mentioned earlier (see Section 3.3), the CSI consists of eight subscales: perfectionist, high-quality conscious; brand conscious; confused by over-choice; habitual, brand-loyal; impulsive, careless; novelty, fashion-conscious; price conscious; and recreational shopping conscious. This research retained all of the Sproles and Kendall (1986) subscales, except novelty fashion-conscious. This subscale was excluded because many of the items were specific to low involvement purchases or clothing-specific purchases and, consequently, were not applicable to automobiles. For example, two of the excluded items were, “I usually have one or more outfits of the very newest style” and “I keep my wardrobe up to date with the changing fashions”. To assess the ‘novelty’ aspect of consumer decision-making styles for automobiles, one subscale, ‘innovation conscious’ (nine items; Raju 1980) was added alongside the seven...
factors retained from Sproles and Kendall (1986) (see Appendix 2 for a copy of the full questionnaire). Innovation conscious decision-making styles refer to consumers who seek novelty and variety in their purchase decisions (McAlister & Pessemier 1982). A sample item from this scale is, “I am the kind of person who would try a new make of car”.

3.9.3 Cultural values scale (CVS; 32 questions)

The cultural values scale (CVS; Singelis et al. 1995) is an established scale consisting of 32 statements that measure individualist and collectivist cultural values. Participants rated their agreement/disagreement with each statement on a 7-point scale ranging from “strongly disagree” (1) to “strongly agree” (7). A sample item is, “My happiness depends very much on the happiness of those around me”. The CVS consists of two subscales, (a) individualism and (b) collectivism, and each has 16 items. The reason for using the CVS was to measure/confirm the cultural values among the respondents from the two different cultural backgrounds, to see if the respondents were aligned with the cultural dimensions typical of their cultural background, for example, Asian with collectivism and Australian with individualism.

Table 3.6 shows the constructs and the items developed by Singelis et al (1995).

Table 3.6: The cultural values scale (CVS) (Singelis et al. 1995)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Measure</th>
<th>Original Authors</th>
<th>Items</th>
<th>Sample Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVS</td>
<td>Individualism</td>
<td>Singelis et al. (1995)</td>
<td>1, 5, 6, 15, 18, 21, 25, 32, 4, 8, 10, 12, 19, 23, 26, 30</td>
<td>I enjoy being unique and different from others in many ways.</td>
</tr>
<tr>
<td>Collectivism</td>
<td>Singelis et al. (1995)</td>
<td>2, 9, 11, 14, 16, 20, 22, 28, 3, 7, 13, 17, 24, 27, 29, 31</td>
<td>I usually sacrifice my self-interest for the benefit of my group.</td>
<td></td>
</tr>
</tbody>
</table>

*Note: A confirmatory factor analysis of the CVS is provided in Appendix 5. Reliabilities for the sub-scales in the current study are also reported in the Appendix.
3.9.4 Questions on ‘driving history’ (locally developed measure; six questions)

This set of questions was asked of participants to determine the price of the car purchased, and the make of car or brand participants purchased to facilitate comparison between Australian-born and Asian-born consumers’ in terms of their brand/product choices. Participants were also asked how long ago they purchased their car because, for the purpose of this study, the respondents were only included if they purchased their car no longer than twelve months ago. The response format was a mixture of ‘fill in the blank’ and ‘tick the most appropriate alternative’.

3.9.5 External influences on consumer decision making (locally developed measure; eight questions)

Participants supplied information about (potential) external influences on consumer decision-making when purchasing a car. These factors included the perceived importance of dealers, number of dealers consulted, time spent with dealers, number of cars test-driven, time spent on research, perceived importance of family and friends, and number of family/friends consulted. The response format for these questions was ‘tick the most appropriate alternative’. In addition, participants rated the relative importance of different information sources (such as dealers, the internet, magazines, television advertisements, ‘word of mouth’ communication) on a five-point scale (ranging from 1 = “very unimportant” to 5 = “very important”). As previously mentioned, cultural dimensions such as individualist and collectivist are likely to exert some influence on consumers’ automobile purchase behaviour (Hiu et al. 2001). Several questions were asked in order to identify these influences, such as the number of family members consulted, number of dealers consulted etc., before purchasing the automobile.
A full copy of the questionnaire is provided in Appendix 2. The procedure used to collect the data is outlined below.

3.10 Procedure

As mentioned earlier in this chapter, the data were collected via self-administered and online questionnaires. To maximise ease of completion and convenience for respondents, prospective participants were given the option of completing the questionnaires online or in hard copy. The researcher constructed an electronic version of the questionnaire in a regular web browser using a survey software application (Opinio). Once the electronic version of the questionnaire was constructed, a browser link was created so that participants could visit the site to complete the questionnaire at their convenience. The browser link was specified on the Participant Recruitment Advertisement (see Appendix 1), and was circulated among colleagues, family and friends of the researcher via email. The questionnaire could not be accessed more than once from the same computer. Forty-three participants completed the questionnaire online, and 159 participants completed the questionnaire in hard copy.

3.11 Data coding and data entry

The researcher screened the questionnaires to identify any exceptional cases after completing the collection of the sample data. Once the exceptional cases were identified and dealt with, the researcher proceeded to the process of data coding using the Statistical Package for Social Science Software, Version 16 (SPSS software version 16). Each possible response from each question in the questionnaire was coded in the SPSS Data Editor. All the responses (variables) were identified and labelled accordingly.
in the SPSS Data Editor. The process of data entry began after the completion of the process of coding. Finally, a data matrix was produced.

3.11.1 Treatment of missing values and data screening

The researcher initiated various mechanisms to clean and edit any errors in data entry for all the responses after completing the process of data coding and data entry. The data were screened for response sets and missing values. One case showed a response set and was subsequently deleted. The proportion of missing values was less than 5%, and the missing values analysis showed that these values were missing at random. Therefore, imputation of these missing values was appropriate and the EM method was used for this purpose (Kline 2005). Next, the data were screened for outliers. Outliers are judged to be an unusually high or low value of a variable. Each item was tested to identify whether or not it contains outlier cases by using a histogram plot and other exploratory analyses. Given that the hypotheses are based on grouped data, screening for outliers was performed separately for the 100 Australian-born and 102 Asian-born participants (See Results chapter). One multivariate outlier was detected among the Asian-born participants. This case was subsequently deleted.

3.11.2 Skewness and kurtosis

Following the treatment of missing values, the variables were screened to ensure that they were normally distributed. In general, the distribution of variables can be assessed with either statistical or graphical methods. In terms of statistics, the data is assessed for normality by skewness (SK), the symmetry of a distribution, and kurtosis (KU), the peakedness of a distribution. A zero value of skewness and kurtosis indicates a symmetrical distribution (Tabachnik & Fidell 2007). Positive or negative values indicate the direction of SK and KU. Kline (2005) stated that the range of values of the standardised index in a normal distribution equals -3.0 to +3.0 in both SK and KU.
Values of 3.0 or more tend to be of some concern (Tabachnik & Fidell 2007), a dictum which was also followed for this study, and variables that exceeded 3.0 were transformed to normalise their distribution.

Normal distribution of variables is an assumption underlying MANCOVA, which was used to test the hypotheses. MANCOVA assumes linear relationships among all pairs of dependent variables (DV$s), all pairs of covariates, and all DV-covariate pairs in each cell. Deviations from linearity reduce the power of the statistical tests because (1) the linear combination of DV$s do not maximise the separation of groups for the independent variables (IV$s), and (2) covariates do not maximise adjustment for error (Saunders, Lewis & Thornhill 2007). There is no cause for worry about linearity if all DV$s in each group, Australian-born and Asian-born, have reasonably balanced distributions. If distributions are not balanced, it is necessary to examine scatterplots for each pair of DV$s with in each group (Tabachnik & Fiddel 2007).

3.12 Reliability

Reliability can be defined broadly as the degree to which measures are free from error and, therefore, yield consistent results (Churchill & Iacobucci 2005). The reliability of a measure indicates the stability and consistency with which the instrument measures the concept and helps to assess the ‘goodness’ of a measure. The two categories of reliability measurement are stability of measures and internal consistency of measures (Cavana, Delattaye & Sekaran 2001).

The stability of measures indicates that the measurement is highly stable over time and has a low tendency to change in any situation. According to Cava, Delattaye and Sekaran (2001), “internal consistency of measures indicates the homogeneity of the items in the measure that tap the construct” (p. 211). Internal consistency of measures
can be tested through the inter-term consistency reliability and split-half reliability tests. Inter-term consistency of reliability is a test of the consistency of respondents’ answers to all the items in a measure. The two different tests for inter-term consistency reliability are the Cronbach’s alpha and Kuder and Richardson formulas. Cronbach’s alpha is a technique of taking the average of all possible split-half coefficients to measure the internal consistency of multidimensional scales. Cronbach’s alpha with the value of more than 0.70 indicates a very good internal consistency (Hair et al. 2004). However, Kline (1999) noted that although the generally accepted value of Cronbach’s alpha is 0.7, when dealing with consumers’ psychological constructs, values below 0.7 can, realistically, be accepted because of the diversity of the constructs being measured.

In this research, the internal consistency method was employed. Internal consistency estimates reliability by assessing groupings of items that measure the same concept (Lombard, Snyder-Duch & Bracken 2002). This research tested the internal consistency (Cronbach’s alpha) of the adapted version of CSI, following factor analysis. The original scales’ alphas were somewhat suspect, with values below 0.70. However, due to the requirements of replication, these were maintained in order to be consistent with the previous studies (Bagozzi 1992). Reliability analysis was conducted before hypotheses testing. The CSI scales have been used in prior studies, and reliability and validity have been established in several different populations and countries (Hanzaee & Aghasibeg 2008). In these prior studies, scales items with alpha below 0.50 were discarded (Hui et al. 2001; Canabal 2002). Therefore, consistent with past research, only scales with Cronbach’s alpha of .50 and above were accepted for further analysis in the current study (see Results chapter for more details).
3.13 Validity

Validity is the extent to which a construct measures what it is supposed to measure. The three approaches to assess the validity of the measuring instrument are: (1) content validity, (2) criterion validity, and (3) construct validity (Sakaran 2003). Content validity ensures that the measures include an adequate and representative set of items that tap the concept (Cavana, Delattaye & Sekaran 2001). Criterion validity assesses whether a construct performs as expected, relative to other variables identified as meaningful criteria (Malhotra 2004).

Based on the argument of Cavana (2001), construct validity testifies to how well the results obtained from the use of the measure fit the theories around which the test is designed. There are two types of construct validity, which are convergent validity and discriminant validity. Convergent validity is established when the scores obtained by two different instruments measuring the same concept are highly correlated. “Discriminant validity is established when, based on theory, two variables are predicted to be uncorrelated, and the scores obtained by measuring them are indeed empirically found to be so” (Cavana, Delattaye & Sekaran 2001, p. 213).

Factor analysis was used to establish the discriminant validity of CSI scales (Cavana et al. 2001). According to Malhotra (2004), factor analysis is a class of procedures primarily used for data reduction and organization. In this research, factor analysis was used to: (1) identify underlying dimensions (or factors) that explain the correlation among the set of variables; (2) identify a new, smaller set of uncorrelated variables to replace the original set of correlated variables in subsequent multivariate analysis (Multivariate Analysis of Covariates; MANCOVA); and (3) identify a smaller set of salient variables from a larger set for use in subsequent multivariate analysis (see Malhotra 2004). There are two basic types of factor analyses: (1) Exploratory Factor...
Analysis and (2) Confirmatory Factor Analysis. Both types of factor analysis were used for this research, which is described below.

3.14 Factor analysis

As mentioned in the previous section, the purpose of factor analysis is to summarise the interrelationships among many indicator variables in a concise but accurate manner as an aid to conceptualisation (Gorsuch 1983). This is often achieved by reducing the maximum amount of information from the original variables to a few derived components of factors. The most frequently applied statistical techniques used in determining the validity of multi-indicator, multi-cluster measurement models are exploratory and confirmatory factor analysis (Hurley et al. 1997). As discussed in the literature review chapter, although the CSI is a well-established measure, it has not been used before to identify consumer decision-making styles for automobile purchase behaviour. Therefore, it was appropriate to find out which items strongly loaded on each factor in relation to this high involvement purchase situation (see Diamantopoulos & Winklehofer 2001) before using confirmatory factor analysis (CFA) (AMOS version 7.0) to confirm the existence of a specific factor structure. AMOS is a structural Equation Modelling program that supports CFA. Exploratory factor analysis (EFA) is usually performed in the early stages of research to consolidate variables and generate hypotheses about underlying processes (Rossiter 2002).
3.14.1 Exploratory factor analysis (EFA)

EFA is a method of discovering the number and nature of the latent variables that explain the variation and covariation in a set of measured variables (Tabachnik & Fidell 2001). While there are multiple ways to extract factors in EFA, the most common extraction methods are maximum likelihood (ML), principal axis factoring (PAF), and alpha factoring (AF) (Tabachnik & Fidell 2001). These methods differ in the statistical criteria used to derive factors (Kline 1998). The choice of extraction method may not be so critical in EFAs, given that the methods seem to converge on very similar solutions once the sample size is approximately 200 or greater (Garbing & Hamilton 1996).

However, it is important to test the appropriateness of the factor model before conducting further data analysis. Barlett’s test of sphericity and Kaiser-Meyer-Olkin (KMO) measure of sample adequacy are used to measure the appropriateness of the factor model (Henson & Robert 2006). Barlett’s test of sphericity is a statistical test for the overall significance of all correlations within a correlation matrix (Tabachnik & Fidell 2001). It provides the statistical reassurance that the correlation matrix has significant correlations among at least some of the variables (Hair et al. 2001). KMO can be used to measure the adequacy of the sampling by comparing the magnitudes of the observed correlation coefficient to the magnitudes of the partial correlation coefficients (Schimitz et al. 1999). According to Malhotra (2004), high values (between 0.5 and 1.0) of KMO indicate that factor analysis is appropriate and values of KMO below 0.5 imply that factor analysis might not be appropriate.

The two basic approaches that can be used to derive the weights of factor score coefficient in the factor analysis are principal component analysis and common factor analysis (Tabachnik & Fidell 2001). Principal component analysis (PCA) was the most commonly used method for determining the factor structure (Preacher & McCullum
In PCA, a number of linear composites of measured variables are derived such that these composites account for maximum item variance. The first linear composite extracts as much variance as possible. The second orthogonal composite is formed by extracting as much of the remaining variance as possible. This process continues until as many components have been extracted as there are items. In PCA, the components account for a mixture of common and unique sources of variance. Principal components analysis was adopted in this research because the researcher intended to determine the minimum number of factors that will account for maximum variance in the data (Malhotra 2004).

The next step was taken to determine the number of factors to retain in factor analysis. Multiple decision rules can be used for factor retention (Zwick & Velicer 1986). These include the parallel analysis (Horn 1965), eigenvalue-greater-than-one rule (EV>1) (Guttman 1954; Kaiser 1960; Kaiser & Caffrey 1965), and the scree test (Catell 1966). Parallel analysis was conceptualised by Horn (1965) and it requires random generation of a raw data matrix of the same “rank” as the actual raw data matrix. Eigenvalue is defined as column sum of square loadings for a factor, also referred to as the latent root. It represents the amount of variance accounted for by a factor (Hair et al. 2006). An eigenvalue greater than 1.0 was used as a guideline to determine the number of factors in this research. The eigenvalue-greater-than-one rule was the main criterion employed in the previous studies that used CSI for determining the number of factors retained (Hafstrom, Chae & Chung 1992; Radder, Lee & Pietersen 2006; Hanzaee & Aghasibeig 2008). A VARIMAX procedure in orthogonal rotation was also used in this research to minimise the number of variables with high loadings on a factor, in order to enhance the interpretability of the factors (Malhotra 2004).
In conclusion, exploratory factor analysis was conducted in this research to indicate the validity of the CSI measure. The value of the factor loadings of 0.50 was used as a guideline in the factor analysis (see, Nunally 1978). The guidelines for identifying factor loadings, based on the sample size proposed by Hair et al (2006), are illustrated in Table 3.7.

Table 3.7: Guidelines for identifying significant loadings based on sample size

<table>
<thead>
<tr>
<th>Factor Loading</th>
<th>Sample Size Needed for Significance*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.30</td>
<td>350</td>
</tr>
<tr>
<td>0.35</td>
<td>250</td>
</tr>
<tr>
<td>0.40</td>
<td>200</td>
</tr>
<tr>
<td>0.45</td>
<td>150</td>
</tr>
<tr>
<td>0.50</td>
<td>120</td>
</tr>
<tr>
<td>0.55</td>
<td>100</td>
</tr>
<tr>
<td>0.60</td>
<td>85</td>
</tr>
<tr>
<td>0.65</td>
<td>70</td>
</tr>
<tr>
<td>0.70</td>
<td>60</td>
</tr>
<tr>
<td>0.75</td>
<td>50</td>
</tr>
</tbody>
</table>

*Significance is based on a 0.05 significance level (α), a power level of 80 percent, and standard error assumed to be twice those of conventional correlation coefficients.
3.14.2 Confirmatory factor analysis (CFA)

Over the past thirty years, CFA techniques have become an important tool for theory testing in applied multivariate analysis (MacCallum & Austin 2000). While the purpose of EFA is to identify the factor structure or model for a set of variables, CFA is generally based on a strong theoretical or empirical foundation that allows researcher to specify the factor structure or model a priori or in advance (Stevens 1996). In other words, the result of an EFA is regarded as a sole function of the mechanics and mathematics of the method (Kieffer 1999). In contrast, CFA is used to test theory when the researcher has a sufficiently strong rationale for specifying the factors that should be in the data and what variables or items should define each factor (Henson & Roberts 2000). That is, CFA is driven by theoretical expectations regarding the structure of the data and the method. When appropriately utilised, CFA has considerable potential for construct validation, as well as theory development and testing (MacCallum & Austin 2000).

When a priori models are imposed on the data, CFA has two purposes. Firstly, the procedure produces estimates of the parameters of the model, such as the factor loadings, the variances and covariances of the factor, and the residual error variances of the observed variables. Secondly, various indices of the fit are generated to assess whether the model itself provides a good presentation of the data. Some of the advances of using CFA include: (1) the number of factors within the construct are determined in advance, usually based on previous work found in the literature; (2) the relationships between factors and observed variables reflected in the theoretical model are specified in advance; (3) measurement errors are identified for variables under investigation, and (4) measurement errors are allowed to be correlated in a longitudinal model as indicators derived from the same source (Kline 1998). In particular, Rayment and
Joreskog (1993) suggested that, because of these advantages, the CFA analysis method provides a more robust assessment of the factor structure of measures. However, a correct inference drawn from the results of a CFA analysis typically requires additional assumptions concerning the nature of the data and the estimation methods employed (Raykov, Tomer & Nessesroade 1991). Failure to meet some of the assumptions may in fact invalidate the formal test (Rayment & Joerskog 1993).

This research used the CFA approach to examine patterns of interrelations among several factors. Each factor is usually measured by its own set of observed indicators. In a CFA model, no specific directional relationships are assumed between the constructs but only that they are correlated with one another (Byrne 2001). This research examines first-order CFA models of eight factors (the eight consumer decision-making styles). All the items in each factor are identified with the use of model fit testing (see Results chapter, section 4.9). Model-fit testing is explained in detail below (see Section 3.15).

### 3.15 Overall model fit testing

As mentioned previously (Section 3.6) all the factors that are extracted from EFA will be measured as first-order CFA models to test the goodness of fit. There are two steps in model testing: (1) overall model fit and (2) component fit testing. The two steps are repeated until the models reach validity and reliability. It is noted that all of the eight factors such as perfectionist, high quality conscious, brand conscious, impulsive conscious, confused by overchoice, habitual, brand loyal, price conscious and innovation conscious decision-making styles in the study were tested in the same order and manner.
To test that all of the scales for the consumer decision-making styles have goodness of fit, the study assesses overall model fit to determine the goodness of fit between the models and the sample data. It aims to verify whether or not the models are valid and reliable (see Results for more details). The study uses the most popular ways of evaluating model fit. These can be divided into three types, which are described below.

3.15.1 Absolute fit indices

Absolute fit indices evaluate the degree to which the specified model reproduces the sample data. The commonly used absolute fit indices are $X^2$, Root mean square residual (RMR), square error of approximation (RMSEA), Goodness-of-fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI), and Comparative-fit-Index (CFI). Incremental fit indices measure the proportional amount of improvement in fit when a target model is compared with a more restricted, nested baseline model, that is, a null model in which all the observed variables are uncorrelated (Hu & Bentler 1998). AMOS provides measure of absolute goodness-of-fit for this study. It also evaluates how well the model specified by the researcher reproduces the observed data (Brown & Churchill 2003). The commonly used absolute fit indices that are used for the study are as follows:

1. **Chi-square ($X^2$)**

   The most common index of fit is the Chi-square statistic associated with degrees of freedom (df) and probability (p) of significant difference (Hoyle 1995). Fundamentally, in the CFA, the researcher is looking for no differences between two nonparametric measures to support the models as representative of the data (Hair et al. 2005). Kline (2005) claims that the Chi-square statistic is a badness-of-fit index. The higher value represents the model’s best correspondence to the data. Therefore, an acceptable level of p-value is more than 0.05. Such a result indicates that the specified model is a feasible
representation of the data because the parameter estimates raised by this model yielded such a small value for the discrepancy function.

2. **Root mean square residual (RMR)**
   The RMR measures the average differences between each element of the implied and empirical variance-covariance matrices. This average value is expected to be small if the model is a good representation of the data. The acceptable level of RMR should be less than .05 (Holmes, Coote & Cunnighham 2004).

3. **Root mean square error of approximation (RMSEA)**
   The RMSEA is another goodness-of-fit index. It is a measure of the discrepancy per degree of freedom. The logic underlying the RMSEA is that no model will ever exactly fit a population. Therefore, the best one can hope for is close approximation to reality (Browne & Cudeck 1993). A value of zero indicates the best fit. The RMSEA should be below 0.05 – 0.08 to indicate reasonable fit (Kline 2005).

4. **Standard root mean square residual (SRMR)**
   The SRMR is based on transforming both the sample covariance matrix and the predicted covariance matrix into correlation matrices. It is the measure of the mean absolute correlation residual (Kline 2005). Values of the SRMR that are between 0.05 – 0.08 indicate a satisfactory fit.

5. **Goodness of fit (GFI)**
   The GFI is similar to a squared multiple correlation. It indicates the proportion of the observed covariance explained by the model-implied covariance (Kline 2005). The possible range of GFI values is 0 to 1 with higher values indicating better fit.
6. Adjusted goodness-of-fit index (AGFI)

The AGFI is based on a ratio of the sum of the squared differences between the observed and reproduced matrices to the observed variances. The AGFI is the GFI adjusted for the degrees of freedom of the model relative to the number of the variables. The AGFI should also be between 0 and 1.

3.15.2 Comparative (incremental) fit indices

This study uses a number of fit measures in order to test the proportionate amount of improvement in fit. Incremental fit indices are based on comparisons between the hypothesised model and a null model (in which there are no relationships among the observed variables) and are not influenced by sample size (McDonald & Marsh 1990). Commonly used measures of fit include:
7. **The Tucker Lewis index (TLI)**
   The TLI estimates the relative improvement per degree of freedom of the target model over an independence model (Hu & Bentler 1998). The value is acceptable if it is close to 1.0.

8. **Comparative fit index (CFI)**
   The CFI is the proportion in the improvement of the overall fit of the researcher’s model relative to a null model (Kline 2005). All indices report values between 0 and 1. Values close to 1 indicate a perfect fit (Arbuckle & Wothke 1999). However, fit indices should exceed 0.90 for an acceptable fit.

### 3.15.3 Miscellaneous measures

1. **Chi-square static comparing the tested model and the independent model with the saturated model (CMIN/DF)**
   The fit measure is based on the minimum value of the discrepancy. It is the minimum discrepancy divided by its degrees of freedom. Generally values less than 3 are good. However, if the ratio is close to one, it indicates a perfect model (Byrne 2001).

### 3.15.4 Component fit testing
   The study used component fit testing to select observed variables which fit in each latent variable. It aims to choose appropriate items for each of the eight consumer decision-making styles modelled. Some observed variables are rejected due to statistical tests in terms of factor loading, standard error, squared multiple correlations: $R^2$, modification indices and standard residual covariance.
3.16 The hypotheses testing

The hypotheses tested for differences between the two cultural groups on consumer decision-making styles (see Hypotheses one to eight) using Multivariate Analysis of Covariance (MANCOVA) and t-tests (independent samples). MANCOVA is a development of Analysis of Variance (ANOVA), a technique which is used to compare two or more means to see if there are any statistically significant differences between them. Multivariate Analysis of Covariance generalises ANOVA to a situation in which there are several dependent variables (DVs) and covariates (variables other than the independent variable that may influence the DVs), and emphasises the mean differences and statistical significance of differences between groups (Zikmund & Babin 2007). It asks whether there are mean differences in a combination of the DVs (in this case, consumer decision-making styles) across the groups (in this case, Australian-born versus Asian-born) after adjusting for pre-existing differences in the covariates (in this case age, education and income; see Results chapter). T-tests also assesses whether the means of two groups are statistically different from each other. This analysis is most appropriate when comparing the means of two groups (Zikmund & Babin 2007). For this research, T-tests were used to compare between individualist and collectivist consumer groups’ preferences in automobile quality ratings, the number of family members and friends involved in the final automobile purchase decision, and the differences in time spent researching the final purchase decision (see Results chapter for more details).
3.17 Ethical considerations in this research

In complying with the National Statement on Ethical Conduct in Research involving Humans (2007), several steps had been taken by the researcher to protect the welfare and rights of the participants in this research. The study was approved by the Swinburne University Human Research Ethics Committee (Project no. 0607/202, date: 31/12/2007) (see Appendix 6 for a copy of the ethics approval). During the course of administering the questionnaire, the voluntary nature of participation was ensured by explaining the project consent information statement which was provided with every questionnaire to every potential participant. Participants were provided with a Participant Consent Information Statement, which they were asked to read before completing the questionnaires (for a copy of this statement, see Appendix 3). Participants were not asked to provide their names and no identifying codes or numbers were used. No incentive or reward was offered to the participants to participate in the research; participation was on a voluntary basis.

Hard copies of the Participant Consent Information Sheet and the questionnaire booklet were distributed by the researcher. Participants returned these questionnaires by mail in reply-paid envelopes supplied by the researcher. For those who opted to complete the questionnaires online, an electronic copy of the Participant Consent Information Sheet and the questionnaire was also provided. Participants completed the questionnaires at a location and time that was suitable for them, eliminating the need for the researcher to be present during questionnaire completion and thus ensuring complete anonymity.
3.18 Chapter summary

This chapter described the methodology used in the current study. The chapter illustrated and justified the adopted research paradigm, research design, primary and secondary data, data collection method, questionnaire design and administration, sampling strategy, and data analysis strategy for this research. The adopted data collection method in the form of self-administered survey methods was justified in this research.

The steps involved in the questionnaire design and administration included specifying the information needed and operational definitions of the constructs and variables, selecting format responses, and assessing the reliability and validity of the questionnaire. The chapter also provided details about data preparation, including screening for missing data and missing data imputation. The rationale for using factor analysis (exploratory factor analysis and confirmatory factor analysis) was given. The goodness-of-fit criteria used for CFA model assessment were also reviewed in this chapter. The chapter concluded with a discussion of an ethical consideration for this research. In the next chapter, the collected data is reported and analysed in relation to the research problem.
CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter presents the results of the study. The structure of the results chapter is depicted in Figure 4.1. As described in the previous chapter, the study used a questionnaire to assess cultural dimensions (individualism and collectivism) and consumer decision-making styles. In addition there were a number of questions that were of value to creating an understanding the context, which incorporated demographics and so on. This chapter will firstly present an overview of the results, followed by the results by cultural background of participants including response rate, demographic profile and individualist and collectivist value differences. The chapter then presents total sample responses for all the measures consumer styles inventory (CSI), cultural values scale (CVS), external influences on consumer decision-making styles, automobile quality ratings, and important information sources for automobile decision making). The chapter also reports results of the correlations between cultural background and the consumer decision-making styles, brand quality ratings and external influences for automobile decision-making. Tests of normality are also reported in section 4.5. The chapter then provides the results of the exploratory factor analysis (EFA) and the confirmatory factor analysis (CFA) for the consumer styles inventory outcomes. Finally, the chapter presents an examination of several hypotheses which explore the relationship between cultural backgrounds, and consumer decision-making styles.
Figure 4.1: The road map to the results chapter

4.1 Introduction

4.2 Overview of the results chapter

4.3 Cultural background and participants

4.4 Total sample responses

4.5 Correlations between cultural backgrounds, consumer decision-making styles, brand quality ratings and external influences

4.6 Tests of normality

4.7 Factor analysis of CSI

4.8 Reliability of factors from EFA

4.9 Confirmatory factor analysis

4.10 Discriminat validity of the CSI factors from CFA

4.11 Hypothesis testing analysis

4.12 Chapter summary

4.3.1 Response rate

4.3.2 Description of participants’ profile

4.3.3 Individualist and collectivist value differences

4.6.1 Screening for response sets and missing values

4.6.2 Normality

4.6.3 Outliers

4.7.1 Exploratory factor analysis

4.9.1 CFA for perfectionist, high quality conscious

4.9.2 CFA for confused by overchoice

4.9.3 CFA for rational, price conscious

4.9.4 CFA for brand conscious

4.9.5 CFA for habitual, brand loyal

4.9.6 CFA for innovation conscious

4.11.1 Correlates of consumer decision-making styles

4.11.2 Comparison of means

4.11.2.1: Hypothesis 1

4.11.2.2: Hypothesis 2

4.11.2.3: Hypothesis 3

4.11.2.4: Hypothesis 4

4.11.2.5: Hypothesis 5

4.11.2.6: Hypothesis 6

4.11.2.7: Hypothesis 7

4.11.2.8: Hypothesis 8
4.2 Overview of the results chapter

The analyses in the results were conducted using SPSS version 16.0. Prior to examining the research questions (or hypothesis testing), exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to establish the factors underlying consumer decision-making styles for high involvement purchases. A CFA was also conducted on the cultural values scale (CVS). The CFA was conducted using AMOS version 7.0. Tests of normality such as data screening, cleaning and missing values analysis, and distribution statistics (skewness and kurtosis) were also conducted to test the integrity of the data. Hypotheses related to consumer decision-making styles were tested using Multivariate Analysis of Covariance (MANCOVA). In addition, in this chapter some correlations and some general statistics such as variable means, medians, modes, and standard deviations are shown for the total sample of responses. These analyses examined areas in which Australian-born and Asian-born consumers behave similarly and dissimilarly. The section that follows presents the research questions for this study which are tested later in the chapter.

4.2.1 Research questions

As mentioned earlier in the literature review, and also in the methodology chapter, this research compares the decision-making styles of the Australian-born and Asian-born consumer groups in the context of high involvement purchases. This research also developed a conceptual framework that incorporates the research questions which were discussed in the previous chapter. The research questions for this study are:
1. How does a cultural background affect consumer decision-making styles applied to high involvement purchases (automobiles)?

2. What are the decision-making styles of Australian-born and Asian-born consumers when purchasing automobiles?

3. Do the decision-making styles associated with purchasing automobiles differ for these two cultural groups?

4. In what areas do these groups behave similarly or dissimilarly?

4.3 Cultural background of participants

Participants were asked to provide details about their cultural backgrounds. For example, participants were asked to provide information about their citizenship, country of birth (Asian-born participants only), and parents’ country of birth. Asian-born participants were asked how long they had been living in Australia, to control for the possibility that this may have influenced their endorsement of collectivist versus and individualist values. For the purpose of this research, the ‘individualists’ and ‘collectivists’ were defined on the basis of country of origin. However, an independent sample t-test was also performed to determine whether on average, Australian-born participants are higher on individualism than Asian-born participants, and Asian-born participants are higher on collectivism than Australian-born participants (see section 4.3.3).

Table 4.1 showed the descriptive statistics for the total sample combined, along with further descriptive information for the cultural groups, for example, citizenship status.
Table 4.1: General information about cultural backgrounds

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Categories</th>
<th>Frequency Australian-born</th>
<th>%</th>
<th>Frequency Asian-born</th>
<th>%</th>
<th>Frequency total sample combined</th>
<th>%</th>
</tr>
</thead>
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<tr>
<td>Australian citizen</td>
<td>Yes</td>
<td>100</td>
<td>100</td>
<td>102</td>
<td>100</td>
<td>202</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Australian-born</td>
<td>Yes</td>
<td>100</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>49.0</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0</td>
<td>0</td>
<td>102</td>
<td>100</td>
<td>102</td>
<td>51.0</td>
</tr>
<tr>
<td>Father’s country of birth</td>
<td>Australia</td>
<td>64</td>
<td>64.0</td>
<td>0</td>
<td>0.0</td>
<td>64</td>
<td>31.68</td>
</tr>
<tr>
<td></td>
<td>America</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>Europe</td>
<td>27</td>
<td>27.0</td>
<td>0</td>
<td>0.0</td>
<td>27</td>
<td>11.88</td>
</tr>
<tr>
<td></td>
<td>New Zealand</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>South Asia</td>
<td>4</td>
<td>4.0</td>
<td>46</td>
<td>45.09</td>
<td>50</td>
<td>24.75</td>
</tr>
<tr>
<td></td>
<td>South-East Asia</td>
<td>3</td>
<td>3.0</td>
<td>56</td>
<td>54.90</td>
<td>59</td>
<td>29.20</td>
</tr>
<tr>
<td>Mother’s country of birth</td>
<td>Australia</td>
<td>68</td>
<td>68.0</td>
<td>0</td>
<td>0.0</td>
<td>68</td>
<td>33.63</td>
</tr>
<tr>
<td></td>
<td>America</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>Europe</td>
<td>24</td>
<td>24.0</td>
<td>1</td>
<td>0.98</td>
<td>25</td>
<td>12.38</td>
</tr>
<tr>
<td></td>
<td>New Zealand</td>
<td>3</td>
<td>3.0</td>
<td>0</td>
<td>0.0</td>
<td>3</td>
<td>1.49</td>
</tr>
<tr>
<td></td>
<td>South Asia</td>
<td>0</td>
<td>0.0</td>
<td>44</td>
<td>43.14</td>
<td>44</td>
<td>21.78</td>
</tr>
<tr>
<td></td>
<td>South-East Asia</td>
<td>4</td>
<td>4.0</td>
<td>57</td>
<td>55.88</td>
<td>61</td>
<td>30.20</td>
</tr>
<tr>
<td>English as first language</td>
<td></td>
<td>96</td>
<td>96.0</td>
<td>14</td>
<td>13.7</td>
<td>110</td>
<td>54.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>4.0</td>
<td>88</td>
<td>86.3</td>
<td>92</td>
<td>45.5</td>
</tr>
</tbody>
</table>

All participants were Australian citizens. A total of 49% were Australian-born, and 51% were Asian-born Australians. Among the Asian-born participants, 49.5% were born in South Asia and 51.5% were born in South-East Asia.
Family background varied. Among the Australian-born participants, 36% had a father who was born overseas and 32% had a mother who was born overseas. As shown in Table 4.1 (see above), there was significant variety in the countries and regions of origin for individualist participants’ fathers, including Australia (64%) and Europe (27%). Countries of origin for Australian-born participants’ mothers included Australia (68%) and Europe (28%).

As shown in Table 4.1, there was variety in terms of father’s countries of birth for collectivist participants. Countries and regions of origin for Asian-born participants’ fathers included South Asia (45.09%) and South-East Asia (54.9%). Countries of origin for Asian-born participants’ mothers included South Asia (43.14%) and South-East Asia was (55.88%). English was the first spoken language for (96.0%) of the Australian-born participants and (13.7%) of the Asian-born participants.

4.3.1 Response rate

Surveys for this study were distributed using a non-probabilistic sampling technique. This allowed for a self-selection of participants who met the sampling requirements, rather than having a response set that contained responses that were ineligible for inclusion in the study. A self-administered survey method was adopted in this research because of the advantages of relatively low cost per survey and less interviewer bias. A general distribution of surveys at a number of locations including shopping centres, educational institutions for example, five Swinburne University campuses in Melbourne, and through twelve motor vehicle dealerships in Melbourne, ensured that the final sample was geographically dispersed within the Melbourne region. Surveys were either collected as they were completed, or were returned by mail. A post-paid envelope was provided with each questionnaire.
Among the prerequisites that had to be met by respondents in order to be eligible to participate in the research were that they had to (a) be at least 18 years of age, (b) be holders of a current driver’s license, and (c) have purchased a car within the past twelve months. The researcher specified the characteristics of the population of interest (individualist and collectivist consumers who had purchased a car within the last twelve months) and then located individuals who matched the required characteristics. The researcher then recruited 100 participants per cultural grouping, such as Australian-born and Asian-born, who met the inclusion criteria and were willing to participate and included them in the research study.

Table 4.2: Survey response rate

<table>
<thead>
<tr>
<th>Surveys</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distributed</td>
<td>422</td>
<td>100%</td>
</tr>
<tr>
<td>Returned</td>
<td>212</td>
<td>51%</td>
</tr>
<tr>
<td>Usable</td>
<td>202</td>
<td>49%</td>
</tr>
</tbody>
</table>

Out of 422 surveys that were distributed for this study, 212 were returned, of which ten incomplete surveys were discarded as outlined in Table 4.2. These ten incomplete surveys were discarded because more than 10% of the results were missing values. For thorough estimates and analyses, only those surveys that were filled out correctly and completely were used for this study (49% of the total distribution). The validation and justification of sample size was discussed in the methodology chapter (see section 3.7.1).
4.3.2 Description of participants’ profiles

Participants were asked to provide information about their age, gender, education, marital status and household income, and the length of time they had spent in Australia (Asian-born participants only). ‘Age’ and ‘number of years living in Australia’ were used to calculate Asian-born participants’ ages on arriving in Australia, as this may also have affected their identification with individualist versus collectivist values. Household income may have affected the type and brand of automobiles they have purchased. The descriptive statistics for age, gender, education, marital status and income for Australian-born and Asian-born participants are shown in the Table 4.3.

Table 4.3: Descriptive statistics for age, gender, education, marital status and income for Australian-born and Asian-born respondents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Categories</th>
<th>Frequency Australian-born</th>
<th>Australian-born (%)</th>
<th>Frequency Asian-born</th>
<th>Asian-born (%)</th>
<th>Frequency total sample combined</th>
<th>Total Sample (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>18-25 years</td>
<td>27</td>
<td>27.0</td>
<td>14</td>
<td>13.7</td>
<td>41</td>
<td>20.3</td>
</tr>
<tr>
<td></td>
<td>26-35 years</td>
<td>22</td>
<td>22.0</td>
<td>57</td>
<td>55.9</td>
<td>79</td>
<td>39.1</td>
</tr>
<tr>
<td></td>
<td>36-45 years</td>
<td>17</td>
<td>17.0</td>
<td>14</td>
<td>13.7</td>
<td>31</td>
<td>15.3</td>
</tr>
<tr>
<td></td>
<td>46-55 years</td>
<td>22</td>
<td>22.0</td>
<td>10</td>
<td>9.8</td>
<td>32</td>
<td>15.8</td>
</tr>
<tr>
<td></td>
<td>56 and above</td>
<td>12</td>
<td>12.0</td>
<td>7</td>
<td>6.86</td>
<td>19</td>
<td>9.41</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>55</td>
<td>55.0</td>
<td>39</td>
<td>38.2</td>
<td>94</td>
<td>46.5</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>45</td>
<td>45.0</td>
<td>63</td>
<td>61.8</td>
<td>108</td>
<td>53.5</td>
</tr>
</tbody>
</table>
The sample consisted of 202 respondents, including 108 women (53.5%) and 94 men (46.5%). This is consistent with other research which demonstrates that women respond more often than men (Sax, Gilmartin, Lee & Hagedorn, 2008). In addition, there is an increase in the number of women/single parent families which has seen more independent decision-making about new vehicles by women. Women are still reluctant to buy a second-hand vehicle and are more likely to buy a new vehicle, as a risk reduction strategy (Brennan 2000).

<table>
<thead>
<tr>
<th>Educational Background</th>
<th>No formal qualification</th>
<th>Pass in Year 12 or equivalent</th>
<th>TAFE certificate</th>
<th>Bachelor degree</th>
<th>Postgraduate degree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>5.0</td>
<td>0</td>
<td>0.0</td>
<td>5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Single</th>
<th>De facto</th>
<th>Married</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>44</td>
<td>44.0</td>
<td>40</td>
<td>39.2</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>19.0</td>
<td>12</td>
<td>11.8</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>31.0</td>
<td>44</td>
<td>43.1</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6.0</td>
<td>6</td>
<td>5.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household income</th>
<th>Under $20,000</th>
<th>$20,000-$29,999</th>
<th>$30,000-$39,999</th>
<th>$40,000-$49,999</th>
<th>$50,000-$59,999</th>
<th>$60,000-$69,999</th>
<th>$70,000-$79,999</th>
<th>$80,000-$89,999</th>
<th>$90,000-$99,999</th>
<th>Over $100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1.0</td>
<td>5</td>
<td>4.9</td>
<td>6</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>9.1</td>
<td>11</td>
<td>10.8</td>
<td>20</td>
<td>10.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>8.1</td>
<td>12</td>
<td>11.8</td>
<td>20</td>
<td>10.0</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>11</td>
<td>11.1</td>
<td>13</td>
<td>12.7</td>
<td>24</td>
<td>11.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>7.1</td>
<td>10</td>
<td>9.8</td>
<td>17</td>
<td>8.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
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<td>10.1</td>
<td>13</td>
<td>12.7</td>
<td>23</td>
<td>11.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>13.1</td>
<td>7</td>
<td>6.9</td>
<td>20</td>
<td>10.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>8.1</td>
<td>6</td>
<td>5.9</td>
<td>14</td>
<td>7.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>9.1</td>
<td>5</td>
<td>4.9</td>
<td>14</td>
<td>7.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>23.2</td>
<td>20</td>
<td>19.6</td>
<td>43</td>
<td>21.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Most of the respondents were aged between 26 and 35 years (39.1%). This age group currently represent a majority of the market for new vehicles because they are financially and emotionally more likely to buy new vehicles than older or second-hand vehicles (Brennan 2000). Younger buyers (aged between 18 and 25 years) have less of a preference for new vehicles and are now focussing on life style issues such as fine foods and prestige housing (which they rent rather than buy). They are not as concerned about new vehicles as the older generations (Shepherdson 2000). They are more likely to seek a ‘mobility solution’, which may not include the ownership of a new vehicle as a status symbol or a means of transport. However, they may show more interest purchasing a new vehicle than older generations, because they are more innovation conscious (Brennan 2000). Therefore, the next most prevalent age group was 18 to 25 years (20.3%), followed by 46 to 55 years (15.8%), 36 to 45 years (15.3%), 56 to 65 years (6.9%), and 66 years and above (2.5%).

The majority of the sample (41.6%) was single, 37.1% were married and 15.3% were in a de facto relationship. Unmarried persons are likely to have more disposable income and to buy new vehicles. However, married persons with new children may also purchase new vehicles, although they may prefer vehicles with additional safety features.

With regard to their education, 2.5% of the sample had no formal qualifications, 11.9% had a pass in Year 12 or equivalent, 16.3% had a TAFE certificate, 35.6% had a Bachelors degree, 31.7% had a Postgraduate degree, and 2% had another qualification. Household income varied; under $20,000: 3%, $20,000-$29,999: 10%, $30,000-$39,999: 10%, $40,000-$49,999: 11.9%, $50,000-$59,999: 8.5%, $60,000-$69,999: 11.4%, $70,000-$79,999: 10%, $80,000-$89,999: 7%, $90,000-$99,999: 7%, and over $100,000: 21.4%.
4.3.3 Individualist and collectivist value differences

Table 4.4 shows the means and standard deviations for individualism and collectivism within each cultural group. Individualism and collectivism were measured using a modified version of the Cultural Values Scale based on a confirmatory factor analysis of the original scale items (see Appendix 5).

Table 4.4: Individualism and collectivism by cultural group

<table>
<thead>
<tr>
<th>Cultural Background</th>
<th>Australian-born</th>
<th>Mean</th>
<th>SD</th>
<th>Asian-born</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualism</td>
<td></td>
<td>4.40</td>
<td>.76</td>
<td>4.39</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Collectivism</td>
<td></td>
<td>4.18</td>
<td>.67</td>
<td>4.93</td>
<td>.83</td>
<td></td>
</tr>
</tbody>
</table>

An independent samples t-test was performed, with country of birth (Australia versus Asia) as the independent variable and individualism and collectivism as the dependent variables. Results indicated that Asians scored significantly higher than Australians, $t(192.042) = -7.045, p < .001$ (mean difference = .766). However, there was no difference for individualism, $t(200) = .14, p = .89$.

To test for differences in the demographic characteristics of the two groups (due to sampling), chi-square tests were performed with country of birth as the independent variable and age, gender, education, marital status, income and number of years driving as the dependent variables (Bonferroni adjustment was used to correct for Type 1 error). Results revealed that Australian-born and Asian-born consumers differed on the following demographic variables: age $\chi(5) = 25.81, p < .001$, education $\chi(5) = 36.61, p < .001$ and sex $\chi(6) = 26.37, p < .001$. Demographic variables that significantly differed between the groups and were correlated with the consumer decision-making styles were subsequently controlled (included as covariates) in the hypotheses testing analyses.
4.4 Total sample responses

Mean, median, mode and standard deviation for all major variables are reported in this section (see Table 4.5). The mean is the mathematical average of a data set of values. The average is calculated by adding up to two or more scores and dividing the total by the number of scores (Yates, Moore & Starnes 2009) whereas mode is the most frequently occurring value in a frequency distribution. It can be found by determining the most frequent value in a group of values (Yates, Moore & Starnes 2009). This statistical identification can show whether the results are relatively consistent or not within the sample set. In relation to the current research, it was important to recognise how the items for each consumer decision-making style correspond with consumer responses.
### 4.4.1 Total sample responses for consumer styles inventory (CSI)

In Table 4.5, the mean, median, mode and standard deviation for the CSI items are presented.

**Table 4.5: The results of mean, median, mode and standard deviations for the CSI items**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perfectionist, high quality conscious decision-making style</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting a very good quality car is very important to me (CSI 10)</td>
<td>4.73</td>
<td>5.00</td>
<td>6</td>
<td>1.27</td>
</tr>
<tr>
<td>I really don’t give my car purchases much thought or care (CSI 28)*</td>
<td>4.50</td>
<td>4.00</td>
<td>4.00</td>
<td>1.27</td>
</tr>
<tr>
<td>Investigating new brands of cars is generally a waste of time (CSI 34)*</td>
<td>4.06</td>
<td>4.00</td>
<td>4.00</td>
<td>1.05</td>
</tr>
<tr>
<td>I shop quickly for cars, buying the first car or brand I find that seems good enough (CSI 35)*</td>
<td>4.46</td>
<td>4.00</td>
<td>4.00</td>
<td>1.21</td>
</tr>
<tr>
<td>The most advertised car brands are usually very good choices (CSI 36)</td>
<td>2.73</td>
<td>3.00</td>
<td>3</td>
<td>0.98</td>
</tr>
<tr>
<td>When it comes to buying a car, in general, I usually try to buy the best overall quality (CSI 40)</td>
<td>4.53</td>
<td>4.00</td>
<td>4</td>
<td>1.06</td>
</tr>
<tr>
<td><strong>Confused by overchoice decision-making style</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I should plan my shopping for cars more carefully than I do (CSI 06).</td>
<td>3.51</td>
<td>4.00</td>
<td>4</td>
<td>1.37</td>
</tr>
<tr>
<td>All the information I get on different cars confuses me (CSI 07)</td>
<td>3.11</td>
<td>3.00</td>
<td>3</td>
<td>1.21</td>
</tr>
<tr>
<td>It’s hard to choose which dealers to shop at for cars (CSI 16)</td>
<td>3.70</td>
<td>4.00</td>
<td>4</td>
<td>1.27</td>
</tr>
<tr>
<td>The more I learn about cars, the harder it seems to choose the best (CSI 25)</td>
<td>3.33</td>
<td>3.00</td>
<td>3</td>
<td>1.14</td>
</tr>
<tr>
<td>There are so many car brands to choose from that often I feel confused (CSI 32)</td>
<td>3.19</td>
<td>3.00</td>
<td>3</td>
<td>1.17</td>
</tr>
<tr>
<td><strong>Recreational conscious decision-making style</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am the kind of a person who would try a new make of car (CSI 09)</td>
<td>3.51</td>
<td>4.00</td>
<td>4</td>
<td>1.19</td>
</tr>
<tr>
<td>I would rather wait for others to try a new dealer than try it myself in making my purchase (CSI 18)*</td>
<td>3.83</td>
<td>4.00</td>
<td>4.00</td>
<td>1.17</td>
</tr>
<tr>
<td>I would buy a new or different brand of car just to see what it is like (CSI 27)</td>
<td>2.65</td>
<td>3.00</td>
<td>3</td>
<td>1.14</td>
</tr>
<tr>
<td>Going shopping for cars is an enjoyable activity for me (CSI 30)</td>
<td>3.63</td>
<td>4.00</td>
<td>4</td>
<td>1.30</td>
</tr>
<tr>
<td>I enjoy shopping for cars just for the fun of it (CSI 37)</td>
<td>3.02</td>
<td>3.00</td>
<td>3</td>
<td>1.21</td>
</tr>
<tr>
<td>I take advantage of the first opportunity to find out more about a new dealer selling a car that I would like to purchase (CSI 39)</td>
<td>3.35</td>
<td>3.00</td>
<td>4</td>
<td>1.14</td>
</tr>
<tr>
<td>Item</td>
<td>Mean</td>
<td>Median</td>
<td>Mode</td>
<td>Std Deviation</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>Rational, price conscious decision-making style</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer to buy cars at sale prices (CSI 05)</td>
<td>4.00</td>
<td>4.00</td>
<td>4</td>
<td>1.19</td>
</tr>
<tr>
<td>When shopping for cars, I look carefully to find best value for money (CSI 14)</td>
<td>4.66</td>
<td>4.00</td>
<td>4</td>
<td>1.12</td>
</tr>
<tr>
<td>When buying a car, I do not want to make a careless purchase I later wish I had not (CSI 15)</td>
<td>4.82</td>
<td>5.00</td>
<td>6</td>
<td>1.27</td>
</tr>
<tr>
<td>When shopping for cars, I take the time to shop carefully for best buys (CSI 24)</td>
<td>4.52</td>
<td>4.00</td>
<td>4</td>
<td>1.13</td>
</tr>
<tr>
<td>I am willing to change brands when buying a new car (CSI 33)</td>
<td>3.87</td>
<td>4.00</td>
<td>4</td>
<td>1.08</td>
</tr>
<tr>
<td>When buying a car, I carefully watch how much I spend (CSI 38)</td>
<td>4.50</td>
<td>4.00</td>
<td>4</td>
<td>1.01</td>
</tr>
<tr>
<td>When it comes purchasing cars, I try to get the very best or perfect choice (CSI 45)</td>
<td>4.48</td>
<td>4.00</td>
<td>4</td>
<td>1.05</td>
</tr>
<tr>
<td><strong>Brand conscious decision-making style</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A car does not have to be perfect, or the best, to satisfy me (CSI 01)*</td>
<td>3.54</td>
<td>3.00</td>
<td>3.00</td>
<td>1.58</td>
</tr>
<tr>
<td>I go to the same dealer each time I shop for cars (CSI 08)</td>
<td>2.86</td>
<td>3.00</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>The higher the price of a car, the better its quality (CSI 21)</td>
<td>3.17</td>
<td>3.00</td>
<td>3</td>
<td>1.30</td>
</tr>
<tr>
<td>The lower price cars are usually my choice (CSI 23)*</td>
<td>3.04</td>
<td>3.00</td>
<td>3</td>
<td>1.19</td>
</tr>
<tr>
<td>The more expensive car brands are usually my choice (CSI 29)</td>
<td>3.16</td>
<td>3.00</td>
<td>3</td>
<td>1.32</td>
</tr>
<tr>
<td><strong>Habitual, brand loyal decision-making style</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have favourite car brands I buy over and over (CSI 17)</td>
<td>3.57</td>
<td>4.00</td>
<td>3</td>
<td>1.24</td>
</tr>
<tr>
<td>I make a special effort to choose the very best quality cars (CSI 19)</td>
<td>4.30</td>
<td>4.00</td>
<td>4</td>
<td>1.18</td>
</tr>
<tr>
<td>Shopping around dealers wastes my time (CSI 22)</td>
<td>3.20</td>
<td>3.00</td>
<td>3</td>
<td>1.24</td>
</tr>
<tr>
<td>Once I choose a car brand I like, I stick with it (CSI 26)</td>
<td>3.54</td>
<td>4.00</td>
<td>4</td>
<td>1.13</td>
</tr>
<tr>
<td><strong>Innovation conscious decision-making style</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am the kind of person who would try a new make of car (CSI 02)</td>
<td>3.41</td>
<td>3.00</td>
<td>4</td>
<td>1.46</td>
</tr>
<tr>
<td>I am very cautious about trying new makes of cars (CSI 11)*</td>
<td>3.25</td>
<td>3.00</td>
<td>3.00</td>
<td>1.24</td>
</tr>
<tr>
<td>I enjoy taking chances in buying unfamiliar brands of cars just to get some variety (CSI 20)</td>
<td>2.72</td>
<td>3.00</td>
<td>3</td>
<td>1.18</td>
</tr>
<tr>
<td>I would be worried about trying a new make of car (CSI 44)*</td>
<td>3.52</td>
<td>4.00</td>
<td>4.00</td>
<td>1.12</td>
</tr>
</tbody>
</table>

*reverse scoring
Referring to Table 4.5, data shows that results are relatively consistent with each subscale set. For example, in relation to the perfectionist, high quality conscious decision-making style, consumers’ responses reflected that a car of good quality is very important to consumers who adopt this decision-making style. In contrast, the most advertised car brands are appears to be least important among perfectionist, high quality conscious consumers. In terms of the confused by overchoice decision-making style, the highest mean was reported for item number 16, which indicates that consumers find it hard to choose which dealers to shop at because they are already confused by the information they have collected about different automobiles and brands. The highest mean for the rational, price conscious decision-making style was item number 15, which means that consumers who follow this style do not want to make careless purchases. They want to be certain and confident about their automobile purchase decision. In contrast, the lowest mean was reported for item number 33, which indicates that they are not willing to change brands when buying a new car. In terms of the brand conscious decision-making style, the highest mean was item number 1; consumers adopting this decision-making style want a perfect and prestigious automobile to satisfy them. Lastly, the highest mean found for the innovation conscious decision-making style was for item number 44, which indicates that innovative consumers are not worried about trying a new make of automobile if they are creative and innovative.
### 4.4.2 Total sample responses for cultural values scale (CVS)

Table 4.6 presents the mean, median mode and standard deviations for the cultural values scale.

**Table 4.6: The results of mean, median, mode and standard deviation for the CVS items**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individualism</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer to be direct and forthright when I talk with people (CVS 01).</td>
<td>5.06</td>
<td>5.00</td>
<td>5</td>
<td>1.27</td>
</tr>
<tr>
<td>Winning is everything (CVS 04).</td>
<td>3.21</td>
<td>3.00</td>
<td>3</td>
<td>1.45</td>
</tr>
<tr>
<td>One should live one’s life independently of others (CVS 05).</td>
<td>4.01</td>
<td>4.00</td>
<td>5</td>
<td>1.48</td>
</tr>
<tr>
<td>What happens to me is my own doing (CVS 06).</td>
<td>4.75</td>
<td>5.00</td>
<td>5</td>
<td>1.32</td>
</tr>
<tr>
<td>It annoys me when other people perform better than I do (CVS 08).</td>
<td>3.43</td>
<td>3.00</td>
<td>3</td>
<td>1.45</td>
</tr>
<tr>
<td>It is important for me that I do my job better than others (CVS 10).</td>
<td>4.47</td>
<td>5.00</td>
<td>5</td>
<td>1.37</td>
</tr>
<tr>
<td>I enjoy working in situations involving competitions with others (CVS 12).</td>
<td>4.14</td>
<td>4.00</td>
<td>5</td>
<td>1.40</td>
</tr>
<tr>
<td>I enjoy being unique and different from others in many ways (CVS 15).</td>
<td>5.16</td>
<td>5.00</td>
<td>5</td>
<td>1.36</td>
</tr>
<tr>
<td>I often do “my own thing” (CVS 18).</td>
<td>4.92</td>
<td>5.00</td>
<td>5</td>
<td>1.18</td>
</tr>
<tr>
<td>Competition is the law of nature (CVS 19).</td>
<td>4.36</td>
<td>5.00</td>
<td>5</td>
<td>1.34</td>
</tr>
<tr>
<td>I am a unique individual (CVS 21).</td>
<td>5.31</td>
<td>5.00</td>
<td>5</td>
<td>1.29</td>
</tr>
<tr>
<td>When another person does better than I do, I get tense and aroused (CVS 23).</td>
<td>3.20</td>
<td>3.00</td>
<td>3</td>
<td>1.30</td>
</tr>
<tr>
<td>I like my privacy (CVS 25).</td>
<td>5.42</td>
<td>5.00</td>
<td>5</td>
<td>1.12</td>
</tr>
<tr>
<td>Without competition, it is not possible to have a good society (CVS 26).</td>
<td>4.16</td>
<td>4.00</td>
<td>5</td>
<td>1.42</td>
</tr>
<tr>
<td>Some people emphasise winning; I am not one of them* (CVS 30).</td>
<td>3.55</td>
<td>3.00</td>
<td>3.00</td>
<td>1.39</td>
</tr>
<tr>
<td>When I succeed, it is usually because of my abilities (CVS 32).</td>
<td>5.32</td>
<td>5.00</td>
<td>5</td>
<td>1.21</td>
</tr>
<tr>
<td><strong>Collectivism</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My happiness depends very much on the happiness of those around me (CVS 02).</td>
<td>4.76</td>
<td>5.00</td>
<td>5</td>
<td>1.36</td>
</tr>
<tr>
<td>I would do what would please my family, even if I detested that activity (CVS 03).</td>
<td>4.01</td>
<td>4.00</td>
<td>3</td>
<td>1.57</td>
</tr>
<tr>
<td>I usually sacrifice my self-interest for the benefit of my group (CVS 07).</td>
<td>3.95</td>
<td>4.00</td>
<td>5</td>
<td>1.29</td>
</tr>
<tr>
<td>It is important for me to maintain harmony within my group (CVS 09).</td>
<td>5.53</td>
<td>5.00</td>
<td>5</td>
<td>1.08</td>
</tr>
<tr>
<td>I like sharing little things with my neighbours (CVS 11).</td>
<td>4.51</td>
<td>5.00</td>
<td>5</td>
<td>1.38</td>
</tr>
<tr>
<td>We should keep our aging parents with us at home (CVS 13).</td>
<td>4.45</td>
<td>4.00</td>
<td>4</td>
<td>1.60</td>
</tr>
<tr>
<td>The well being of my co-workers is important to me (CVS 14).</td>
<td>5.31</td>
<td>5.00</td>
<td>5</td>
<td>1.03</td>
</tr>
<tr>
<td>Item</td>
<td>Mean</td>
<td>Median</td>
<td>Mode</td>
<td>Std Deviation</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>---------------</td>
</tr>
<tr>
<td>If a relative were in financial difficulty, I would help within my means (CVS 16).</td>
<td>5.36</td>
<td>5.00</td>
<td>5</td>
<td>1.19</td>
</tr>
<tr>
<td>Children should feel honoured if their parents receive a distinguished award.</td>
<td>5.45</td>
<td>5.00</td>
<td>5</td>
<td>1.27</td>
</tr>
<tr>
<td>If a co-worker gets a prize, I would feel proud (CVS 20).</td>
<td>5.01</td>
<td>5.00</td>
<td>5</td>
<td>1.17</td>
</tr>
<tr>
<td>To me, pleasure is spending time with others (CVS 22).</td>
<td>5.04</td>
<td>5.00</td>
<td>5</td>
<td>1.32</td>
</tr>
<tr>
<td>I would sacrifice an activity that I enjoy very much if my family did not approve of it (CVS 24).</td>
<td>4.00</td>
<td>4.00</td>
<td>3</td>
<td>1.50</td>
</tr>
<tr>
<td>Children should be taught to place duty before pleasure (CVS 27).</td>
<td>4.49</td>
<td>5.00</td>
<td>5</td>
<td>1.48</td>
</tr>
<tr>
<td>I feel good when I cooperate with others (CVS 28).</td>
<td>5.27</td>
<td>5.00</td>
<td>5</td>
<td>1.19</td>
</tr>
<tr>
<td>I hate to disagree with others in my group (CVS 29).</td>
<td>4.07</td>
<td>4.00</td>
<td>3</td>
<td>1.51</td>
</tr>
<tr>
<td>Before taking a major trip, I consult most members of my family and many friends (CVS 31).</td>
<td>4.64</td>
<td>5.00</td>
<td>5</td>
<td>1.53</td>
</tr>
</tbody>
</table>

*reverse scoring*

In Table 4.6, the highest mean found in respondents with individualist values was item number 25. This confirms that respondents with individualist values like their privacy, which has also reflected on their decision making style. For example, in relation to automobile purchase decision they also like their privacy and are unlikely to involve many friends/family members in their decision making. Conversely, the highest mean found in respondents with collectivist values was item number nine, which shows the importance of maintaining harmony within the group. Overall, the data show that the dichotomy between individualist and collectivists is statistically well founded in this study.
### 4.4.3 Total sample responses for external influences on consumer decision-making

In the following Table 4.7, shows the mean, median mode and standard deviation for the external influences on consumer decision-making styles.

**Table 4.7: The results of mean, median, mode and standard deviation for the external influences**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of dealer</td>
<td>3.95</td>
<td>3.00</td>
<td>3</td>
<td>1.29</td>
</tr>
<tr>
<td>Number of dealers consulted</td>
<td>2.70</td>
<td>3.00</td>
<td>3</td>
<td>1.18</td>
</tr>
<tr>
<td>Time spent with each dealer</td>
<td>1.65</td>
<td>2.00</td>
<td>1</td>
<td>1.20</td>
</tr>
<tr>
<td>Number of cars test-driven</td>
<td>1.33</td>
<td>1.00</td>
<td>1</td>
<td>1.17</td>
</tr>
<tr>
<td>Time spent researching the final purchase decision</td>
<td>2.30</td>
<td>2.00</td>
<td>1</td>
<td>1.27</td>
</tr>
<tr>
<td>Importance of family and friends</td>
<td>3.30</td>
<td>4.00</td>
<td>4</td>
<td>1.43</td>
</tr>
<tr>
<td>Number of family and friends consulted before the final purchase decision is made</td>
<td>2.50</td>
<td>3.00</td>
<td>3</td>
<td>1.10</td>
</tr>
</tbody>
</table>

The data in Table 4.7 (above) indicates that dealers are an important external influence on consumer decision-making styles. Family and friends were also rated highly in terms of their importance in consumer decisions. In contrast, the number of cars test-driven appears to be least important among the external influences measured.

### 4.4.4 Total sample responses for automobile quality ratings

In Table 4.8, the mean, median, mode and standard deviation for the automobile quality ratings are presented.

**Table 4.8: The results of mean, median, mode and standard deviation for the quality ratings**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ford (Australia)</td>
<td>3.22</td>
<td>3.00</td>
<td>3</td>
<td>.97</td>
</tr>
<tr>
<td>Holden (Australia)</td>
<td>3.42</td>
<td>3.00</td>
<td>3</td>
<td>.88</td>
</tr>
<tr>
<td>BMW (Germany)</td>
<td>4.47</td>
<td>5.00</td>
<td>5</td>
<td>.85</td>
</tr>
<tr>
<td>Mercedes (Germany)</td>
<td>4.60</td>
<td>5.00</td>
<td>5</td>
<td>.86</td>
</tr>
<tr>
<td>Volkswagen (Germany)</td>
<td>4.05</td>
<td>4.00</td>
<td>4</td>
<td>.92</td>
</tr>
<tr>
<td>Alfa Romeo (Italy)</td>
<td>3.70</td>
<td>4.00</td>
<td>4</td>
<td>1.05</td>
</tr>
<tr>
<td>Fiat (Italy)</td>
<td>3.00</td>
<td>3.00</td>
<td>3</td>
<td>1.00</td>
</tr>
<tr>
<td>Nissan (Japan)</td>
<td>3.26</td>
<td>3.00</td>
<td>3</td>
<td>.84</td>
</tr>
<tr>
<td>Toyota (Japan)</td>
<td>3.80</td>
<td>4.00</td>
<td>4</td>
<td>.90</td>
</tr>
<tr>
<td>Daewoo (Korea)</td>
<td>2.06</td>
<td>2.00</td>
<td>2</td>
<td>.85</td>
</tr>
<tr>
<td>KIA (Korea)</td>
<td>2.05</td>
<td>2.00</td>
<td>2</td>
<td>.91</td>
</tr>
<tr>
<td>Volvo (Sweden)</td>
<td>3.89</td>
<td>4.00</td>
<td>4</td>
<td>1.00</td>
</tr>
</tbody>
</table>
The above data (see Table 4.8) show that the highest mean quality was found for Mercedes. The second highest mean was found for BMW. Both Mercedes and BMW are German marques. In contrast, the poorly rated automobiles were KIA and Daewoo. Both KIA and Daewoo are Korean brands of car.

4.4.5 Total sample responses for important information sources for automobile decision making

In Table 4.9, demonstrates the mean, median, mode and standard deviation for the importance of information sources for automobile decision-making.

Table 4.9: The results of mean, median, mode and standard deviation for the importance of information sources

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dealer</td>
<td>3.38</td>
<td>4.00</td>
<td>4</td>
<td>1.27</td>
</tr>
<tr>
<td>Internet</td>
<td>3.71</td>
<td>4.00</td>
<td>5</td>
<td>1.29</td>
</tr>
<tr>
<td>Magazine</td>
<td>3.02</td>
<td>3.00</td>
<td>4</td>
<td>1.20</td>
</tr>
<tr>
<td>TV ads</td>
<td>2.49</td>
<td>2.00</td>
<td>3</td>
<td>1.11</td>
</tr>
<tr>
<td>Word of Mouth (WOM)</td>
<td>3.82</td>
<td>4.00</td>
<td>4</td>
<td>1.22</td>
</tr>
</tbody>
</table>

The data show that people rely a great deal on ‘word of mouth’ communication, as an important information source for high involvement purchases such as automobiles. The internet was found to be the second most important source. In contrast, television advertisements were found the least important source for automobile decision-making.
4.5 Correlations between cultural backgrounds, consumer
decision-making styles, brand quality ratings and external
influences

The correlation is one of the most useful and valuable statistics for evaluating
the relationship between variables. For this research, Pearson Product Moment
correlations were performed between individualism, collectivism, consumer decision-
making styles, brand quality ratings and external influences for automobile purchase
decision-making (see Table 4.10, 4.11 and 4.12).

4.5.1 Correlations between individualism, collectivism and consumer
decision-making styles

The following Table 4.10 presents the correlations between cultural
backgrounds and consumer decision-making styles. Consumer decision-making styles
were measured using an adapted version of the Consumer Styles Inventory. A
confirmatory factor analysis of the inventory resulted in the six decision-making factors
listed in Table 4.10 below (see Section 4.10).

<table>
<thead>
<tr>
<th></th>
<th>Individualism</th>
<th>Collectivism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfectionist</td>
<td>.15</td>
<td>.12</td>
</tr>
<tr>
<td>Confused</td>
<td>.03</td>
<td>.21</td>
</tr>
<tr>
<td>Brand</td>
<td>.13</td>
<td>.12</td>
</tr>
<tr>
<td>Rational</td>
<td>.03</td>
<td>-.24</td>
</tr>
<tr>
<td>Habitual</td>
<td>.03</td>
<td>.15</td>
</tr>
<tr>
<td>Innovation</td>
<td>.16</td>
<td>-.03</td>
</tr>
</tbody>
</table>

Note: Significant correlations have shown in **bold**. \(r \leq |.18|\) are significant at \(\alpha = .05\); \(r \geq |.19|\) are significant at \(\alpha = .01\).

Referring to the Table 4.10, individualism was positively correlated with the
perfectionist, high quality conscious and innovation conscious decision-making styles.
Collectivism was negatively correlated with rational and positively correlated with
habitual, brand loyal decision-making styles.
4.5.2 Correlations between individualism, collectivism, consumer decision-making styles and automobile quality ratings

Table 4.11 shows the correlations between cultural backgrounds and automobile quality ratings.

Table 4.11: Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>Ford</th>
<th>Holden</th>
<th>BMW</th>
<th>Mercedes</th>
<th>Volkswagen</th>
<th>Alfa Romeo</th>
<th>Fiat</th>
<th>Nissan</th>
<th>Toyota</th>
<th>Daewoo</th>
<th>Kia</th>
<th>Volvo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualism</td>
<td>.09</td>
<td>.12</td>
<td>.13</td>
<td>.22</td>
<td>.13</td>
<td>.07</td>
<td>.13</td>
<td>.07</td>
<td>-.04</td>
<td>.05</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>Collectivism</td>
<td>.08</td>
<td>.04</td>
<td>.22</td>
<td>.21</td>
<td>.23</td>
<td>.13</td>
<td>.06</td>
<td>.16</td>
<td>.15</td>
<td>.06</td>
<td>.00</td>
<td>.16</td>
</tr>
<tr>
<td>Perfectionist</td>
<td>.18</td>
<td>.14</td>
<td>.14</td>
<td>.20</td>
<td>.11</td>
<td>.08</td>
<td>.08</td>
<td>.07</td>
<td>.11</td>
<td>-.03</td>
<td>-.02</td>
<td>.16</td>
</tr>
<tr>
<td>Confused</td>
<td>.01</td>
<td>.03</td>
<td>-.05</td>
<td>.09</td>
<td>.06</td>
<td>.09</td>
<td>.06</td>
<td>-.06</td>
<td>.10</td>
<td>.09</td>
<td>.00</td>
<td>.08</td>
</tr>
<tr>
<td>Brand</td>
<td>-.29</td>
<td>-.23</td>
<td>-.12</td>
<td>.12</td>
<td>-.00</td>
<td>-.10</td>
<td>-.12</td>
<td>.02</td>
<td>-.08</td>
<td>-.12</td>
<td>-.14</td>
<td>-.00</td>
</tr>
<tr>
<td>Rational</td>
<td>.18</td>
<td>-.22</td>
<td>-.12</td>
<td>-.23</td>
<td>-.29</td>
<td>-.15</td>
<td>-.07</td>
<td>.01</td>
<td>-.11</td>
<td>.01</td>
<td>.01</td>
<td>-.03</td>
</tr>
<tr>
<td>Habitual</td>
<td>.01</td>
<td>.02</td>
<td>-.01</td>
<td>.01</td>
<td>.11</td>
<td>-.02</td>
<td>-.06</td>
<td>-.10</td>
<td>-.00</td>
<td>-.12</td>
<td>-.11</td>
<td>.11</td>
</tr>
<tr>
<td>Innovation</td>
<td>.10</td>
<td>.11</td>
<td>-.00</td>
<td>.72</td>
<td>-.04</td>
<td>-.00</td>
<td>.04</td>
<td>.06</td>
<td>.21</td>
<td>.24</td>
<td>.09</td>
<td></td>
</tr>
</tbody>
</table>

Note: Significant correlations have shown in **bold**. \( r \leq \lvert .18 \rvert \) are significant at \( \alpha = .05 \); \( r \geq \lvert .19 \rvert \) are significant at \( \alpha = .01 \).

Table 4.11 has shown that individualism was positively correlated with Holden, whereas collectivism positively correlated with BMW, Mercedes, Volkswagen, Nissan and Volvo. The perfectionist, high quality conscious decision-making style was positively correlated with Ford, BMW, and Mercedes. As expected, the brand conscious decision-making style was positively correlated with Mercedes, but negatively correlated with Ford, Holden, Toyota and KIA. The rational, price conscious decision-making style was positively correlated with Ford but negatively correlated with BMW and Volkswagen. The habitual decision-making style was positively correlated with Ford and Holden. The innovation conscious decision-making style was positively correlated with Mercedes and Toyota.
4.5.3 Correlations between individualism, collectivism, consumer decision-making styles and external influences for automobile decision-making

Table 4.12 below shows the correlations between cultural backgrounds and external influences.

Table 4.12: Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>Importance of Dealers</th>
<th>Importance of Family/Friends</th>
<th>Importance of Information: Dealer</th>
<th>Importance of Information: Internet</th>
<th>Importance of Information: Magazines</th>
<th>Importance of Information: T.V. Advertisements</th>
<th>Importance of Information: Word of Mouth</th>
<th>Number of Dealers Consulted</th>
<th>Time spent with Dealers</th>
<th>Number of Cars 'Test Driven'</th>
<th>Time Spent Researching final Decision</th>
<th>Number of Family/ Friends Consulted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualism</td>
<td>.05</td>
<td>.00</td>
<td>.10</td>
<td>.17</td>
<td>.03</td>
<td>.06</td>
<td>.07</td>
<td>-.01</td>
<td>-.00</td>
<td>.03</td>
<td>.02</td>
<td>.06</td>
</tr>
<tr>
<td>Collectivism</td>
<td>.04</td>
<td>.21</td>
<td>.23</td>
<td>-.01</td>
<td>.14</td>
<td>.13</td>
<td>.20</td>
<td>.23</td>
<td>.10</td>
<td>.09</td>
<td>.04</td>
<td>.30</td>
</tr>
<tr>
<td>Perfectionist</td>
<td>.18</td>
<td>.24</td>
<td>.33</td>
<td>.31</td>
<td>.24</td>
<td>.06</td>
<td>.13</td>
<td>.14</td>
<td>.13</td>
<td>-.01</td>
<td>.18</td>
<td>.24</td>
</tr>
<tr>
<td>Confused</td>
<td>.05</td>
<td>-.10</td>
<td>.11</td>
<td>-.05</td>
<td>.01</td>
<td>.27</td>
<td>.13</td>
<td>.12</td>
<td>.11</td>
<td>.04</td>
<td>.14</td>
<td></td>
</tr>
<tr>
<td>Brand</td>
<td>.13</td>
<td>.09</td>
<td>.12</td>
<td>.02</td>
<td>-.05</td>
<td>.10</td>
<td>.04</td>
<td>.08</td>
<td>.21</td>
<td>.18</td>
<td>.00</td>
<td>.10</td>
</tr>
<tr>
<td>Rational</td>
<td>-.07</td>
<td>.20</td>
<td>.16</td>
<td>-.11</td>
<td>-.05</td>
<td>.04</td>
<td>.11</td>
<td>.12</td>
<td>.04</td>
<td>-.06</td>
<td>.29</td>
<td>-.12</td>
</tr>
<tr>
<td>Habitual</td>
<td>.01</td>
<td>.09</td>
<td>.13</td>
<td>.08</td>
<td>.00</td>
<td>.00</td>
<td>.07</td>
<td>.11</td>
<td>-.15</td>
<td>-.07</td>
<td>.20</td>
<td>.09</td>
</tr>
<tr>
<td>Innovation</td>
<td>.05</td>
<td>.02</td>
<td>.02</td>
<td>.06</td>
<td>-.01</td>
<td>.19</td>
<td>-.13</td>
<td>.00</td>
<td>.04</td>
<td>.01</td>
<td>-.03</td>
<td>-.07</td>
</tr>
</tbody>
</table>

Note: Significant correlations have been shown in **bold.** \( r \leq |.18 | \) are significant at \( \alpha = .05; \) \( r \geq |.19 | \) are significant at \( \alpha = .01 \)
According to Table 4.12, collectivism was positively correlated with importance of family/friends, importance of information from television advertisements, importance of information from dealers, importance of information from magazines, importance of information obtained through ‘word of mouth’ communication, number of dealers consulted and number of family/friends consulted.

There were some other interesting, and also anticipated, observations in terms of consumer decision making styles: the perfectionist, high quality conscious decision-making style was positively correlated with importance of dealers, importance of family/friends, importance of information from dealer, importance of information from the internet, importance of information from magazines, importance of information from television advertisements, importance of information obtained through ‘word of mouth’ communication, and number of family/friends consulted. The rational, price conscious decision-making style was also positively correlated with importance of information from dealers, family/friends, and time spent researching final decision. The brand conscious decision-making style was positively correlated with time spent with dealers and number of cars ‘test-driven’. The habitual, brand conscious decision-making style was negatively correlated with time spent with dealers. However, the innovation conscious decision-making style was positively correlated with importance of information through internet and television.
4.6 Tests of normality

The next step prior to modeling was to assess the data for compliance with normality assumptions. The data were entered into the statistical software package SPSS 16.0 and checked before being transferred to the AMOS 7.0 software package to conduct confirmatory factor analysis.

4.6.1 Screening for response sets and missing values

The proportion of missing value was less than 5% and the analysis showed that these values were missing at random. Imputation of these missing values was appropriate and the EM method was used for this purpose. The data were screened for response sets and missing values. One case showed a response set and was subsequently deleted. Missing values were replaced only for Consumer Styles Inventory (CSI) and Cultural Value Scale (CVS).

4.6.2 Normality

Variables were examined for skewness within each group, Australian-born and Asian-born. The variables that were positively skewed for individualist participants are: brand quality ratings for Kia and Volvo, importance of information from television advertisements, time spent with dealers, number of cars test-driven and time spent researching decision. The variables that were negatively skewed for Australian-born participants are: recreational; brand quality ratings for Ford, Holden, BMW, Mercedes, Volkswagen, Alfa Romeo, Toyota and Volvo; importance of information from the internet and obtained through ‘word of mouth’ communication. Recreational was reflected and square-root transformed, which improved its distribution (see Appendix 7 for details). The variable was re-reflected after transformation to retain the original direction of interpretation. The remaining variables were not transformed, in order to preserve the meaningful metric of the original scales.
The variables that were positively skewed for Asian-born participants are: impulsive, brand quality ratings for KIA and Daewoo, time spent with dealers, number of cars ‘test driven’, and time spent researching decision. The variables that were negatively skewed for Asian-born consumers are: brand quality ratings for Ford, Holden, BMW, Mercedes, Volkswagen and Alfa Romeo; importance of family members and friends; and importance of information from dealer, the internet, magazines, and obtained through ‘word of mouth’ communication. Impulsive was square-root transformed, which improved its distribution. The remaining variables were not transformed, in order to preserve the meaningful metric of the original scales.

4.6.3 Outliers

Given that the hypotheses are based on grouped data, screening for outliers was performed separately for Australian-born and Asian-born. One multivariate outlier was detected among the Asian-born participants. This case was deleted.

4.7 Factor analysis of the CSI

As discussed in the literature review chapter, although the CSI is a well-established measure, it has not been used to identify consumer decision-making styles for automobile purchase behaviour. Therefore, it was important to conduct exploratory factor analysis (EFA) (to identify how items were correlated with the factors) and then confirmatory factor analysis (CFA) (for item refinement to improve reliability and discriminant validity), before using the consumer decision-making styles factors to test the hypotheses.
4.7.1 Exploratory factor analysis

In the first step of the factor analysis, EFA was conducted on the 45 items (for items, see Appendix 2: Car Purchase Behaviour item nos. 1 to 45) of the consumer styles inventory (CSI) using the calibration sample (N = 202) with maximum likelihood extraction and oblique rotation (OBLIMIN). Oblimin rotation is the standard method of extracting a non-orthogonal solution, that is, one in which the factors can be correlated. Various criteria for identifying and evaluating variables for possible deletion were used in this study.

The various indications of the factorability of the scale were good and appropriate: KMO was .711; and the Barlett test of sphericity, which indicated the significance level of p < .001, also showed that the factor analysis was appropriate. Seven factors were finally generated. The solution showed that all factors were above the elbow, or break, in the plot, and that these factors contribute the most to the explanation of the variance in the data set (Byrne 2005). Although it is appealing to have as many factors as possible in order to capture the optimum number of consumer decision-making style variations, it is also important to have satisfactory reliabilities for each factor to provide an adequate basis for generalising to the population (Walsh et al. 2001). Bearing this in mind, these seven factors were retained.

A satisfactory factorial structure was achieved by removing eight items to re-specify the factor model and a new factor solution was derived after the removal of each item, because maximum likelihood extraction is based on shared variance (Byrne 2005). The seven factors were labelled as follows:

**Factor 1** – Perfectionist, High Quality Conscious Decision-Making Style: A consumer has specific ideas about the best quality products and consistently looks for these
qualities. This style is characterised by a consumer’s search for the very best quality in products. Consumers scoring high on this factor are expected to be systematic, or comparison shoppers.

Factor 2 – Confused by Overchoice Decision-Making Style: The consumer is confused and overwhelmed by too much product information and/or too many product choices. Therefore, these consumers may not make decisions that satisfy them in the long term. This style characterises consumers who are confused about the quality of different brands and by the information available. It is expected that consumers scoring high on this factor are confused by too many choices/options.

Factor 3 – Recreational Shopping Conscious Decision-Making Style: A consumer gains pleasure from the shopping experience. This style characterises people who are likely to shop just for fun/leisure and find shopping pleasant. Recreational shoppers engage themselves in the purchase situation, since they like to know more about the product as a form of enjoyment. Consumers scoring high on this factor are expected to have fun when shopping, or even expect to collect more information for various automobiles.

Factor 4 – Rational, Price Conscious Decision-Making Style: This style describes consumers who are rational and price conscious. Consumers scoring high on this factor tend to look for the best value for money. These types of consumers are unlikely to make careless purchases in terms of automobiles, and also watch carefully how much they spend.
**Factor 5** – Brand Conscious Decision-Making Style: A consumer associates quality with higher priced brands. The consumer with this style is expected to buy expensive, well-known brands, believing that the higher the price of a product, the better the quality. Those scoring high on this factor are likely to display some level of fashion consciousness.

**Factor 6** – Habitual, Brand Loyal Decision-Making Style: The consumer tends to consistently stick with the same brand of product. This style characterises shoppers who have favourite brands and stores and use these habitually. Consumers scoring high on this factor are likely to stick with a particular brand of automobile for a long time.

**Factor 7** – Innovation Conscious Decision-Making Style: This style refers to consumers who seek novelty and variety in their purchasing decisions. Innovativeness requires one to initiate behaviours that differ from others. Consumers’ scoring high on the innovation consciousness factor means that these types of consumers like innovation and change in their automobile purchase behaviour. They are not very worried about trying a new make of car or unfamiliar brands.

The above factors represent measures of consumer decision-making styles in relation to car purchasing behaviour. One of the original CSI factors (impulsive, careless decision-making style) was not supported; none of the items for this factor loaded strongly as a single dimension. The innovation conscious decision-making style (see Factor 7), which was included in this study alongside the CSI, had four items that loaded strongly (see Table 4.14 for more details) and, therefore, appeared as one of the important factors in relation to automobile purchases.
The factor analysis reduced the CSI items to seven factors collating related items together. Scales were constructed for each of the factors by averaging the responses for the items loading strongly on each factor. As a result of the factor analysis, eight items (questions no. 3, 4, 12, 13, 31, 41, 42 and 43) were eliminated as they did not load strongly on any factor, recording loadings below 0.4 (Nunnally 1978).

Table 4.13 illustrates the seven factors based on the remaining 37 items having eigenvalues greater than one. As described in Byrne (2001), the eigenvalues for a given factor measure the variance in all the variables accounted for by that factor. The ratio of eigenvalues is the ratio of explanatory importance of the factors with respect to the variables. If a factor has a low eigenvalue, then it is contributing little to the explanation of variances in the variables and may be ignored as superfluous. Eigenvalues basically measure the amount of variation in the total sample accounted for by each factor.

Table 4.13 shows the total variance of factors one to seven.

**Total Variance Explained**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eigenvalue</td>
<td>% of Variance</td>
</tr>
<tr>
<td>1</td>
<td>6.069</td>
<td>13.488</td>
</tr>
<tr>
<td>2</td>
<td>4.240</td>
<td>9.423</td>
</tr>
<tr>
<td>3</td>
<td>3.933</td>
<td>8.740</td>
</tr>
<tr>
<td>4</td>
<td>2.748</td>
<td>6.106</td>
</tr>
<tr>
<td>5</td>
<td>1.826</td>
<td>4.058</td>
</tr>
<tr>
<td>6</td>
<td>1.660</td>
<td>3.688</td>
</tr>
<tr>
<td>7</td>
<td>1.563</td>
<td>3.472</td>
</tr>
<tr>
<td>8</td>
<td>.981</td>
<td>2.180</td>
</tr>
</tbody>
</table>

Extraction Method: Maximum likelihood

When components are correlated, sums of squared loadings cannot be added to obtain a total variance.
The seven-factor solution explained a total of 48.98% of the variance, with Factor 1 contributing 13.49%, Factor 2 contributing 9.42%, Factor 3 contributing 8.74%, Factor 4 contributing 6.11%, Factor 5 contributing 4.06%, Factor 6 contributing 3.69% and Factor 7 contributing 3.47%. As discussed earlier, to aid in the interpretation of these seven factors, oblimin rotation was performed. The rotated solution revealed the presence of a simple structure, with the factor showing a number of strong loadings and all variables loading substantially on only seven factors.

The loadings from the EFA are summarised in Table 4.14, and reliability coefficients for each factor are also presented (for more details see Pattern and Structure Matrices in Appendices 8 and 9 respectively).
### Table 4.14: Consumer style characteristics: Seven-factor model

<table>
<thead>
<tr>
<th>Factor Characteristics and Items</th>
<th>Loadings (Pattern)</th>
<th>Correlation (Structure)</th>
<th>Cronbach’s Alpha for Each Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1 – Perfectionist, high quality conscious</strong>&lt;br&gt;Getting a very good quality car is very important to me (CSI 10)</td>
<td>-.467</td>
<td>-.537</td>
<td>.637</td>
</tr>
<tr>
<td>I really don’t give my car purchases much thought or care (CSI 28)*</td>
<td>.444</td>
<td>.588</td>
<td></td>
</tr>
<tr>
<td>Investigating new brands of cars is generally a waste of time (CSI 34)*</td>
<td>.661</td>
<td>.656</td>
<td></td>
</tr>
<tr>
<td>I shop quickly for cars, buying the first car or brand I find that seems good enough (CSI 35)*</td>
<td>.644</td>
<td>.720</td>
<td></td>
</tr>
<tr>
<td>The most advertised car brands are usually very good choices (CSI 36)</td>
<td>.444</td>
<td>.474</td>
<td></td>
</tr>
<tr>
<td>When it comes to buying a car, in general, I usually try to buy the best overall quality (CSI 40)</td>
<td>-.453</td>
<td>-.523</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 2 – Confused by overchoice decision-making style</strong>&lt;br&gt;I should plan my shopping for cars more carefully than I do (CSI 06).</td>
<td>.582</td>
<td>.573</td>
<td>.720</td>
</tr>
<tr>
<td>All the information I get on different cars confuses me (CSI 07)</td>
<td>.740</td>
<td>.743</td>
<td></td>
</tr>
<tr>
<td>It’s hard to choose which dealers to shop at for cars (CSI 16)</td>
<td>.562</td>
<td>.592</td>
<td></td>
</tr>
<tr>
<td>The more I learn about cars, the harder it seems to choose the best (CSI 25)</td>
<td>.611</td>
<td>.669</td>
<td></td>
</tr>
<tr>
<td>There are so many car brands to choose from that often I feel confused (CSI 32)</td>
<td>.428</td>
<td>.539</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 3 – Recreational conscious decision-making style</strong>&lt;br&gt;I am the kind of a person who would try a new make of car (CSI 09)</td>
<td>.431</td>
<td>.470</td>
<td>.474</td>
</tr>
<tr>
<td>I would rather wait for others to try a new dealer than try it myself in making my purchase (CSI 18)*</td>
<td>.508</td>
<td>.471</td>
<td></td>
</tr>
<tr>
<td>I would buy a new or different brand of car just to see what it is like (CSI 27)</td>
<td>.405</td>
<td>.450</td>
<td></td>
</tr>
<tr>
<td>Going shopping for cars is an enjoyable activity for me (CSI 30)</td>
<td>.488</td>
<td>.539</td>
<td></td>
</tr>
<tr>
<td>I enjoy shopping for cars just for the fun of it (CSI 37)</td>
<td>.682</td>
<td>.701</td>
<td></td>
</tr>
<tr>
<td>I take advantage of the first opportunity to find out more about a new dealer selling a car that I would like to purchase (CSI 39)</td>
<td>.726</td>
<td>.701</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 4 - Rational, price conscious decision-making style</strong>&lt;br&gt;I prefer to buy cars at sale prices (CSI 05)</td>
<td>.508</td>
<td>.445</td>
<td>.680</td>
</tr>
<tr>
<td>When shopping for cars, I look carefully to find best value for money (CSI 14)</td>
<td>.732</td>
<td>.713</td>
<td></td>
</tr>
<tr>
<td>When buying a car, I do not want to make a careless purchase I later wish I had not (CSI 15)</td>
<td>.449</td>
<td>.500</td>
<td></td>
</tr>
<tr>
<td>When shopping for cars, I take the time to shop carefully for best buys (CSI 24)</td>
<td>.527</td>
<td>.596</td>
<td></td>
</tr>
<tr>
<td>I am willing to change brands when buying a new car (CSI 33)</td>
<td>.569</td>
<td>.505</td>
<td></td>
</tr>
<tr>
<td>When buying a car, I carefully watch how much I spend (CSI 38)</td>
<td>.651</td>
<td>.670</td>
<td></td>
</tr>
<tr>
<td>When it comes purchasing cars, I try to get the very best or perfect choice (CSI 45)</td>
<td>.534</td>
<td>.553</td>
<td></td>
</tr>
</tbody>
</table>
Factor 5 – Brand conscious decision-making style
A car does not have to be perfect, or the best, to satisfy me (CSI 01)*
I go to the same dealer each time I shop for cars (CSI 08)
The higher the price of a car, the better its quality (CSI 21)
The lower price cars are usually my choice (CSI 23)*
The more expensive car brands are usually my choice (CSI 29)

Factor 6 – Habitual, brand loyal decision-making style
I have favourite car brands I buy over and over (CSI 17)
I make a special effort to choose the very best quality cars (CSI 19)
Shopping around dealers wastes my time (CSI 22)
Once I choose a car brand I like, I stick with it (CSI 26)

Factor 7 – Innovation conscious decision making style
I am the kind of person who would try a new make of car (CSI 02)
I am very cautious about trying new makes of cars (CSI 11)*
I enjoy taking chances in buying unfamiliar brands of cars just to get some variety (CSI 20)
I would be worried about trying a new make of car (CSI 44)*

Table 4.15 shows the factor correlation matrix for the seven factors from the EFA.

Factor Correlation matrix for EFA

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>1.000</td>
<td>0.201</td>
<td>0.402</td>
<td>-0.173</td>
<td>-0.149</td>
<td>0.001</td>
<td>-0.098</td>
</tr>
<tr>
<td>Factor 2</td>
<td>0.201</td>
<td>1.000</td>
<td>-0.022</td>
<td>-0.042</td>
<td>-0.124</td>
<td>0.077</td>
<td>0.055</td>
</tr>
<tr>
<td>Factor 3</td>
<td>0.042</td>
<td>-0.022</td>
<td>1.000</td>
<td>-0.039</td>
<td>-0.098</td>
<td>0.120</td>
<td>-0.179</td>
</tr>
<tr>
<td>Factor 4</td>
<td>-0.173</td>
<td>-0.042</td>
<td>-0.039</td>
<td>1.000</td>
<td>0.048</td>
<td>0.085</td>
<td>0.072</td>
</tr>
<tr>
<td>Factor 5</td>
<td>-0.149</td>
<td>-0.124</td>
<td>-0.098</td>
<td>0.048</td>
<td>1.000</td>
<td>0.126</td>
<td>0.057</td>
</tr>
<tr>
<td>Factor 6</td>
<td>0.001</td>
<td>0.077</td>
<td>0.120</td>
<td>0.085</td>
<td>0.126</td>
<td>1.000</td>
<td>0.109</td>
</tr>
<tr>
<td>Factor 7</td>
<td>-0.098</td>
<td>0.055</td>
<td>-0.179</td>
<td>0.072</td>
<td>0.057</td>
<td>0.109</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Extraction Method: Maximum Likelihood
Rotation Method: Oblimin with Kaiser Normalisation
4.8 Reliability of factors from EFA

Results indicated that the factors perfectionist, high quality conscious, confused by overchoice, rational, price conscious and innovation conscious decision-making styles had good internal consistency with Cronbach’s alpha coefficients of .637, .720, .680 and .629 respectively, while other factors like brand and habitual conscious decision-making styles exhibited a moderate internal consistency with Cronbach’s alpha coefficients of .571 and .599 respectively. Recreational conscious decision-making style displayed a poor internal consistency with a Cronbach’s alpha coefficient of .474. As mentioned earlier in the methodology chapter, consistent with previous studies (Hiu et al. 2001), this research only accepted factors with Cronbach’s alpha > 0.5 for further analysis. Therefore, recreational conscious decision-making style was not included in the confirmatory factor analysis, and was excluded from further analysis.
4.9 Confirmatory factor analysis

Confirmatory Factor Analysis (CFA) is not concerned with discovering a factor structure, but with confirming the existence of a specific factor structure. Therefore, in this section, the study examines first-order CFA models of six factors (perfectionist, high quality conscious; confused by overchoice; rational, price conscious; brand conscious; habitual, brand loyal, and innovation conscious decision-making styles) extracted after EFA that were subjected to CFA to confirm that all the items in each factor could be identified with the use of model-fit testing. Model-fit testing is explained in detail in the Methodology chapter (see section 3.7).

4.9.1 CFA for perfectionist, high quality conscious decision-making style

As indicated in section 4.6.1, the first factor is the perfectionist, high quality conscious decision-making style. This factor comprised six items, as can be seen in Table 4.14. In order to obtain a good fit, item numbers 10 and 36 were removed. The final congeneric measurement model is depicted in Figure 4.2 below.

Figure 4.2: CFA for perfectionist, high quality conscious decision-making style

Chi-square = 4.700, df = 2, p = 0.095, CMIN/DF = 2.350, GFI = .989, AGFI = .943, TLI = .954, CFI = .985, RMSEA = .052, SRMR = 0.03 and Cronbach’s alpha = .649 (improved by .012).
As the results indicate, the GFI and AGFI represent a good approximation of the data, with SRMR <.05. The CFI and TLI demonstrate a value close to 1 and, therefore, suggest that it is a well fitting model.

The regression weights for the items of the final measurement model are shown in Table 4.16.

Table 4.16: Regression Weights for perfectionist, high quality conscious decision-making style

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSI item40 &lt;-- Perfectionist</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSI item34 &lt;-- Perfectionist</td>
<td>1.367</td>
<td>.242</td>
<td>5.637</td>
<td>***</td>
</tr>
<tr>
<td>CSI item35 &lt;-- Perfectionist</td>
<td>2.224</td>
<td>.393</td>
<td>5.654</td>
<td>***</td>
</tr>
<tr>
<td>CSI item28 &lt;-- Perfectionist</td>
<td>1.433</td>
<td>.271</td>
<td>5.280</td>
<td>***</td>
</tr>
</tbody>
</table>

There are four items that indicate a significant relationship. One is the weight assigned to item CSI item40 in order to obtain a solution. The weights of the other three variables were also significant.

**4.9.2 CFA for confused by overchoice decision-making style**

As indicated in section 4.6.1, the second factor is the confused by overchoice decision-making style. This factor comprised five items, as can be seen in Table 4.14. In order to obtain a good fit, item numbers 10 and 36 were removed. The final congeneric measurement model is depicted in Figure 4.3 below.
Figure 4.3: CFA for confused by overchoice decision-making style

Chi-square = 2.609, df = 2, p = 0.271, CMIN/DF = 1.304, GFI = .994, AGFI = .969, TLI = .989, CFI = .996, RMSEA = .039, SRMR = 0.02 and Cronbach’s alpha = .738 (improved by .018).

As the results show, the GFI and AGFI represent a good fit to the data with RMSEA .039 and SRMR 0.02 which is below .05. TLI and CFI are also very close to perfect fit, which is 1. Therefore, this model is also a very good fit.

The regression weights for the items of the final measurement model are shown in Table 4.17.

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSI item7 &lt;--- Confused by Overchoice</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSI item16 &lt;--- Confused by Overchoice</td>
<td>0.985</td>
<td>.156</td>
<td>6.329</td>
<td>***</td>
</tr>
<tr>
<td>CSI item25 &lt;--- Confused by Overchoice</td>
<td>1.019</td>
<td>.151</td>
<td>6.771</td>
<td>***</td>
</tr>
<tr>
<td>CSI item32 &lt;--- Confused by Overchoice</td>
<td>0.933</td>
<td>.145</td>
<td>6.439</td>
<td>***</td>
</tr>
</tbody>
</table>

There are four items that indicate a significant relationship. The weight assigned to item 7 is 1.0, in order to obtain a solution. The weight of the two items (CSI items 16 and 32) were less than one, but still significant at p<0.001 level.
4.9.3 CFA for rational, price conscious decision-making style

As indicated in section 4.6.1, the fourth factor (the third factor was recreational with low reliability and, therefore, was not used for the CFA) is the rational, price conscious decision-making style. This factor comprised seven items as can be seen in Table 4.14. In order to obtain a good fit, item no. 5 was removed. The final congeneric measurement model is depicted in Figure 4.4 below.

![Figure 4.4: CFA for rational, price conscious decision-making style](image)

Chi-square = 14.387, df = 9, p = 0.109, CMIN/DF = 1.599, GFI = .977, AGFI = .945, TLI = .947, CFI = .968, RMSEA = .054, SRMR = 0.04 and Cronbach’s alpha = .689 (improved by .009).

The results indicate the GFI and AGFI represent a good approximation of data with SRMR <.05. The CFI and TLI demonstrate a value close to 1 and, therefore, suggest that this is a well fitting model.

Table 4.18 shows the regression weights of the final six items.
## Table 4.18: Regression Weights for rational, price conscious decision-making style

<table>
<thead>
<tr>
<th>CSI item</th>
<th>Label</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>item14</td>
<td>Rational, Price Conscious</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>item38</td>
<td>Rational, Price Conscious</td>
<td>.841</td>
<td>.122</td>
<td>6.903</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>item33</td>
<td>Rational, Price Conscious</td>
<td>.453</td>
<td>.112</td>
<td>4.028</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>item45</td>
<td>Rational, Price Conscious</td>
<td>.542</td>
<td>.111</td>
<td>4.878</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>item24</td>
<td>Rational, Price Conscious</td>
<td>.744</td>
<td>.124</td>
<td>6.001</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>item15</td>
<td>Rational, Price Conscious</td>
<td>.671</td>
<td>.134</td>
<td>5.000</td>
<td>***</td>
<td></td>
</tr>
</tbody>
</table>

There are six items that indicate a significant relationship. The weight 1.000 was assigned to CSI item14, in order to obtain a solution. The weights for the other five variables were less than 1.000, but still significant at p<0.001 level.

### 4.9.4 CFA for brand conscious decision-making style

As indicated in section 4.6.1 the fifth factor is the brand conscious decision-making style. This factor comprised five items, as can be seen in Table 4.14. In order to obtain a good fit, none of the items had to be removed because this model already shared a good fit based on the outcome of the EFA. The final congeneric measurement model is depicted in Figure 4.5 below.
Figure 4.5: CFA for brand conscious decision-making style

![Diagram of CFA for brand conscious decision-making style]

Chi-square = 8.732, df = 5, p = 0.120, CMIN/DF = 1.746, GFI = .984, AGFI = .952, TLI = .944, CFI = .957, RMSEA = .051, SRMR = 0.03 and Cronbach's alpha = .579.

The results indicate the GFI and AGFI represent a good approximation of the data, and equitable approximation of the data RMSEA and SRMR <.05. The CFI also demonstrated a good value, which is close to 1 and, therefore, suggested that this is a well fitting model.

Table 4.19 shows the regression weights of the final five items.

Table 4.19: Regression weights for brand conscious decision-making style

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSI item1 &lt;--- Brand Conscious</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSI item29 &lt;--- Brand Conscious</td>
<td>1.398</td>
<td>.338</td>
<td>4.133</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>CSI item21 &lt;--- Brand Conscious</td>
<td>1.262</td>
<td>.300</td>
<td>4.201</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>CSI item8 &lt;--- Brand Conscious</td>
<td>.372</td>
<td>.175</td>
<td>2.119</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>CSI item23 &lt;--- Brand Conscious</td>
<td>.617</td>
<td>.193</td>
<td>3.196</td>
<td>.001</td>
<td></td>
</tr>
</tbody>
</table>
There are five items that indicate a significant relationship. One is the weight assigned to item CSI item1 in order to obtain a solution. The weight for two variables (CSI item8 and CSI item23) were less than 1.000, but still significant at p<0.001 level.

4.9.5 CFA for habitual, brand loyal decision making style

As indicated in section 4.6.1, the sixth factor is the habitual, brand loyal decision-making style. This factor comprised four items, as can be seen in Table 4.20. Like the brand conscious style, in order to obtain a good fit, none of the items had to be removed because this model already obtains a good fit, based on the outcome of the EFA. The final congeneric measurement model is depicted in Figure 4.6 below.

Figure 4.6: CFA for habitual, brand loyal decision-making style

![Figure 4.6: CFA for habitual, brand loyal decision-making style](image)

CMIN/DF = 0.856, df = 2, p = 0.425, GFI = .996, AGFI = .979, TLI = 1.000, CFI = 1.000, RMSEA = .000, SRMR = 0.02 and Cronbach’s alpha = .579.

The results indicate that the GFI and AGFI represent a good approximation of the data, and RMSEA and SRMR <.05. The CFI and TLI also demonstrate a perfect value, which is 1, and, therefore, suggest that this is a well fitting model. Table 4.20 shows the regression weights of the final five items.
There are five items that indicate a significant relationship. One is the weight assigned to item CSI item26, in order to obtain a solution. The weights for the other three variables were less than 1.000, but still significant at p<0.001 level.

### 4.9.6 CFA for innovation conscious decision-making style

As indicated in section 4.6.1, the seventh factor is the innovation conscious decision-making style. This factor consisted of four items, as can be seen in Table 4.14. Like habitual, brand loyal decision-making style, in order to obtain a good fit none of the items had to be removed because this model already obtained a good fit following the outcome of the EFA. The final congeneric measurement model is depicted in Figure 4.7 below.
Chi-square = 4.101, df = 2, p = 0.129, CMIN/DF = 2.051, GFI = .990, AGFI = .952, TLI = .933, CFI = .978, RMSEA = .041, SRMR = 0.03 and Cronbach’s alpha = .629.

The results indicate that the GFI and AGFI represent a good approximation of the data, and RMSEA and SRMR are <.05. The CFI and TLI also demonstrate a value that is close to 1.000 and, therefore, suggest that this is a well fitting model.

Table 4.21 shows the regression weights of the final four items.

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSI item2 &lt;--- F1</td>
<td>1.000</td>
<td></td>
<td></td>
<td>Label</td>
</tr>
<tr>
<td>CSI item44 &lt;--- F1</td>
<td>.723</td>
<td>.140</td>
<td>5.143</td>
<td>***</td>
</tr>
<tr>
<td>CSI item20 &lt;--- F1</td>
<td>.422</td>
<td>.113</td>
<td>3.719</td>
<td>***</td>
</tr>
<tr>
<td>CSI item11 &lt;--- F1</td>
<td>.686</td>
<td>.137</td>
<td>5.010</td>
<td>***</td>
</tr>
</tbody>
</table>

There are four items that indicate a significant relationship. One is the weight assigned to CSI item2, in order to obtain a solution. The weights for the other three variables were also significant.
The above six consumer decision-making styles were tested with the two steps in model testing (overall model fit and component fit testing), before the testing of the hypotheses using MANCOVA. The steps were repeated until satisfactory model fit and reliabilities were obtained. It is to be noted that all of the six factors in the study - perfectionist, high quality conscious, confused by overchoice, rational, price conscious, brand conscious, habitual, brand loyal and innovation conscious decision-making style - are tested in the same order and manner.

The section that follows shows the first-order CFA initial model and the respecified CFA model of consumer styles inventory (CSI). This is followed by the results of hypotheses test analyses.
4.10 First-order CFA initial model of consumer styles inventory

Next, a six-factor CFA model of consumer styles inventory is tested. This model aims to select appropriate factors to assess consumer decision-making styles between individualist and collectivist consumers. An initial model, which contains 27 original items from the CSI, loading on six separate factors is tested.

Figure 4.8 presents the CFA results for the initial six-factor. It is necessary to respecify this model for the purpose of achieving better fit. The overall fit of the model is considered to be unsatisfactory due to goodness-of-fit statistics indicative of a poor fit (see Table 4.22).

Table 4.22: Summary of fit indices of the initial CSI model

<table>
<thead>
<tr>
<th>Fit statistics</th>
<th>Acceptable level</th>
<th>Initial model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>p ≥ 0.05</td>
<td>849.495</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(df = 738, p = 0.000)</td>
</tr>
<tr>
<td>CMIN/DF</td>
<td>≤ 3.00</td>
<td>2.749</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤ 0.05</td>
<td>.054</td>
</tr>
<tr>
<td>GFI</td>
<td>≥ 0.90</td>
<td>.757</td>
</tr>
<tr>
<td>TLI</td>
<td>≥ 0.90</td>
<td>.567</td>
</tr>
<tr>
<td>CFI</td>
<td>≥ 0.90</td>
<td>.619</td>
</tr>
</tbody>
</table>
Figure 4.8: A six-factor CFA original model of CSI

Chi-square = 849.495, df = 309, p = .000, CMIN/DF = 2.749, GFI = .757, AGFI = .702, TLI = .567, CFI = .619, RMSEA = .093.
Prior to re-specification, the researcher checked and selected appropriate variables for each factor by considering the modification indices (MIs) and standardised residuals from the AMOS output. Figure 4.9 presents the final model of CSI which is going to be used to test the hypotheses in this study.

4.10.1 First order CFA respecified model of consumer styles inventory

The final model consists of 22 items and six factors. Overall five items were deleted to achieve a better fit. Only one item was removed from perfectionist, high quality conscious decision making style due to insignificant fit as suggested by the MIs (item CSI 28 “I really don’t give my car purchase much thought or care”). Two items were deleted from the rational, price conscious decision-making style factor, which improved the model (the items CSI 33 “I am willing to change a brand when buying a new car” and CSI 38 “I enjoy shopping for cars just for the fun of it”). All five items were retained for the brand conscious decision-making style factor. However, one item was deleted from the habitual, brand loyal decision-making factor. No items were omitted from the confused by overchoice decision-making style factor. One item was deleted from innovative conscious decision-making style (item CSI 11 “I am very cautious about trying new makes of car”).

Results indicated that the factors perfectionist, high quality conscious, confused by overchoice, rational, price conscious and innovation conscious decision-making styles had good internal consistency with Cronbach’s alpha coefficients of .687, .738, .680 and .646 respectively, while other factors like brand and habitual conscious decision-making styles exhibited a moderate internal consistency with Cronbach’s alpha coefficients of .571 and .599 respectively. As mentioned earlier in the methodology chapter, consistent with previous studies (Hiu et al. 2001), this research only accepted
factors with Cronbach’s alpha > 0.5 for further analysis. Figure 4.9 presents the six-factor CFA respecified model and Table 4.23 provides the summary of fit indices of the respecified CSI model.

Figure 4.9: A respecified six-factor CFA model of consumer styles inventory

Chi-square = 398.179, df = 189, p = .003, CMIN/DF = 2.107, GFI = .954, AGFI = .905, TLI = .921, CFI = .972, RMSEA = .054
Table 4.23: Summary of fit indices of the respecified CSI model

<table>
<thead>
<tr>
<th>Fit statistics</th>
<th>Acceptable level</th>
<th>Original model</th>
<th>Respecified model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>p ≥ 0.05</td>
<td>849.495 (df = 738, p = 0.000)</td>
<td>398.179 (df = 189, p = 0.003,</td>
</tr>
<tr>
<td>CMIN/DF</td>
<td>≤ 3.00</td>
<td>2.749</td>
<td>2.107</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤ 0.05</td>
<td>.093</td>
<td>.054</td>
</tr>
<tr>
<td>GFI</td>
<td>≥ 0.90</td>
<td>.757</td>
<td>.954</td>
</tr>
<tr>
<td>TLI</td>
<td>≥ 0.90</td>
<td>.567</td>
<td>.921</td>
</tr>
<tr>
<td>CFI</td>
<td>≥ 0.90</td>
<td>.619</td>
<td>.972</td>
</tr>
</tbody>
</table>

The above table indicates that the model is a reasonable fit. The model fit is assessed by using goodness-of-fit indices. GFI is satisfactory, 0.954, as it is above the acceptable level of 0.900. The Tucker Lewis Index (TLI), 0.921 and Comparative Fit Index (CFI), 0.972 are satisfactory, as it is above the acceptable level of 0.900.
4.11 Hypothesis testing analyses

As previously discussed in the methodology chapter, hypotheses (H2 (c), H4 (c), H5 (c)) were tested with t-tests and the remaining hypotheses (H1, H2 (a & b), H3 (a & b), H4 (a & b), H5 (a & b), H6, H7 and H8) were tested comparing the mean scores for Australian-born and Asian-born on the consumer decision-making styles which were retained from the factor analyses. Prior to the hypothesis tests, correlations were computed between the consumer decision-making styles and demographic variables to determine whether there were any relationships that needed to be controlled for in the hypothesis testing analyses. The correlations and comparison of means (via MANCOVA) are described below.

4.11.1 Correlates of consumer decision making styles

Correlation analyses indicated that the following variables were correlated with consumer decision-making styles: income was positively correlated with the innovation conscious decision-making style \((r = .15, p < .05)\) and perfectionist, high quality conscious decision-making style \((r = .16, p < .05)\) but negatively correlated with confused by overchoice decision-making style \((r = -.23, p < .01)\). Price of car was positively correlated with Brand conscious decision-making style \((r = .34, p < .001)\).

4.11.2 Comparison of means for CSI factors for Australian-born and Asian-born

A multivariate analysis of covariance was performed on the six consumer decision-making styles such as perfectionist, high quality conscious, confused by overchoice, brand conscious, rational, price conscious, habitual, brand loyal and innovation conscious. Adjustment was made for three covariates: age, education and income. The independent variable was cultural background (Australian-born and Asian-
Results of the evaluation of assumptions of normality, homogeneity of variance-covariance matrices, linearity and multicollinearity were satisfactorily met.

Using Wilks’ criterion, the combined dependent variables were significantly related to cultural background, \( F(6, 191) = 4.71, p < .001, \) partial \( \eta^2 = 0.07 \). Within-cell marginal means for the dependent variables, adjusted for age, education and income, are given in Table 4.23.

**Table 4.24: Within-cell marginal means for consumer decision-making styles**

<table>
<thead>
<tr>
<th>Cultural Background</th>
<th>Perfectionist, high quality conscious</th>
<th>Brand conscious</th>
<th>Rational, price conscious</th>
<th>Confused by overchoice</th>
<th>Habitual, brand loyal</th>
<th>Innovation conscious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian-born</td>
<td>4.38</td>
<td>3.09</td>
<td>4.56</td>
<td>3.16</td>
<td>3.33</td>
<td>3.31</td>
</tr>
<tr>
<td>Asian-born</td>
<td>4.33</td>
<td>3.58</td>
<td>4.69</td>
<td>3.49</td>
<td>3.52</td>
<td>3.10</td>
</tr>
</tbody>
</table>

Univariate Fs showed that the only consumer decision-making styles that differed significantly across the cultural groups were confused by overchoice \( F(1, 196) = 6.32, p < .05, \) partial \( \eta^2 = 0.03 \) and brand conscious \( F(1, 196) = 19.28, p < .001, \) partial \( \eta^2 = 0.04 \). There were no significant differences between these two groups on perfectionist, high quality conscious \( F(1, 196) = .16, p > .05 \); rational, price conscious \( F(1, 196) = 1.13, p > .05 \); habitual, brand loyal \( F(1, 196) = 2.14, p > .05 \) and innovation conscious \( F(1, 196) = 2.52, p > .05 \) consumer decision-making styles.
4.11.2.1 Hypothesis 1

(a) There is a significant difference in perfectionist, high quality consciousness between Australian-born and Asian-born consumers.

(b) Asian-born consumers are more perfectionist, high quality conscious.

The hypothesis was not supported. The results revealed that there was no significant difference between the two groups (mean difference = 0.12) (see Table 4.23).

The above result indicates that, in relation to automobile purchases, there is no significant difference between individualist and collectivist consumers in terms of the perfectionist, high quality conscious decision-making style. Therefore, H1 was rejected.

4.11.2.2 Hypothesis 2

(a) There is a significant difference in brand consciousness between Australian-born and Asian-born consumers.

(b) Asian-born consumers are more brand conscious.

(c) There is a significant relationship between cultural background and brand quality ratings. Asian-born consumers are more likely perceive European brands, for example, BMW, Mercedes and Audi, to be superior to Australian brands, which are Ford, Holden, Mitsubishi etc.

In support of this hypothesis, the results revealed that there is significant difference between the two groups. As expected, Asian-born consumers scored significantly higher than Australian-born consumers (mean difference = 0.49) (see Table 4.23).

The above result indicates that, in relation to automobile purchases, there is a significant difference between Australian-born and Asian-born consumers in terms of the brand conscious decision-making style. Collectivist consumers are more brand conscious than individualist consumers. Therefore, H2 (a) and (b) were supported.
A comparison of perceived brand quality ratings between the two groups indicated that Australian-born rated the quality of Ford significantly more highly than did Asian-born participants, $t (197.38) = 2.32, p < .005$ (mean difference = .313). However, there were no other significant differences in brand quality ratings between the groups: Holden $t (180.74) = 1.16, p > .05$; BMW $t (200) = -.57, p > .05$; Mercedes $t (200) = -.45, p > .05$; Volkswagen $t (194.01) = -.33, p > .05$; Alfa Romeo $t (187.58) = -1.47, p > .05$; Fiat $t (184.17) = -1.01, p > .05$; Nissan $t (200) = -.94, p > .05$; Toyota $t (200) = 1.10, p > .05$; Daewoo $t (200) = .22, p > .05$; Kia $t (200) = -.12, p > .05$; Volvo $t (200) = .40, p > .05$.

4.11.2.3 Hypothesis 3
(a) There is a significant difference in recreational shopping between Australian-born and Asian-born consumers.

(b) Asian-born consumers are more recreational shopping conscious.

(c) There is a significant relationship between cultural background and the number of family members and friends involved in the final automobile purchasing decision. Asian-born consumers are likely to involve more family members and friends than Australian-born consumers.

As mentioned previously (see section 4.9), this hypothesis could not be tested because Cronbach’s alpha for recreational conscious decision-making styles was below .50. Therefore, H3 (a & b) was not tested and results are inconclusive.

Australian-born and Asian-born consumers were compared on the number of family members and friends involved in the final automobile purchasing decision. Results showed a significant differences between the two groups, $t (199) = -3.77, p < .001$ (mean difference = .54), with Asian-born participants scored higher than Australian-born participants. The results revealed that Asian-born participants involved
large a number of family and friends in their decision-making. Therefore, H3 (c) was supported.

4.11.2.4 Hypothesis 4

(a) There is a significant difference in price consciousness between Australian-born and Asian-born consumers.

(b) Australian-born consumers are more price conscious.

The results revealed that there was no significant difference between the two groups (mean difference = 0.13) (see Table 4.23).

The above result indicates that, in relation to automobile purchases, there is no significant difference between Australian-born and Asian-born consumers in terms of the price conscious decision-making style. Therefore, H4 (a) & (b) were rejected.

4.11.2.5 Hypothesis 5

(a) There is a significant difference in impulsive buying between Australian-born and Asian-born consumers.

(b) Australian-born are more impulsive than Asian-born consumers.

(c) There is a significant relationship between cultural background and time spent (i) with dealers, (ii) researching the final purchase decision. Australian-born consumers spend less time reaching a decision than Asian-born consumers.

As mentioned previously (see section 4.8.1), the factor impulsive was not supported by the exploratory factor analysis. Therefore, this hypothesis could not be tested. Consequently, H5 (a) and (b) were rejected.

Australian-born and Asian-born participants were compared on time spent (i) with dealers $t(200) = -1.57, p > .05$ (ii) researching the final purchase decision $t = (200)$
There was no significant difference between the groups. Therefore, H5 (c) (i) and (ii) were not supported.

### 4.11.2.6 Hypothesis 6

(a) **There is a significant difference in confused by overchoice between Australian-born and Asian-born consumers.**

(b) **Australian-born consumers are more confused by overchoice.**

The results revealed that there is significant difference between the two groups. Asian-born consumers scored significantly higher than Australian-born consumers on this decision-making style (mean difference = 0.33) (See, Table 4.23).

The above result indicates that in relation to automobile purchases there is a significant difference between Australian-born and Asian-born consumers in terms of the confused by overchoice decision-making style. Therefore, H6 (a) was supported.

However, H6 (b) was not supported because Australian-born consumers were not more confused by overchoice than Asian-born consumers. Unexpectedly, the results showed that it was Asian-born who were more confused by overchoice in relation to automobile purchases.

### 4.11.2.7 Hypothesis 7

(a) **There is a significant difference in habitual, brand loyalty between Australian-born and Asian-born consumers.**

(b) **Australian-born consumers are more habitual, brand loyal.**

The results revealed that there was no significant difference between the two groups (mean difference = 0.21) (see Table 4.23).

The above result indicates that, in relation to automobile purchases, there is no significant difference between Australian-born and Asian-born consumers in terms of the habitual, brand loyal decision-making style. Therefore, H7 was rejected.
4.11.2.8 Hypothesis 8

(a) There is a significant difference in innovativeness between Australian-born and Asian-born consumers.

(b) Australian-born consumers are more innovation conscious.

The results revealed that there is no significant difference between the two groups (mean difference = 0.21). However, Australian-born consumers scored higher than Asian-born consumers on this decision-making style (see Table 4.23).

The above result indicates that, in relation to automobile purchases, there is no significant difference between Australian-born and Asian-born consumers in terms of the innovation conscious decision-making style. Therefore, H8 was rejected.
4.12 Hypotheses test results

Table 4.24 presents the hypotheses test results.

Table 4.25: Hypotheses test results

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hypothesis 1:</strong></td>
<td></td>
</tr>
<tr>
<td>(a) There is a significant difference in quality consciousness between Australian-born and Asian-born consumers.</td>
<td>Hypothesis 1: (a) rejected</td>
</tr>
<tr>
<td>(b) Asian-born consumers are more perfectionist, high quality conscious.</td>
<td>Hypothesis 1: (b) rejected</td>
</tr>
<tr>
<td><strong>Hypothesis 2:</strong></td>
<td></td>
</tr>
<tr>
<td>(a) There is a significant difference in brand consciousness between Australian-born and Asian-born consumers.</td>
<td>Hypothesis 2: (a) supported</td>
</tr>
<tr>
<td>(b) Asian-born consumers are more brand conscious.</td>
<td>Hypothesis 2: (b) supported</td>
</tr>
<tr>
<td>(c) There is a significant relationship between cultural background and make of car purchased. Asian-born consumers are more likely to purchase European brands, for example, BMW, Mercedes and Audi, whereas Australian-born consumers are more likely to purchase Australian brands, for example, Ford, Holden, Mitsubishi etc.</td>
<td>Hypothesis 2: (c) rejected</td>
</tr>
<tr>
<td><strong>Hypothesis 3:</strong></td>
<td></td>
</tr>
<tr>
<td>(a) There is a significant difference in recreational shopping between Australian-born and Asian-born consumers.</td>
<td>Hypothesis 3: (a) &amp; (b) could not be tested (Cronbach’s alpha &lt;.50)</td>
</tr>
<tr>
<td>(b) Asian-born consumers are more recreational shopping conscious.</td>
<td></td>
</tr>
<tr>
<td>(c) There is a significant relationship between cultural background and number of family members and friends involved in the final automobile purchase decision. Asian-born consumers are likely to involve more family members and friends than Australian-born consumers.</td>
<td>Hypothesis 3: (c) supported</td>
</tr>
<tr>
<td>Hypothesis 4:</td>
<td>(a) There is a significant difference in price consciousness between Australian-born and Asian-born consumers.</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>(b) Australian-born consumers are more price conscious.</td>
</tr>
<tr>
<td>Hypothesis 5:</td>
<td>(a) There is a significant difference in impulsive buying between Australian-born and Asian-born consumers.</td>
</tr>
<tr>
<td></td>
<td>(b) Australian-born are more impulsive than collectivist consumers.</td>
</tr>
<tr>
<td></td>
<td>(c) There is a significant relationship between cultural background and time spent (i) with dealers, (ii) researching the final purchase decision. Australian-born consumers spend less time reaching a decision than Asian-born consumers.</td>
</tr>
<tr>
<td>Hypothesis 6:</td>
<td>(a) There is a significant difference in confused by overchoice between Australian-born and Asian-born consumers.</td>
</tr>
<tr>
<td></td>
<td>(b) Australian-born consumers are more confused by overchoice.</td>
</tr>
<tr>
<td>Hypothesis 7:</td>
<td>(a) There is a significant difference in habitual, brand loyalty between Australian-born and Asian-born consumers.</td>
</tr>
<tr>
<td></td>
<td>(b) Australian-born consumers are more habitual, brand loyal.</td>
</tr>
<tr>
<td>Hypothesis 8</td>
<td>(a) There is a significant difference in innovativeness between Australian-born and Asian-born consumers.</td>
</tr>
<tr>
<td></td>
<td>(b) Australian-born consumers are more innovation conscious.</td>
</tr>
</tbody>
</table>

Referring to Table 4.24, the results of this study showed that hypotheses 2 (a & b), 3 (c), 6 (a) were supported. However, there were no significant differences between
the two groups on the perfectionist, high quality, rational, price conscious and habitual, brand loyal decision-making styles. Hypotheses 3 (a & b), recreational shopping conscious, and 5, which was impulsive conscious, could not be tested because of the low scale reliability of unsatisfactory results from the exploratory factor analysis. The results also revealed that the following consumer decision-making styles significantly differed across the two cultural groups: confused by overchoice and brand conscious. The findings’ relating to brand conscious was consistent with the hypotheses. Asian-born consumers were more brand conscious and confused by overchoice than Australian-born consumers in their automobile purchase decision-making.

4.13 Final model

The following model, illustrated in Figure 4.8, was developed based on the results of hypotheses test analysis, and also by using the conceptual model which was shown in the chapter one (see, section 1.5). Significant mean differences between groups and non-significant (e.g., ns) differences are shown. As predicted, cultural background does have an influence on consumer decision-making styles. For example, Australian-born and Asian-born consumers significantly differed on the brand conscious decision-making style. Asian-born consumers scored higher on this decision-making style. Asian-born consumers also scored significantly higher than Australian-born consumers in relation to the confused by overchoice decision-making style, which was unexpected. The impulsive and recreational conscious decision-making style could not be tested because of low reliability, and was not supported by exploratory factor analysis. Results also revealed that there was no significant difference between groups on the perfectionist, high quality conscious; habitual brand loyal; rational, price conscious and innovation conscious decision-making styles.
Figure 4.10: Final model: hypotheses test results
4.14 Chapter summary

This chapter presented the findings from the analysis of the data obtained in this research. It commenced with a profile overview of the respondents to the survey, ascertaining their status as key informants on behalf of their cultural backgrounds, either Australian-born and Asian-born. The chapter was divided into five sections: (1) descriptive statistics (means and standard deviations for continuous variables; frequencies and percentages for categorical variables), and comparison of Australian-born and Asian-born across all demographic variables; (2) a presentation of the differences in values between Australian-born and Asian-born; that is, on average, Australians scored higher on individualism than collectivism, whereas Asians scored higher on collectivism than individualism, suggesting that the predominant cultural orientation differed between these two groups in the direction expected; (3) a test of normality, commencing with screening for response sets and missing values, followed by discussion about normality and outliers to ensure that distributional assumptions for statistical testing were not violated; (4) a section that provides details about exploratory factor analysis and confirmatory factor analysis of the CSI, which were used to identify and confirm the structure of each construct. Construct reliability and validity were discussed and, lastly, (5) multivariate analysis of covariance, which was used to test hypotheses 1 to 8. The chapter finishes by examining several hypotheses which explore the relationship between cultural backgrounds and consumer decision-making styles for automobile purchases.
CHAPTER FIVE

DISCUSSION, MANAGERIAL IMPLICATIONS AND DIRECTIONS FOR FUTURE RESEARCH

5.1 Introduction

The aim of this study was to investigate the influence of cultural dimensions on the decision-making styles of Australian-born and Asian-born consumers with regard to high involvement purchases such as automobiles. Culture persuades behaviour through its expression in values/background, such as individualism and collectivism (Manrai et al. 2001). A consumer’s cultural background drives that individual’s behaviour and their consumer decision-making process, which influences their evaluation of product attributes (de Mooij 2010). In the current study, it was found that consumers may prefer particular brands of automobiles because those automobiles can be used to express consumers’ cultural values, personality or social status or affiliation (symbolic purposes). A summary of the findings of this research, in which more details are presented, is found in the section that follows (see section 5.2).

This chapter presents an interpretation of the results described in chapter four and discusses the research findings. The various determinants and hypotheses are examined and discussed. The findings are also compared and contrasted to existing theories. This chapter is the final part of the thesis. In section 5.2, the chapter firstly presents a summary of the research findings. Next, a discussion, in terms of the outcomes of the hypotheses, is presented (section 5.3). Section 5.4 presents the contributions made by the current study to cross-cultural decision-making research.
Section 5.5 identifies managerial implications. This is followed by an acknowledgement of the limitations of the study and suggestions for future research in section 5.6. Section 5.7 summarises the previous chapters. The final section, 5.8, presents concluding comments on the study. Figure 5.1 depicts the road map of this chapter.
5.2 Summary of the research findings

This research tested the influence of cultural background, Australian-born and Asian-born consumers’ decision-making styles for automobile purchases. The study used the cultural values scale (CVS; Singelis et al. 1995) to measure individualism-collectivism, which was expected to differ for Australian-born and Asian-born participant, and the CSI (Sproles & Kendall 1986) to measure consumer decision-making styles, such as the perfectionist, high quality conscious; confused by overchoice; rational, price conscious; recreational shopping conscious; impulsive; brand conscious; habitual, brand loyal; and innovation conscious, which were compared between the Australian-born and Asian-born consumer groups.

As previously mentioned in chapter four, the results of this study showed that hypotheses 2 (a & b), 3 (c), and 6 (a) were supported. However, there were no significant differences between the two groups in relation to the perfectionist, high quality, rational, price conscious and habitual, brand loyal and innovation conscious decision-making styles (see page no. 164). Hypotheses 3 (a & b), recreational shopping conscious, and Hypothesis 5, which was impulsive, could not be tested because of the low scale reliability of unsatisfactory results from the exploratory factor analysis. The results also revealed that the following consumer decision-making styles significantly differed across the two cultural groups: confused by overchoice and brand conscious decision-making styles. The findings in relation to the brand conscious and confused by overchoice decision-making styles were consistent with the hypotheses. Asian-born consumers were more brand conscious and confused by overchoice than Australian-born consumers in their automobile purchase decision-making. This information is valuable for automobile companies, in that it could help them to develop their
marketing strategies in order to communicate more effectively with consumers from different backgrounds.

Managerial implications are discussed later in this chapter and it is recommended that automobile companies might consider developing programmed, carefully-targeted marketing strategies that appeal to Australian-born and Asian-born consumers’ decision-making styles and training their staff members and, most especially, dealers accordingly. For example, for Asian-born consumers, the focus of marketing information could be mainly on status, symbolism, prestige, quality, and also on family or in-group benefits. Therefore, managers and practitioners need to follow and use this information when communicating with, or developing positioning strategies for, individualist and collectivist consumers. The next section provides a discussion of the research findings.

5.3 Structure of the discussion

This study uses the following research questions to frame this section, which is divided into two main sections:

Section 5.3.1 Discussion of hypothesis test analyses - this responds to research questions 1, 2 and 3:

Research question 1: How does cultural background affect consumer decision-making styles applied to high involvement purchases such as automobiles?

Research question 2: What are the decision-making styles of Australia-born and Asian-born consumers when purchasing automobiles?

Research question 3: Do the decision-making styles associated with purchasing automobiles differ for these two cultural groups?
Section 5.3.2 Overall discussion of findings - this responds to research question 4:

Research question 4: In what areas do these groups behave similarly or dissimilarly?

The following section provides a discussion of the results of the hypotheses test analysis.

5.3.1 Discussion of hypothesis test analyses - research questions 1, 2 and 3

Hypotheses 1, 2, 4, 6, 7 and 8 compared consumer decision-making styles for automobile purchases for Australian-born and Asian-born consumers and, therefore, addressed research questions 1 to 3. Hypotheses 3 (a & b) and 5 could not be tested, due to low Cronbach’s alpha. The six consumer decision-making styles that were examined in the hypotheses - perfectionist, high quality conscious; brand conscious; rational, price conscious; confused by overchoice; habitual, brand loyal; and innovation conscious - are considered in turn below.

5.3.1.1 Perfectionist, high quality conscious decision-making style

Perfectionist, high quality conscious decision-making style is one of the most widely replicated factors in the consumer styles inventory (CSI) (Wang, Siu & Hui 2004), and the factor was confirmed again in this study. Three of the original items from the scale were retained and five of the original items were dropped. These items asked consumers about the importance of quality when making an automobile purchase decision. This item loaded strongly with this factor (see page no. 145). Therefore, in this research this item was used to measure perfectionist, high quality conscious decision-making styles in relation to automobile purchases.

In terms of automobile purchases, perfectionist, high quality conscious consumers have specific ideas about the qualities that represent the best products and
Consistently look for these qualities. Consumers who score high on this factor perceive the quality of a product to be very important and are willing to make special efforts to choose products of the very highest quality. They usually give a lot of thought and care to their purchase and this may include investigating new brands of automobiles. In this research, it was hypothesised (H₁) that there is a significant difference in perfectionist, high quality consciousness between Australian-born and Asian-born consumers, and that Asian-born consumers are more perfectionist, high quality conscious. The rationale was that Asian-born are more anxious about the hierarchy that exists among people in society due to collectivism (Hofstede 2001) and that, because high quality products are associated with status and social recognition (Triandis 1995), they may use these to portray a superior image of themselves in society.

Contrary to H₁, the results of this research found that Asian-born consumers did not score higher than Australian-born consumers on the perfectionist, high quality conscious decision-making style. There were no significant differences between the two groups (see page no. 164). In fact, the mean scores for both groups were relatively high. For example, they were Australian-born: 4.38 and Asian-born: 4.33 for this decision-making style, which means that both consumer groups adopted perfectionist, high quality conscious decision-making style in relation to automobile purchases.

The fact that Australian-born and Asian-born scored similarly on this dimension is inconsistent with previous research. For example, Lyonski, Durvasula and Zotos (1995) compared consumer decision-making styles across four different countries - New Zealand, the United States (US), Greece and India - and found that Indian respondents scored highest on the perfectionist, high quality conscious dimension and respondents in the United States scored lowest on this decision-making style. However, it is possible that the results obtained by Lyonski, Durvasula and Zotoes (1995) might have been
affected by systematic differences in the retail environment between the two countries. The retail environment in India is based largely on family-owned stores that are much smaller in size with less variety than US outlets (Lyonski, Durvasula & Zotos 1995). As a consequence, the quality of goods is variable (Fan & Xiao 1998), making quality a very important purchase criterion in this context. In this study, the retail environment was consistent across groups and, therefore, participants had access to the same products. There was no inconsistency in terms of the automobile offer available to consumers. It is also important to mention that consumers are more quality conscious in terms of high involvement purchases such as automobiles (Holmes & Crocker 2007). Quality may be a basic assumption but an important part of the automobile decision-making process and, therefore, both groups of consumers scored high on this decision-making style.

The findings of Leo, Bennett and Hartel (2005) were consistent with the results of this research. They found that there were no significant differences between Australians, and Singaporeans, on the perfectionist, high quality conscious decision-making style. Singapore is a developed country and, consequently, quality standards are relatively high and comparable to Australia. The authors suggested that standards of product quality are important in Australia and other developed countries and, for that reason, this is an essential part of the decision-making process (Leo, Bennett & Hartel 2005). Consumers continuously expect better quality products in this type of retail environment, which is consistent with the findings of this research.

In summary, the results of this research showed that there were no differences in the perfectionist, high quality conscious decision-making style. In addition, the style was highly used by both Australian-born and Asian-born consumer groups. Consumers from both cultural groups expect a high standard of quality automobiles. Therefore,
automobile companies need to offer better quality automobiles, and also to use marketing messages that reflect on quality when promoting automobiles to both Australian-born and Asian-born consumers.

5.3.1.2 Brand conscious decision-making style

The brand conscious decision-making style was part of the original CSI, and was confirmed as a dimension underlying a high involvement purchase situation. However, only two of the original items were retained. The items asked consumers about status and image associated with the purchase of an automobile. In addition, three items were added from the perfectionist, high quality conscious and price conscious decision-making style scales (see page no. 145). These items were consistent with the measurement of this factor because the items asked consumers about price, status and expectations, which are highly correlated with brand consciousness. Consumers scoring high on this factor prefer the most expensive automobiles because they believe that the higher the price of an automobile, the better it’s image and quality. In this study, it was hypothesised ($H_2$) that there is a significant difference between Australian-born and Asian-born consumers, with Asian-born being more brand conscious, because collectivist cultures perceive status and social recognition as very important and might consider brands to be a reflection of high social status, image and prestige (Wong & Ahuvia 1998). Furthermore, it was also hypothesised that there is a significant relationship between cultural background and brand ratings: Asian-born consumers are more likely perceive European brands, such as BMW, Mercedes and Audi, to be superior to Australian brands, such as Ford, Holden and Mitsubishi.

In support of $H_2$, the results of this research found that there were significant differences between Australian-born and Asian-born consumers on this factor. As expected, Asian-born consumers scored higher than Australian-born consumers on the
brand conscious consumer decision-making style (see page no. 164). These findings are consistent with Wong and Ahuvia’s (1998) proposition that products serve as status symbols for Eastern consumers. As Ho (1976) noted, Eastern culture is linked with the concept of ‘face value’ and ‘social harmony’. Therefore, Asian-born consumers may have a higher need to maintain their status and prestige. They may use expensive brands of automobiles to earn high prestige, or even high social status (Dhar 2007). Brand reflects on wealth, style and status. Therefore, automobile companies could deliver marketing messages/information for Asian-born consumers that focus heavily on the social approval and high prestige which consumers can gain by purchasing automobiles.

The findings of this study are inconsistent with previous studies. For example, a study (Fan & Xiao 1998) using students found that there were no differences between Australian-born and Asian-born on brand consciousness. The results of the study showed that a high percentage of students in the sample scored in the low range for the brand dimension, indicating that they were not very brand conscious regardless of culture. Students are unlikely to have the financial means to buy expensive or prestigious brands (Durvasula, Lyonski & Andrews 1993). Price consciousness may be more relevant for this consumer subgroup. Brand is associated with a higher price of product. Therefore, the different results found in the study may be due to the nature of the sample.

However, the findings of this research are consistent with Bao, Zhou and Su’s (2003) study. Bao, Zhou and Su (2003) compared decision-making styles between the United States and China, and their findings showed that the Chinese sample scored higher than the US sample on the brand conscious decision-making style. This suggests that Asian-born consumers are ready to pay for expensive brands, perhaps because they think their friends or society will approve (Wong & Ahuvia 1998).
consumers may not consider the brand name as carefully in the case of low involvement purchases, such as, chocolates or mineral water, as they do with regard to high involvement purchases, such as automobiles and apartments (Spears, Lin & Mowen 2001). Nagashima (1970) noted that Asian-born consumers bought expensive European cars (German marques), as these afforded high social recognition and high status. Automobile companies can use this information to move in terms of pricing strategy, providing that they can convince them that their products offer high status and prestige.

5.3.1.3 Recreational shopping conscious decision-making style

As mentioned previously and also in the results Chapter, this hypothesis for this style could not be tested because Cronbach’s alpha for the recreational shopping conscious decision-making style was below .50. Therefore, H_{3a} & H_{3b} were not tested and results are inconclusive. However, it was also hypothesised (H_{3c}) that there is a significant relationship between cultural background and the number of family members and friends involved in the final automobile purchasing decision: Asian-born consumers are likely to involve more family members and friends than Australian-born consumers.

In support of H_{3C}, the results of the current study found that Asian-born participants involved a large number of family and friends in their decision-making than Australian-born participants. Hofstede (2001) mentioned that Eastern consumers are generally very involved with any purchase, and that they are known more as recreational shoppers than for any other form of shoppers behaviour (Leo, Bennett & Hartel 2007). They usually shop as a group, involving family members, friends etc. (Doran 2002). On the other hand, in terms of decision-making Western consumers use their own preference, taste and choice (Triandis 1995). Searching for product information as a group may not be fun for Australian-born consumers, or this could be
just another experience. Therefore, they may not involve as many friends or family members as Asian-born consumers do.

Consider the situation of buying an automobile. Most individualist consumers will shop around, will find one or two cars that within the price range they are willing to pay, and will consult one or two members of their family and buy the car. Most Eastern consumers are likely to proceed in a more comprehensive way (Singelis et al. 1995). First, they are likely to develop a personal relationship with the dealer. Ideally, they will find a member of their kin group who sells cars, or a friend of a member of the kinship group who does so. They will tell this person about their needs and give details of their income and family life. Having established trust with the dealer, they will examine the stock and find a number of cars that may be suitable. They will then invite a large portion of their in-group to view the cars and express their opinions. Finally, after extensive consultations, they will purchase the car. The Australian-born consumer has primarily an exchange relationship with the dealer – I pay my money and receive the car – whereas the Asian-born consumers involve a number of family members in their purchasing decision and foster a personal relationship, allowing the dealer to learn a great deal, in order to make the best decision. Doran (2002) mentioned that Chinese consumers enjoy more information searching and shopping as a group. This is also reflected in the purchasing of automobiles for Asian-born consumers in the current study and, therefore, marketers should be aware of this situation and use it to develop more effective communication techniques for the Asian-born consumers.

Previous studies on consumer behaviour in Eastern countries have established that advertisements and communication emphasise group-consensus appeals, family ties and family security (Han & Shavitt 1994). Therefore, for Asian-born consumers automobile companies may rely on indirect approaches. Appeals, such as “working
together” and “it is so good that you want to share it with others” could be a good strategy when developing slogans.

5.3.1.4 Rational, price conscious decision-making style

This factor combines items from several of the original CSI scales: two items from price conscious, one item from perfectionist, high quality conscious and one item from the impulsive decision-making style. Collectively, the items asked respondents about making the decision rationally, such as comparing the price of automobiles and taking enough time before making a choice. Therefore, it was consistent with a rational, price conscious decision-making style. Consumers scoring high on this factor tend to look for the best value for money and compare prices of different brands at different stores before making a purchase. These types of consumers are unlikely to make careless purchases in terms of automobiles because they carefully watch how much they spend.

In terms of automobile purchases, the rational, price conscious decision-making style emerged as a most likely relevant factor because an automobile is a considerable investment, warranting more care in decision-making. In this research, it was hypothesised (H₄) that Australian-born consumers are likely to be more price conscious than Asian-born consumers, because less expensive automobiles do not symbolise high status/prestige for collectivist consumers who focus on the display of wealth due to collectivism (Crucicni, Telmer & Zachariadis 2005).

Contrary to H₄, the results of this research found that Australian-born consumers did not score higher than Asian-born consumers on the rational, price conscious decision-making style. There were no significant differences between the two groups (see page no. 164). In fact, the mean scores for both groups were the highest. For
example, Australian-born 4.56 and Asian-born 4.69 among all the styles, which means consumers from both groups were equally rational in terms of automobile purchase decision-making. Again, in the context of automobile purchases, properties such as risk may mean that all consumers approach purchase decisions more rationally and carefully. Marketing strategies need to focus on offering value for money, in addition to satisfying consumers’ needs and wants.

5.3.1.5 Confused by overchoice decision-making style

The consumer with this style is confused and overwhelmed by too much product information and/or too many product choices. Therefore, these consumers may not make decisions which satisfy them in the long-term. This is an original factor from the CSI, and was also retained in this study. All four of the original items were retained from the scale (see page no. 161) and no extra items were added to this factor. Automobile companies frequently use several types of information sources, such as television, billboards, radio, newspaper, magazines, dealers and web sites. It is difficult for consumers with an interest in purchasing automobiles to avoid all of this information. The end result for some consumers is confusion due to so many options/brands and so much information in relation to those brands, making it harder and harder to select the right product. In this research, it was hypothesised (H6) that Australian-born consumers score significantly higher on confused by overchoice decision-making style than Asian-born consumers because individualist consumers are not afraid to try new things; they are open to innovation and change and less likely to avoid uncertainty, taking more risks in their product preferences (Doran 2002).

In relation to (H6), the results of this research found that there was a significant difference between Australian-born and Asian-born consumers. However, contrary to expectations, Australian-born consumers did not score higher than Asian-born
consumers on the confused by overchoice decision-making style. Rather, Asian-born consumers scored significantly higher than Australian-born consumers on this style (Australian-born 3.16 and Asian-born 3.49), which means that it was Asian-born consumers who were more confused by overchoice than Australian-born consumers. These findings are consistent with Bao, Zhou and Su’s (2003) study, which found that Chinese consumers scored higher on the confused by overchoice decision-making style US consumers. The bulk of previous research suggests that Western consumers are more confused by overchoice (see Leo, Bennett & Hartel 2005). A possible explanation for the opposite finding in this research could be that Australian-born consumers do less directed searching, but have greater internal knowledge based on their personal experience with products. In terms of automobiles, Australian-born consumers may have experience in relation to various types of automobiles such as performance (Ford and Holden), safety (Volvo and Subaru), economy (Toyota and Honda), luxury (BMW and Mercedes) and high performance, four-wheel drive vehicles (for example, Pajero and Land Cruiser), due to long-term exposure to such information. In comparison, Asian-born consumers might not have as much stored information about all of these types of automobiles. Therefore, Asian-born consumers may try to collect all this information within a short timeframe, for example, at the information search and evaluation and selection stage, before purchasing the automobile. This volume of information may be difficult to absorb within this short period, leading to greater confusion among the various brands. Therefore, automobile companies need to have this in mind and try to provide information about the company and the prestige aspect, rather focusing too much on the mechanical features when promoting their brands to Asian-born consumers.
5.3.1.6 Habitual, brand loyal decision-making style

The habitual consumer tends to consistently select the same brand of product. This style characterises shoppers who have favourite brands and stores and use these habitually. Consumers scoring high on this factor are careful about choosing a brand. They shop around before they find a brand they like. When they find it they are likely to stick with that particular brand for a long time. This is an original factor from the CSI and was retained in this study. Three of the original items were retained. The items asked consumers about what makes a favourite brand.

In terms of automobile purchase situations, this factor is quite important and sensible. Habitual consumers have already carefully searched and made a decision regarding their preferences based on their experience. Therefore, the decisions they make could be long lasting and consumers may become brand loyal if the service of the product is satisfactory. In this research, it was hypothesised (H7) that Australian-born consumers would score higher on this decision-making style because cultures characterised by a high degree of individualism prefer familiarity and are likely to become brand loyal as a risk reduction strategy (Hiu et al. 2001).

Contrary to H7, the results of this research found that Australian-born consumers did not score higher on the habitual, brand loyal decision-making style than Asian-born consumers. There were no significant differences between the groups (Australian-born 3.33 and Asian-born 3.52). Consumers from both cultures scored relatively low on this factor, which means that consumers are unlikely to be habitual, brand loyal for automobile decision-making. The findings of this research are consistent with previous studies. For example, Leo, Bennett and Hartel (2005) found that there were no differences in brand loyalty between Australian and Singaporean samples. The authors reasoned that Singaporeans are more individualistic than assumed and, therefore, also
score high on the habitual, brand loyal decision-making style which results in there being no differences between Australian and Singaporean samples. This was also supported by the results of this study which found that Australian-born and Asian-born consumers had similar individualism scores.

A possible explanation of this finding could be that the high involvement purchase situation attenuated the differences in this style that would usually be expected between the two groups. With automobiles, it may not be possible to be highly habitual because products, for example, automobile series, change rapidly. The automobile industry is continuously changing. Automobile companies have introduced more varieties of automobiles in the past five years than ever before (Automotive Review Secretariat: 2008). Brand new vehicles and models are constantly entering the market. If a consumer retains their vehicle for a decade, by the time they are ready to replace it, the same product may no longer be available. For example, the Club Sport XIII was the highest selling car for Holden in 2001-2002. However, Holden stopped making the Club Sport XIII after 2005 and concentrated their business on the remaining performance vehicles. Nowadays, popular automobile companies like Holden and Ford centre their business by focusing on innovative strategies. As such, economical or environmentally friendly vehicles have entered the market. Companies are focusing on new and innovative ideas. Therefore, there might be a possible reduction in the production of old series/models. Therefore, in relation to marketing strategies, automobile companies could train staff, especially dealers, to communicate with consumers by alerting them to series of automobiles that are in great demand and are going to be available for an extended period.
5.3.1.7 Innovation conscious decision-making style

The innovation conscious decision-making style is a characteristic of consumers who seek novelty and variety in their purchase decisions. Innovativeness requires one to initiate behaviours that differ from others. Consumers scoring high on this factor enjoy taking chances in buying unfamiliar brands just to get some variety. They are also not very anxious about trying new makes of products. This is a new factor that was not adapted from Sproles and Kendall (1986). As mentioned previously in the methodology chapter, this research retained all of the Sproles and Kendall (1986) subscales except novelty fashion-conscious. To assess the ‘novelty’ aspect of consumer decision-making styles, Raju’s (1980), ‘Innovation Shopping Conscious’ style was added alongside the seven factors retained from Sproles and Kendall (1986). Three of the original items (see Raju 1980) were retained, based on the satisfactory results from the confirmatory factor analysis, and seven items from the original scale were dropped (see page no. 161). The retained items asked consumers about buying unfamiliar and new makes of car and were, therefore, consistent with an innovation conscious decision-making style for automobile purchase decision-making.

In this research, it was hypothesised (H₈) that there is a significant difference in innovation consciousness between Australian-born and Asian-born consumers, and that Australian-born consumers are more innovation conscious. This hypothesis was developed because Australian-born consumers were assumed to be less concerned with the image they portray to others and how others will react to their ideas and behaviour due to individualism. Results of this study found that there were no significant differences between Australian-born and Asian-born consumers on innovation conscious decision-making style (Australian-born: 3.31 and Asian-born: 3.10), presumably because the two groups scored similarly on individualism.
The findings of this research are inconsistent with previous studies. For example, Leo, Bennett and Hartel (2005) found that innovation conscious shopping behaviour was higher in Australians than Singaporeans. The authors explained the findings by saying that Australian economic culture is based on more technology and information libraries than Singaporean culture; consumers are more confident and, consequently, prefer innovation and change in their purchasing behaviour. However, the current study compared Australian-born and Asian-born consumers in Australia rather than across different geographical locations. Spears, Lin & Mowen’s (2003) study reported that US consumers demonstrated more innovative purchases, as opposed to Chinese consumers in relation to buying low involvement products. It would seem that this innovative behaviour cannot necessarily be generalised into high involvement or automobile purchase situations and further research is required.
5.3.1.8 Relationship with the research questions

Returning now to the research questions, research question 1 asked *does cultural background affect consumer decision-making styles for high involvement purchases (automobiles)*? The answer to research question 1 would seem to be that cultural background does affect consumer decision-making styles for high involvement purchases, as Australian-born and Asian-born showed significant differences on the brand conscious and confused by overchoice decision-making styles. However, it should be emphasised that these differences do not appear to be driven by variability between the two groups on individualism and collectivism. While Asian-born participants scored significantly higher than Australian-born participants on collectivism, there were no significant differences between the two groups on individualism. Furthermore, there was no significant correlation between collectivism and brand conscious decision-making style and only a weak correlation between collectivism and confused by overchoice decision-making style. These findings suggest Hofstede’s assumption that differences in cultural values such as individualism and collectivism can be assumed on the basis of ‘national culture’ (country of origin) is not appropriate, at least in the Australian context where acculturation may mean that groups who are new to Australia come to take on some of the host country’s values in addition to traditional values.

In response to research question 2 (*What are the decision-making styles of Australian-born and Asian-born consumers when purchasing automobiles*?), both Australian-born and Asian-born consumer groups scored highest on the rational, price conscious decision-making style, with little difference in their average scores (see Table 4.23). This means that both Australian-born and Asian-born consumers endorsed the rational, price conscious decision-making style as their favourite decision-making style.
A possible brief explanation for these findings is that the consumer decision-making style for high involvement purchases, such as automobiles, includes a high degree of information processing, problem solving and reaching for a reasoned decision regardless of cultural background (Luna & Gupta 2001). Previous studies suggest that consumer decision-making for high involvement products, such as cars, apartments and other specialty products, are likely to be more rational (Kapferer & Laurent 1985; Radder & Huang 2008). Consumers may make a high involvement purchase for symbolic meaning, image reinforcement and, possibly, for reasons related to psychological satisfaction (Solomon 1986). However, consumers behave as rational, information processing, problem solving and cognitive individuals while reaching a satisfactory decision (Radder & Huang 2006).

Finally, the answer for research question 3 (Do the decision-making styles associated with purchasing automobiles differ for these two cultural groups?) seems to be that Australian-born and Asian-born scored differently on the confused by overchoice and brand conscious decision-making styles. The brand conscious and confused by overchoice decision-making styles was higher for Asian-born consumers (see Table 4.23). Given that these differences cannot be explained in terms of variation between the two groups on individualism and collectivism, an explanation might be found in other sources of systematic variation between the two groups. For example, variation in language, religion, spending power, or attitudes/beliefs could account for the present findings (Kang and Kim 1998). Asian-born consumers prefer nonverbal, literal messages which may explain their tendency to be confused by overchoice. Their greater spending power may account for differences in brand consciousness (Kim and Kang 2001). However, these are avenues for future research.
5.3.2 Overall discussion of findings - discussion of research question 4

This section discusses the overall research findings. The aim is to address research question 4, which concerned the similarities and the differences between Australian-born and Asian-born consumers’ decision-making styles for automobile purchases. The findings reported above suggest that the two cultural groups behaved similarly on the perfectionist, high quality; rational, price conscious; habitual, brand loyal, and innovation conscious decision-making styles. However, these two groups behaved dissimilarly for brand conscious and confused by overchoice decision-making style. Asian-born consumers were more brand conscious and confused by overchoice in relation to automobile purchases.

The similarities and differences in consumer decision-making styles between Australian-born and Asian-born consumers found in this research are generally consistent with previous studies (see, Lyonski, Durvasula & Zotos 1993; Hui et al. 2001; Bao, Zhou & Su 2003; Leo, Bennett & Hartel 2005), and thus demonstrate the generalisability of previous work to the high involvement purchase context. The findings of this research are also useful for marketers, in that they provide a basis for classifying consumers into separate categories or segments on the basis of cultural background (Durvasula, Lyonski & Andrews 1993). More specifically, this research identifies the measures used by Australian-born and Asian-born consumers as evaluation criteria to guide product selection. More details about marketing strategies (see managerial implications) are discussed in section 5.5, contributions to marketing practice. In the next section, contributions to knowledge, methodology and practice are discussed.
5.4 Contributions to cross-cultural consumer decision-making research

This study makes several contributions to academic inquiry and business practice in the context of cross cultural consumer decision-making research. Some findings in this research reinforce the extant literature, while others add new material to the body of knowledge. The findings provide marketers with an insight with regard to deploying and establishing marketing strategy, and adapting the strategy in the cross-cultural consumer behaviour and decision-making context. This section is divided into two subsections. Section 5.3.1 discusses the contribution made by this thesis to theory, knowledge and the literature, and section 5.3.2 discusses the methodological contributions.

5.4.1 Contributions to theory, knowledge and literature

The theoretical or knowledge contributions of this study can be viewed from replication perspectives that reinforce the extant literature. As a replication study, the research responds to Easley, Madden and Dunn’s (2000) view that ‘replication with modification’ studies are important, not only to marketing in general, but also in the realm of cross-cultural consumer decision-making studies. Marketing research has suffered from a lack of replication with modification studies. Most marketing researchers agree that replication is a necessary ingredient of knowledge advancement in the marketing discipline, but in reality few strict replication studies have been published (Easley, Madden & Dunn 2000). This research can be classified as replication within the modification category under Easley, Madden and Dunn’s (2000) framework, in that it uses similar concepts to previous consumer decision-making styles research, but uses an adapted version of the popular consumer styles inventory (CSI) and incorporates as new design elements in that the cultural dimensions of individualism
and collectivism are measured rather than assuming differences based on ‘national’
culture. Previous studies of consumer decision-making styles have used a generic or
product-specific consumer styles inventory, and have compared cultural groups based
on location rather than measuring cultural dimensions per se. and linking these to
findings.

This study compared Australian and Asian consumers, based on the assumption
that Westerners (Australians) are individualists and Easterners (Asians) are collectivists.
It is noteworthy that there were no differences between Australian and Asian-born
participants for individualism. In fact, scores were almost identical for the two groups.
There were also fewer differences than expected in consumer decision making styles.
These findings may reflect the process of enculturation. ‘Enculturation’ refers to the
process by which people learn the appropriate or necessary requirements of their
surrounding culture (Han & Shavitt 1999). As described by the authors, through the
process of enculturation, people acquire values and behaviours that unify them with the
rest of society; the individual’s behaviour is directly or indirectly constrained,
channelled, or shaped by socio-cultural agents such as peers. Successful enculturation
results in competence in aspects of the surrounding culture, such language, rituals, and
values, helping the individual become an ‘acceptable’ member of society. It may be that
Asian-born Australians have become enculturated in Western society, and have become
increasingly like Australian-born residents over time in terms of their core values (e.g.,
individualism) and behaviours such as consumer decision making styles. Therefore,
future research could split groups on the basis of cultural dimensions only, rather than
on the basis of ethnic background, in order to obtain clearer results in relation to the
effects of dimensions such as individualism and collectivism.
In terms of contributions to literature, this research has also compared decision-making styles between Australian-born and Asian-born consumers in Australia to minimise the differences in retail environment or economic conditions which exist among Western and Eastern countries, thereby providing a more valid comparison between the two groups, free from confounding variables such as variation in retail environment. Previous studies on consumer decision-making styles have looked at cultural groups across countries rather than within countries (see, for example, Hafstrom, Chai & Chung 1992; Durvasula, Lyonski & Andrews 1993; Lyonski, Durvasula & Zotos 1996; Leo, Bennett & Hartel 2005). Therefore, it is hard to attribute differences to dissimilar cultures. Differences may be the result of variability in the climate, age, sex differences or even economy (Mitchell & Bates 1998). For example, in Eastern or Asian countries, consumers on average do not have as much disposable income as they do in Western countries. It is difficult to compare the consumer decision-making styles between two different countries unless they have the same consumer environment (Lyonski, Durvasual & Zotos 1996). Several authors have pointed out the importance of cross-cultural studies on consumer decision-making styles within a country (Leo, Bennet & Hartel 2005; Radder, Li & Pietersen 2006). Therefore, the current research contributes to the literature by comparing the decision-making styles perceived in the purchases of automobiles by Australian-born and Asian-born consumers within the same retail environment, it is useful in particular for Australian automobile companies dealing with the two different groups of consumers.

As mentioned earlier in this study, previous studies using the CSI have either focused on non-specific product types (for example, see Hafstrom, Chae & Chung 1992; Leo, Bennett & Hartel 2005) or on low involvement products (see Radder, Li & Pietersen 2006). With so much interest in the CSI, it is surprising to note that there is
not enough research involving use of the CSI for high involvement purchases (Hanzaee & Aghasibeig 2008). Application of the CSI to high involvement purchases may result in findings that differ from previous studies. For example, high involvement purchases require more knowledge and preparation, such as extensive information searches to learn about the product, and more time to process and evaluate the available information so as to reach an appropriate purchasing decision. As a result, the consumer’s behaviour towards high involvement, high risk and important purchases may differ from that towards low involvement, low commitment and unimportant purchases (Keller 2003). This research uses the CSI with a high involvement purchase (automobiles). As a result, the research extends our knowledge of the CSI in terms of its applicability to high involvement purchase situations. By studying the CSI in this context, this research builds an understanding that the CSI can become a good instrument for automobile segmentation and positioning for marketers. The results suggest that while many of the original CSI factors are useful in this context, some are not relevant. Therefore, further work on consumer decision-making styles in this context is needed to identify the most relevant factors for measurement.

5.4.2 Methodological contributions

This research also makes a few methodological contributions. Firstly, this study employs exploratory factor analysis (EFA) on the CSI items, then confirmatory factor analysis (CFA), and then uses multivariate analysis of covariance (MANCOVA) to test hypotheses. It is an advancement of methodology compared to many studies on consumer decision-making styles, which are based mainly on exploratory factor analysis (Sproles & Kendall 1986; Durvasula, Lyonski & Andrews 1993; Canabal 2002) or analysis of covariance (ANCOVA) (Lee, Bennett & Hartel 2005).
Secondly, most of the research using the CSI has focused on student samples (Sproles & Kendall 1986; Hafstrom, Chai & Chung 1992; Durvasula, Lysonski & Andrews 1993; Lysonski, Durasula & Zotos 1995; Shim 1996; Fan & Xiao 1998) that have limited income and marketplace experience, and are still learning their consumer style. However, it is not known whether the CSI, validated with student samples, can be generalised for use with various types of consumers. For example, students may be different from non-students with respect to demographics such as income or social class and other psycho-social variables (Fan & Xiao 1998). Such differences might affect decision-making styles and purchase preferences (Lysonski, Durvasula & Zotos 1996). It is necessary that the CSI be tested on samples other than students if the instrument is to be used with the general population or adult samples (Fan & Xiao 1998; Mitchell & Bates 1998). This research administered the CSI to general population.

Finally, the findings of the current study showed that the CSI is sufficiently sensitive to be able to detect cultural differences and produce sensible results. However, some of its scales were refined in this study. For example, the brand conscious decision-making style was part of the original CSI and was confirmed as a dimension underlying a high involvement purchase situation. However, only two of the original items were retained. In addition, three items were added from the perfectionist, high quality conscious and price conscious decision-making style scales, which asked consumers about price, status and expectations. These attributes are highly correlated with brand consciousness, and proved to be more meaningful if combined within a single factor in terms of high involvement decision-making styles. Another example would be the rational, price conscious decision-making style, previously labelled as the price conscious decision-making style. This factor combines items from several of the original CSI scales: two items from the price conscious, one item from the perfectionist,
high quality conscious and one items from the impulsive decision-making style (reversed scored, see Table 4.14). Collectively, the items asked respondents about making the decision rationally, such as comparing the price of automobiles and taking enough time before making a choice. Therefore, the overall factor was consistent with a rational, price conscious decision-making style. In terms of high involvement purchases, consumers do not necessarily always look for cheapest product, and quality is one of the most important criteria. Better quality means a higher price. Consumers act as rational buyers in those instances in which they need to be sure about what they are buying. Therefore, rational, price consciousness is much more applicable to consumers in the high involvement context than price consciousness alone. Future research could replicate the developed factor structure of the CSI for high involvement purchases developed from this study. Next, this research discusses the managerial implications.

5.5 Managerial implications

As is evident from section 5.2, Australian-born and Asian-born consumers’ decision-making styles differ in relation to automobile purchases. These findings might be used to develop better marketing strategies and messages to communicate with potential and current automobile consumers within these cultural groups. It would seem that the perfectionist, high quality conscious and rational, price conscious decision-making styles are popular within both cultural groups and could, therefore, be emphasised in marketing messages for both Australian-born and Asian-born consumers. It is hardly surprising that quality and price emerge as equally important in both groups (Dhar 2007). The results of the hypothesis tests demonstrated that the following consumer decision-making styles differed for Australian-born and Asian-born consumers: brand conscious and confused by overchoice decision-making style. Asian-born consumers are more brand conscious, and are confused by overchoice. As a result,
it is not appropriate for marketers to use the same marketing strategies to target consumers from these two cultural groups. In what follows, the managerial implications of the two above-mentioned decision-making styles are discussed in terms of the overall strategies which automobile companies could follow in order to get a positive response from Australian-born and Asian-born consumer groups.

There are a number of managerial implications flowing from this research, which may contribute to marketing practice. The findings of this research provide insight into how automobile companies could position themselves with respect to consumers’ needs in different cultural settings. The Australian-born and Asian-born consumers seem to have clear needs which marketers might engage with when designing new or refining existing automobiles. For example, as mentioned previously in this chapter, Asian-born consumers are very brand conscious. They may be looking for social approval from others, especially when making highly visible or high involvement purchases such as automobiles. Therefore, companies need to have this in mind and try to promote their automobiles for Asian-born consumers with strategies that highlight the significance of status and prestige. Marketing messages/information for Asian-born consumers could focus heavily on the social approval and high prestige which consumers can gain by purchasing automobiles. In relation to communicating with Asian-born consumers, automobile companies need to use the information sources on which Asian-born consumers rely most, such as dealers (see Results chapter). Dealers could be trained (or from the same cultural background, if possible) to spend time explaining product features and benefits in full with Asian-born consumers and their friends and family members whom they are likely to bring along before making the final decision to purchase.
This study also showed that Asian-born consumers are confused by the various types of information that they collect before making the automobile purchasing decision. Asian-born consumers are likely to collect a lot of information, and also to use many types and sources of information, before they purchase automobiles (Doran 2002). As mentioned previously, this research found that Asian-born consumers rely heavily on friends and family and dealers as the most important sources of information. Other sources of information Asian-born consumers’ use include television advertisements, newspapers, billboards and magazines. Therefore, marketers need to be aware of this situation and provide similar, or even the same, types of information/messages by using these above-mentioned sources to communicate with Asian-born consumers, so that they do not become confused. The information/messages could include less information on mechanical and innovative features of the automobiles. It is not that Asian-born consumers do not want to know about these features, but the first impression they are likely to prefer is that which emphasises the prestige of the automobile. This could be a successful approach, if followed when developing strategies for Asian-born consumers.

The research also revealed that Australian-born consumers use the as their most preferred information source. Therefore, in terms of communicating with individualist consumers, marketers might utilise the internet as a promotion or communication technique for distributing automobile information and to emphasise the cutting edge, innovative aspects of their products.
5.6 Limitations and suggestions for future research

This study contributes to practical and theoretical research on cross-cultural differences in consumer decision-making styles by providing empirical evidence regarding consumer choices among Australian-born and Asian-born consumers in Australia. However, the study has a number of limitations, which need to be acknowledged. These limitations may also prove valuable as outlets for future research.

Although this study compared consumers based on the cultural dimension of individualism-collectivism, there were no significant differences in individualism and there are other cultural dimensions that may also influence consumer decision-making styles. For example, Hofstede’s power distance dimension may be related to styles such as perfectionist or brand consciousness (Mitchell & Walsh 2004). Past research has shown that in high power distance cultures social status needs to be clear so that others can show the appropriate level of respect (de Mooj 2010). The concept of face value is important in these cultures, which leads to a greater need to maintain social status and prestige. This suggests the possibility of a link between power distance and perfectionist or brand conscious decision making styles should be explored in future research, as these decision making styles are likely to be driven by a desire for prestige and social status. Consumers from weak uncertainty avoidance cultures are more likely to try new things and therefore may be more creative in their purchase decisions, seeking variety and novelty (Burns and Brady 1992). This suggests a potential link between uncertainty avoidance and innovation conscious decision-making style, which could be explored in future research. Future research could involve other cultural dimensions, such as masculine-feminine, power distance and long-term and short-term orientations, to distinguish their influences in consumer decision-making styles for automobile purchases.
The CSI (Sproles & Kendall 1986), which has not previously been used for high involvement purchases, was applied to test consumer decision-making styles in relation to automobile purchases. Only six of the original eight CSI factors were confirmed in the current research. Furthermore, many scales were modified by the addition or deletion of items. In addition, reliability (Cronbach’s alpha) was relatively low for the recreational conscious decision-making style and, therefore, this factor was not included in the hypothesis test analyses. This suggests that more refinement and development of the CSI is needed for high involvement purchases. Further work might improve the validity of the CSI for high involvement purchases by using a more inductive and exploratory approach, such as a focus group with consumers to generate additional new items and dimensions of consumer decision-making styles in this context. Future research also needs to replicate the factors obtained in this study with other individualist and collectivist samples, in order to confirm that results are not sample specific. It would also be useful to conduct a further study that contains both qualitative and quantitative measures, such as interviews and surveys of consumer decision-making styles, to explain why some of the original factors did not have any relevance and/or had low reliability. Including both methods would improve the validity and reliability of the research (Uljin 2000). It is possible that further dimensions that are unrelated to the original CSI factors may be appropriate in this context, and that this could be given further attention. For example, in recent times consumers have become more aware of the impact of their choices on the environment. Therefore, future research might also consider the possibility of adding an “environmental consciousness” dimension.

This study compared Australian and Asian consumers, based on the assumption that Westerners (Australians) are individualists and Easterners (Asians) are collectivists. On average, Asian-born consumers scored higher on collectivism but there was no
significant difference for individualism. Although there were differences between the two groups on collectivism, these differences do not appear to explain the differences between the two groups that were observed for brand conscious and confused by overchoice decision-making styles. That is, there was no correlation between collectivism and brand consciousness and the correlation between collectivism and confused by overchoice was weak. The only other correlation between collectivism and consumer decision-making styles was for rational, price conscious decision-making style and again this correlation was weak. Individualism had significant correlations with only two consumer decision-making styles (perfectionist, high quality conscious and innovation conscious decision-making styles) and these correlations were very weak. Taking together, the poor correlations between individualism and collectivism and the consumer decision-making styles suggest that this cultural dimension does not have any influential role in this context, and that explanation for differences between Australian-born and Asian-born consumers need to be found elsewhere. The current study focused solely on the influence of one cultural dimension on consumer decision making styles. As mentioned above, there are other cultural dimensions that may influence consumer decision-making styles. Furthermore, there are several other variables, outside of the cross-cultural studies literature, that may impact on consumer behaviour and consumer decision making styles in particular. For example, factors such as consumers’ socio-demographic and psychological characteristics have been found to predict consumer decision-making styles (Leo, Benette and Hartel 2005). Integrating such variables may provide more reliable information and more in-depth analysis of the different segments in future cross-cultural studies.

This research could not conclude that the differences between individualist and collectivist consumers are unique to high involvement purchases. Future research might
compare styles for several purchase situations within the same study, for example, low and high involvement purchases, to see whether a product-specific version of the CSI is needed or whether a generic type, such as the original scale (Sproles & Kendall 1986), is sufficient. In addition, an approach involving high and low involvement purchase decisions would further enhance both theoretical and practical understanding of shopping behaviour in different cultures (Blodgett, Bakir & Rose 2008). In this research, participants were asked to describe/rate consumer decision-making styles retrospectively. Respondents had purchased a car within the last twelve months. However, twelve months is quite a long lag for respondents to remember every detail about their purchase decisions. Therefore, future research should follow consumers during the actual purchase process, in real time, to deliver more accurate results.

5.7 Overall summary

This thesis aimed to identify the differences between Australian-born and Asian-born consumers’ decision-making styles for automobile purchases, to provide a better understanding of how marketing managers might target consumers from these two cultural groups. This study compared Australian and Asian consumers, based on the assumption that Australians are individualists and Asians are collectivists. Although the two groups significantly differed on collectivism, these differences did not appear to explain the differences in consumer decision-making styles observed between the two groups, with few significant correlations between collectivism and consumer decision making styles. The correlation between collectivism and confused by overchoice (one of the styles that differed for Australian-born and Asian-born consumers) was weak, and the only other significant correlation was with rational, price conscious decision-making style, a style which did not actually differ across Australian-born and Asian-born
participants. The thesis was divided into five chapters, including the current discussion chapter. The conclusion of the thesis firstly summarises the previous four chapters (see below), then presents concluding comments on the study.

Chapter one of the thesis described the influences of cultural background on consumer decision-making styles, in particular, individualism-collectivism and its impact on consumer decision-making styles for high involvement purchases. The reasons for choosing automobiles as a high involvement purchase situation for this research were provided. Automobiles are one of the best examples of a high involvement purchase, because they are expensive and, therefore, risky. In relation to automobile purchases, consumers may engage in several stages of the consumer decision-making process, such as problem recognition, information search, product evaluation and selection, purchase and post-purchase, before they make a final decision (Patterson 1996). Research questions (see section 1.4) and the methodology for this thesis were also presented in this chapter. The methodology was adopted from Kumar et al. (1990) and quantitative methods were used to collect and analyse data in order to provide a better understanding of consumer decision-making styles between two different cultural groups, in terms of high involvement purchases.

In chapter two, the extant literature on consumer behaviour in cross-cultural settings was discussed in relation to high involvement purchases, for example, automobiles. Neal, Quester and Hawkins’ (2000) model of consumer decision-making was adapted to automobile purchases and presented in this chapter. The consumer styles inventory (CSI) (Sproles & Kendall 1986) was also introduced as a key measure in consumer decision-making research. The CSI assumes eight styles: perfectionist, high quality conscious, brand conscious, recreational conscious, price conscious, impulsive buying, confused by overchoice, brand loyal and novelty (replaced with innovation
conscious decision-making style in the current study). The chapter concluded with a discussion of the influence of cultural dimensions, such as individualism and collectivism, on consumer decision-making styles and presented the eight hypotheses that were tested in this study.

Chapter three discussed the research method used to test the hypotheses. The chapter outlined the research process used in this study, including sampling techniques, participants, measures and procedure. The chapter also presented the conceptual framework for the study, which was derived from the literature review chapter. The framework integrated Hofstede’s (1980) ideas about the differences between Western and Eastern countries with Sproles and Kendall’s (1986) model of consumer decision-making styles. The framework outlined the hypothesised differences in consumer decision-making styles between the two cultural groups of Australian-born and Asian-born. The chapter also discussed the statistical techniques used to analyse the data, for example, factor analysis, exploratory and confirmatory factor analysis and Multivariate Analysis of Covariance (MANCOVA).

Chapter four analysed the survey data collected in this research. The chapter was divided into four sections: (1) Preliminary analyses (data screening, cleaning and missing values analysis); (2) Descriptive Statistics (means and standard deviations for continuous variables; frequencies and percentages for categorical variables), and comparison of Australian-born and Asian-born across all demographic variables; (3) Exploratory Factor Analysis and Confirmatory Factor Analysis of the CSI; and (4) Multivariate Analysis of Covariance, which was used to test hypotheses 1 to 8.

Chapter five discussed all the major findings including the hypothesis test analysis. This chapter highlighted some important points in terms of contribution to theory, knowledge and literature and also discussed methodological contributions. The
chapter provided some valuable managerial implications so that managers and practitioners can follow/use this information when developing positioning strategies for Australian-born and Asian-born consumers. Finally, the chapter concluded with a discussion of the limitations and valuable suggestions for future research.

5.8 Conclusion

Based on the findings of this study, it can be concluded that Australian-born and Asian-born do differ in terms of consumer decision-making styles. Accordingly, managers might consider using different strategies when communicating with Australian-born and Asian-born consumer groups. These two groups seem to have distinct needs with which marketers might engage when designing new, or refining existing, automobiles. For instance, the internet seems to be a preferred source of information for Australian-born, so marketing managers may consider focusing on this medium when communicating with these consumers. In contrast, possible marketing strategies for Asian-born consumers include emphasising the superiority and status that consumers can obtain by buying expensive and prestigious automobiles. Asian-born consumers are likely to develop a personal association with the dealers when buying automobiles. Consequently, automobile companies could provide training for dealers on how to best communicate with potential and current consumers within this cultural group. Improving the match between consumer needs and marketing strategies may improve the prediction of consumer behaviour, decreasing uncertainty for organisations, and giving marketing managers more confidence in their strategies. Greater insight into consumer behaviour may facilitate economic stability.
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Appendix 1: Participant Recruitment Advertisement
Are you interested in participating in research on consumer decision-making?

We are conducting a comparative study of individualist and collectivist consumer’s decision-making styles in the context of a high involvement purchases i.e., an automobile.

We are seeking Asian-born and locally-born Australian men and women aged between 18 and 75 who have a current driver’s licence and have purchased a car within the last 12 months.

Participation in the research involves completing a series of questionnaires. These include a basic demographic questionnaire, consumer decision-making styles questionnaires, a cultural values questionnaire, a driving history questionnaire, and questions about other influences on consumer decision-making. Overall, the survey should take between 30 and 45 minutes to complete. You will not be required to place your name anywhere on the questionnaire and thus will remain completely anonymous.

The survey is available for completion online (Opinio) at the following address: www.[to be added].

If you have any questions regarding the study, please contact:

Tahmid Nayeem, PhD Candidate, Faculty of Business and Enterprise, Swinburne University of Technology on (03) 9214 5247 or at tayneem@swin.edu.au or

Professor Linda Brennan, Faculty of Business and Enterprise, Swinburne University of Technology on (03) 9214 5345 or at lbrennan@swin.edu.au
Appendix 2: Full Questionnaire
A COMPARATIVE STUDY OF INDIVIDUALIST AND COLLECTIVIST CONSUMER’S DECISION-MAKING STYLES

Tahmid Nayeem
&
Professor Linda Brennan

Faculty of Business and Enterprise
Swinburne University of Technology

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SECTION A: DEMOGRAPHICS

Instructions: Please complete the following questions by ticking the appropriate box or by filling in the blanks where appropriate.

(a) My age is: ___________________

(b) My gender is:
   1. Female  □
   2. Male □

(c) My marital status is:
   1. Single □
   2. De facto □
   3. Married □

(d) How many children under the age of 18 do you have? ________________

(e) My racial or ethnic identity is: _____________________

(f) Are you an Australian citizen?
   1. Yes □
   2. No □

(g) Were you born in Australia?
   1. Yes □
   2. No □

(h) If no, then where were you born? ___________________

(i) For how many years have you been living in Australia? ________________

(j) Was your father born in Australia?
   1. Yes  □
   2. No □

(k) If no, then where was he born? ___________________
(l) Was your mother born in Australia?
1. Yes □
2. No □

(m) If no, then where was she born? ______________________

(n) Is English your first language?
1. Yes □
2. No □

(o) If no, then what is your first language? ______________________

(p) My household income per year is:
1. Under $20,000 □
2. $20,000 - $29,999 □
3. $30,000 - $39,999 □
4. $40,000 - $49,999 □
5. $50,000 - $59,999 □
6. $60,000 - $69,999 □
7. $70,000 - $79,999 □
8. $80,000 - $89,999 □
9. $90,000 - $99,000 □
10. Over $100,000 □
**SECTION B: CAR PURCHASE BEHAVIOUR**

**Instructions:** The following statements refer to your CAR PURCHASE BEHAVIOUR. Please read each statement and circle a number to indicate how much you agree or disagree with the statement. You should only circle one number per statement.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Mostly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Mostly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A car does not have to be perfect, or the best, to satisfy me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>2. I am the kind of person who would try a new make of car.</td>
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<td>2</td>
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</tr>
<tr>
<td>3. I prefer buying the best selling car brands.</td>
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<tr>
<td>4. When it comes to buying cars, I make my shopping trips fast.</td>
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<td>2</td>
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<tr>
<td>5. I prefer to buy cars at sale prices.</td>
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<td>2</td>
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<tr>
<td>6. I should plan my shopping for cars more carefully than I do.</td>
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<td>7. All the information I get on different cars confuses me.</td>
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<tr>
<td>8. I go to the same dealer each time I shop for cars.</td>
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</tr>
<tr>
<td>9. When I see a new brand of cars somewhat different from usual, I investigate it.</td>
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<tr>
<td>10. Getting a very good quality car is very important to me.</td>
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<td>11. I am very cautious about trying new makes of cars.</td>
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<tr>
<td>12. Nice sales offices offer me the best cars.</td>
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<td>Strongly Disagree</td>
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<td>13.</td>
<td>Strongly Disagree</td>
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<td>Disagree</td>
<td>Agree</td>
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<tr>
<td>13. Shopping for cars is not a pleasant activity to me.</td>
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<td>2</td>
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<tr>
<td>14. When shopping for cars, I look carefully to find best value for money.</td>
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<td>2</td>
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<tr>
<td>15. When buying a car, I do not want to make a careless purchase I later wish I had not.</td>
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<td>2</td>
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</tr>
<tr>
<td>16. It's hard to choose which dealer to shop at for cars.</td>
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<td>2</td>
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<tr>
<td>17. I have favourite car brands I buy over and over.</td>
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<tr>
<td>18. I would rather wait for others to try a new dealer than try it myself in making my purchase.</td>
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<tr>
<td>19. I make a special effort to choose the very best quality cars.</td>
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<td>20. I enjoy taking chances in buying unfamiliar brands of cars just to get some variety.</td>
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<td>2</td>
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<tr>
<td>21. The higher the price of a car, the better its quality.</td>
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<td>22. Shopping around dealers wastes my time.</td>
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<tr>
<td>23. The lower price cars are usually my choice.</td>
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<tr>
<td>24. When shopping for cars, I take the time to shop carefully for best buys.</td>
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<tr>
<td>25. The more I learn about cars, the harder it seems to choose the best.</td>
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<td>26. Once I find a car brand I like, I stick with it.</td>
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<tr>
<td>27. I would buy a new or different brand of car just to see what it is like.</td>
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<tr>
<td>28. I really don’t give my car purchases much thought or care.</td>
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<tr>
<td>29. The more expensive car brands are usually my choice.</td>
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<tr>
<td>30. Going shopping for cars is an enjoyable activity for me.</td>
<td>1</td>
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<td>6</td>
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<tr>
<td>31. I am impulsive when purchasing cars.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>32. There are so many car brands to choose from that often I feel confused.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>33. I am willing to change brands when buying a new car.</td>
<td>1</td>
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<tr>
<td>34. Investigating new brands of cars is generally a waste of time.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>35. I shop quickly for cars, buying the first car or brand I find that seems good enough.</td>
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<td>2</td>
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<tr>
<td>36. The most advertised car brands are usually very good choices.</td>
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<td>2</td>
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<tr>
<td>37. I enjoy shopping for cars just for the fun of it.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>38. When buying a car, I carefully watch how much I spend.</td>
<td>1</td>
<td>2</td>
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<td>6</td>
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<tr>
<td>39. I would take advantage of the first opportunity to find out more about a new dealer selling a car I wanted to purchase.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>40. When it comes to buying a car, in general, I usually try to buy the best overall quality.</td>
<td>1</td>
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<tr>
<td>Statement</td>
<td>Strongly Disagree</td>
<td>Mostly Disagree</td>
<td>Disagree</td>
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<tr>
<td>41. The well known national (Australian) car brands are best for me.</td>
<td>1</td>
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</tr>
<tr>
<td>42. A new make of car is not something I would be eager to find out about.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>43. My standards and expectations for cars I buy are very high.</td>
<td>1</td>
<td>2</td>
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<td>6</td>
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<tr>
<td>44. I would be worried about trying a new make of car.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>45. When it comes purchasing cars, I try to get the very best or perfect choice.</td>
<td>1</td>
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</tr>
</tbody>
</table>
SECTION C: VALUES

Instructions: The following statements refer to your values. Please read each statement and circle a number to indicate how much you agree or disagree with the statement. You should only circle one number per statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I prefer to be direct and forthright when I talk with people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>2. My happiness depends very much on the happiness of those around me.</td>
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<td>7</td>
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<tr>
<td>3. I would do what would please my family, even if I detested that activity.</td>
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<tr>
<td>4. Winning is everything.</td>
<td>1</td>
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<tr>
<td>5. One should live one’s life independently of others.</td>
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<td>6</td>
<td>7</td>
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<tr>
<td>6. What happens to me is my own doing.</td>
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<td>6</td>
<td>7</td>
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<tr>
<td>7. I usually sacrifice my self-interest for the benefit of my group.</td>
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<tr>
<td>8. It annoys me when other people perform better than I do.</td>
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<tr>
<td>9. It is important for me to maintain harmony within my group.</td>
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<tr>
<td>10. It is important for me that I do my job better than others.</td>
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<tr>
<td>11. I like sharing little things with my neighbours.</td>
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<tr>
<td>12. I enjoy working in situations involving competitions with other.</td>
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<tr>
<td>Statement</td>
<td>Strongly Disagree</td>
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<td>Disagree</td>
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<td>13. We should keep our aging parents with us at home.</td>
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<tr>
<td>14. The well being of my co-workers is important to me.</td>
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<tr>
<td>15. I enjoy being unique and different from others in many ways.</td>
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<tr>
<td>16. If a relative were in financial difficulty, I would help within my means.</td>
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<tr>
<td>17. Children should feel honoured if their parents receive a distinguished award.</td>
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<td>7</td>
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<tr>
<td>18. I often do “my own thing”.</td>
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<td>7</td>
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<tr>
<td>19. Competition is the law of nature.</td>
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<td>6</td>
<td>7</td>
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<tr>
<td>20. If a co-worker gets a prize, I would feel proud.</td>
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<td>7</td>
</tr>
<tr>
<td>21. I am a unique individual.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>22. To me, pleasure is spending time with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>23. When another person does better that I do, I get tense and aroused</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>24. I would sacrifice an activity that I enjoy very much if my family did not approve of it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>25. I like my privacy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>26. Without competition, it is not possible to have a good society.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Mostly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Mostly Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>---</td>
<td>-----------------</td>
<td>-----------------</td>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>--------------</td>
<td>----------------</td>
</tr>
<tr>
<td>27. Children should be taught to place duty before pleasure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>28. I feel good when I cooperate with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>29. I hate to disagree with others in my group.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>30. Some people emphasise winning; I am not one of them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>31. Before taking a major trip, I consult with most members of my family and many friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>32. When I succeed, it is usually because of my abilities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
SECTION D: DRIVING HISTORY

Instructions: Please complete the following questions by ticking the appropriate box.

(a) How many years have you been driving?
1. Less than 5 years □
2. 6 – 10 years □
3. 11 – 15 years □
4. 16 – 20 years □
5. 21 – 25 years □
6. 26 – 30 years □
7. More than 30 years □

(b) How long ago did you buy your car?
1. Less than 6 months □
2. 7 – 12 months □
3. 1 – 2 years □

(c) What make of car do you drive?
1. Audi □
2. BMW □
3. Daewoo □
4. Ford □
5. Holden □
6. Mazda □
7. Mercedes □
8. Mitsubishi □
9. Nissan □
10. Toyota □
11. Other □
(d) How much did you pay for your car?
1. Under $10,000 □
2. $10,000 - $14,999 □
3. $15,000 - $19,999 □
4. $20,000 - $24,999 □
5. $25,000 - $29,999 □
6. $30,000 - $34,999 □
7. $35,000 - $39,999 □
8. $40,000 - $44,999 □
9. $45,000 - $49,999 □
10. Over $50,000 □
11. Don’t know □

(e) What is the engine capacity of your car?
1. One to two litre □
2. One to three litre □
3. One to four litre □
4. One to five litre □
5. Over five litre □
6. Don’t know □

(f) Rate the cars produced by the following nations in terms of quality (circle a number to indicate your rating):

<table>
<thead>
<tr>
<th>Brand/Country</th>
<th>Very low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ford (Australia)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Holden (Australia)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>BMW (Germany)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Mercedes (Germany)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Volkswagen (Germany)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Alfa Romeo (Italy)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Fiat (Italy)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Nissan (Japan)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Brand/Country</td>
<td>Very Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Very high</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>-----------</td>
</tr>
<tr>
<td>Toyota (Japan)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Daewoo (Korea)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>KIA (Korea)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Volvo (Sweden)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
SECTION E: EXTERNAL INFLUENCES ON CONSUMER DECISION-MAKING

Instructions: Please complete the following questions by ticking the appropriate box.

(a) How important for you is the dealer when purchasing a car?
1. Very unimportant □
2. Moderately unimportant □
3. Neutral □
4. Moderately important □
5. Very important □

(b) How many dealers did you interact with before you made your current car purchase decision?
1. One dealer □
2. Two dealers □
3. Three dealers □
4. Four to 5 dealers □
5. More than 5 dealers □

(c) On average how much time did you spend with each dealer?
1. Less than 1 hour □
2. Between 1 and 2 hours □
3. Between 3 and 4 hours □
4. Between 5 and 6 hours □
5. More than 6 hours □

(d) Approximately how many cars did you ‘test drive’ before making your final decision?
1. One to 3 cars □
2. Four to 6 cars □
3. Seven to 10 cars □
4. More than 10 □
(e) Approximately how much time did you spend researching the final purchase decision?
1. Less than 2 weeks □
2. Two weeks to 1 month □
3. One to 2 months □
4. Three to 6 months □
5. Seven to 12 months □
6. More than 1 year □

(f) How important was it for you to consult with your family/friends before you made the final purchase decision?
1. Very unimportant □
2. Unimportant □
3. Neutral □
4. Important □
5. Very important □

(g) How many family members/friends did you consult with before you made the final purchase decision?
1. None □
2. One □
3. Two to 5 □
4. Six to 10 □
5. More than 10 □

(h) How important were each of the following sources of information during your search for a car? (circle a number to indicate your rating)

<table>
<thead>
<tr>
<th>Source</th>
<th>Very Unimportant</th>
<th>Moderately Unimportant</th>
<th>Neutral</th>
<th>Moderately Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dealer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Internet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Magazine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>TV ads</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Word of mouth</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

You have now completed the survey. Thank you for your participation in this study.
Appendix 3: Project Consent Information Statement
PROJECT TITLE
A comparative study of individualist and collectivist consumer’s decision-making styles

INVESTIGATORS
Senior Investigator: Professor Linda Brennan
Student Investigator: Tahmid Nayeem, PhD Candidate

PROJECT EXPLANATION
The purpose of this project is to investigate the relationship between cultural background (i.e., Asian born versus locally-born Australian) and consumer decision-making styles in the context of high involvement purchases i.e., automobiles. Culture has a significant impact on individual attitudes and values, and is thus expected to influence consumer decision-making styles. Australia is characterised by an individualist culture whereas Asia is characterised by a collectivist culture. The number of Asian-born Australians has increased over the past five years, with this cultural group representing a growing segment of the consumer market. The relationship between cultural background and consumer decision-making styles applied to every day or ‘low involvement’ products for example toothpaste has been widely researched. However, comparable research on high involvement purchases such as automobiles has been non-existent.

By conducting this research, we hope to gain a more complete understanding of the relationship between culture and consumer decision-making styles. The findings will assist organisations that need to consider cultural background in recruiting, selecting and training workers who deal with consumers of goods. The findings will provide insight into how organisations should position themselves with respect to their marketing strategies in different cultural settings. The research is particularly relevant for multi-national corporations, which manage across national boundaries. The findings will help organisations to modify their messages and communications according to cultural differences.

We are seeking Asian born and locally born Australian men and women between the ages of 18 and 75 who have purchased a car within the last 12 months and are willing to complete a survey on consumer decision-making styles. We would like to invite you to participate in this project.
Participation in the research involves completing an anonymous survey consisting of a series of questionnaires. These include a basic demographic questionnaire (e.g., questions regarding age, gender etc.), consumer decision-making styles questionnaires for high-involvement purchases such as automobiles, a cultural values questionnaire, a driving history questionnaire, and questions about other influences on consumer decision-making. The questionnaires involve responding to items by checking a box, entering written responses, or circling a number to indicate your agreement with different statements. You will be provided with written instructions about how to complete each questionnaire. Overall, the survey should take between 30 and 45 minutes to complete.

**PRIVACY PROTECTION**  
Participation in this project is voluntary. Participants are not required to place their name anywhere on the questionnaire and thus will remain completely anonymous.

All data collected will be stored electronically with password protection. Only the investigators listed above will have access to the data. Findings from this project may, at some future time, be presented at a conference or published in an academic journal. Only grouped data will be analysed and published results will be based on combined data. Individual data will not be identifiable nor will data be analysed or presented at the individual level. Five years after the date of publication, all data will be erased from electronic storage.

If you decide to participate in this research, please complete the attached survey. **Do not** write your name or any other identifying information on the survey. Your responses are completely anonymous. By completing and returning the survey you are indicating to the investigators that you have given informed consent to participate. However, if at any stage you feel that you do not wish to continue the survey, you are free to withdraw and discontinue participation.

*If you have any questions regarding the project, please contact the senior investigator: Professor Linda Brennan, Faculty of Business and Enterprise, Swinburne University of Technology on (03) 9214 5345 or at lbrennan@swin.edu.au*

*If you have any concerns or complaints about the conduct of this project, please contact:*

Research Ethics Officer, Office of Research and Graduate Studies (H68), Swinburne University of Technology, PO Box 218, HAWTHORN VIC 3122. Phone: (03) 9214 5218 or resethics@swin.edu.au

Retain this sheet for your own records. Return the completed survey without this sheet.
Appendix 4

Comparison of Original Item Wording for the Consumer Styles Inventory (CSI) and Wording Used for the High Involvement Purchase Situation in the Current Research
<table>
<thead>
<tr>
<th>Original Item Wording (Sproles and Kendall 1986)</th>
<th>High involvement (for example, automobile purchase) Item Wording*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A product does not have to be perfect, or the best, to satisfy me.</td>
<td>A car does not have to be perfect, or the best, to satisfy me.</td>
</tr>
<tr>
<td>2. I prefer buying the best selling brands.</td>
<td>I prefer buying the best selling car brands.</td>
</tr>
<tr>
<td>3. I make my shopping trips fast.</td>
<td>When it comes to buying cars, I make my shopping trips fast.</td>
</tr>
<tr>
<td>4. I buy as much as possible at sale prices.</td>
<td>I prefer to buy cars at sale prices.</td>
</tr>
<tr>
<td>5. I should plan my shopping more carefully than I do.</td>
<td>I should plan my shopping for cars more carefully than I do.</td>
</tr>
<tr>
<td>6. All the information I get on different products confuses me.</td>
<td>All the information I get on different cars confuses me.</td>
</tr>
<tr>
<td>7. I go to the same stores each time I shop.</td>
<td>I go to the same dealer each time I shop for cars.</td>
</tr>
<tr>
<td>8. When I see a new brand of good/service somewhat different from usual, I investigate it</td>
<td>When I see a new brand of cars somewhat different from usual, I investigate it</td>
</tr>
<tr>
<td>9. Getting very good quality is very important to me.</td>
<td>Getting a very good quality car is very important to me.</td>
</tr>
<tr>
<td>10. Nice department and specialty stores offer me the best product.</td>
<td>Nice sales offices offer me the best cars.</td>
</tr>
<tr>
<td>11. Shopping is not a pleasant activity to me.</td>
<td>Shopping for cars is not a pleasant activity to me.</td>
</tr>
<tr>
<td>12. I look carefully to find best value for money.</td>
<td>When shopping for cars, I look carefully to find best value for money.</td>
</tr>
<tr>
<td>13. I take the time to shop carefully for best buys.</td>
<td>When shopping for cars, I take the time to shop carefully for best buys.</td>
</tr>
<tr>
<td>14. Sometimes it’s hard to choose which stores to shop.</td>
<td>Sometimes it’s hard to choose which dealer to shop at for cars.</td>
</tr>
<tr>
<td>15. I have favourite brands I buy over and over.</td>
<td>I have favourite car brands I buy over and over.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>16.</td>
<td>I would rather wait for others to try a new store selling goods/services than try it myself in my purchases.</td>
</tr>
<tr>
<td>17.</td>
<td>I make a special effort to choose the very best quality products.</td>
</tr>
<tr>
<td>18.</td>
<td>The higher the price of a product, the better its quality.</td>
</tr>
<tr>
<td>19.</td>
<td>Shopping the stores wastes my time.</td>
</tr>
<tr>
<td>20.</td>
<td>The lower price products are usually my choice.</td>
</tr>
<tr>
<td>21.</td>
<td>Often I make careless purchases I later wish I had not.</td>
</tr>
<tr>
<td>22.</td>
<td>The more I learn about products, the harder it seems to choose the best.</td>
</tr>
<tr>
<td>23.</td>
<td>Once I find a product or brand I like, I stick with it.</td>
</tr>
<tr>
<td>24.</td>
<td>When I see a new or different brand of good/service, I often buy it just to see what it is like.</td>
</tr>
<tr>
<td>25.</td>
<td>I really don’t give my purchases much thought or care.</td>
</tr>
<tr>
<td>26.</td>
<td>The more expensive brands are usually my choice.</td>
</tr>
<tr>
<td>27.</td>
<td>Going shopping is one of the enjoyable activities in my life.</td>
</tr>
<tr>
<td>28.</td>
<td>I am impulsive when purchasing.</td>
</tr>
<tr>
<td>29.</td>
<td>There are so many brands to choose from that often I feel confused.</td>
</tr>
<tr>
<td>30.</td>
<td>I change brands I buy regularly.</td>
</tr>
<tr>
<td>31.</td>
<td>Investigating new brands of goods/services is generally a waste of time.</td>
</tr>
<tr>
<td>32. I shop quickly, buying the first product or brand I find that seems good enough.</td>
<td>I shop quickly for cars, buying the first car or brand I find that seems good enough.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>33. The most advertised brands are usually very good choices.</td>
<td>The most advertised car brands are usually very good choices.</td>
</tr>
<tr>
<td>34. I enjoy shopping just for the fun of it.</td>
<td>I enjoy shopping for cars just for the fun of it.</td>
</tr>
<tr>
<td>35. I carefully watch how much I spend.</td>
<td>When buying a car, I carefully watch how much I spend.</td>
</tr>
<tr>
<td>36. When I hear of a new store/service provider selling the goods or services I want to purchase, I take advantage of the first opportunity to find out more about it.</td>
<td>I would take advantage of the first opportunity to find out more about a new dealer selling a car I wanted to purchase.</td>
</tr>
<tr>
<td>37. In general, I usually try to buy the best overall quality.</td>
<td>When it comes to buying a car, in general, I usually try to buy the best overall quality.</td>
</tr>
<tr>
<td>38. The well known national (Australian) brands are best for me.</td>
<td>The well known national (Australian) car brands are best for me.</td>
</tr>
<tr>
<td>39. A new store or restaurant is not something I would be eager to find out about.</td>
<td>A new make of car is not something I would be eager to find out about.</td>
</tr>
<tr>
<td>40. My standards and expectations for products I buy are very high.</td>
<td>My standards and expectations for cars I buy are very high.</td>
</tr>
<tr>
<td>41. For an important date or dinner, I would be worried of trying new foods/restaurants.</td>
<td>I would be worried about trying a new make of car.</td>
</tr>
<tr>
<td>42. When it comes purchasing products, I try to get the very best or perfect choice.</td>
<td>When it comes purchasing cars, I try to get the very best or perfect choice.</td>
</tr>
<tr>
<td>43. I am the kind of person who would try any new good/service once.</td>
<td>I am the kind of person who would try a new make of car.</td>
</tr>
<tr>
<td>44. I am very cautious in trying new goods/services.</td>
<td>I am very cautious about trying new makes of cars.</td>
</tr>
<tr>
<td>45. I enjoy taking chances in buying unfamiliar brands of goods/services just to get some variety.</td>
<td>I enjoy taking chances in buying unfamiliar brands of cars just to get some variety.</td>
</tr>
</tbody>
</table>
Appendix 5: Measurement Fit Model of Cultural Values Scale (CVS)
A 5.1 First-order CFA initial model of cultural values scale (CVS)

A two-factor model of cultural values scale is tested. This model aims to select appropriate factors to assess differences between individualist and collectivists. An initial model, which contains 32 items from the CVS, loading on two separate factors is tested.

The following figure presents the CFA for the initial two factors. It is necessary to respecify this model for the purpose of achieving better fit. The overall fit of the model is considered unsatisfactory due to goodness-of-fit statistics indicative of a poor fit (see Table below).

Table A5: Summary of fit indices of the initial CVS model

<table>
<thead>
<tr>
<th>Fit statistics</th>
<th>Acceptable level</th>
<th>Respecified model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>p ≥ 0.05</td>
<td>1454.25 (df = 463, p=0.000)</td>
</tr>
<tr>
<td>CMIN/DF</td>
<td>≤ 3.00</td>
<td>3.141</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤ 0.05</td>
<td>.093</td>
</tr>
<tr>
<td>GFI</td>
<td>≥ 0.90</td>
<td>.665</td>
</tr>
<tr>
<td>TLI</td>
<td>≥ 0.90</td>
<td>.599</td>
</tr>
<tr>
<td>CFI</td>
<td>≥ 0.90</td>
<td>.539</td>
</tr>
</tbody>
</table>
Chi-square = 1454.25, df = 463, p = .000, CMIN/DF = 3.141, GFI = .665, TLI = .599, CFI = .539, RMSEA = .093.
Prior to re-specification, the researcher checked and selected appropriate variables for each factor by considering the modification indices (MIs) and standardised residuals from the AMOS output. Following figure presents the final model of CVS which is going to be used to test the hypotheses in this study.

A 5.2 First order CFA respecified model of Cultural values scale

The final model consists of 16 items and two factors. Overall half of the items were deleted to achieve a satisfactory fit. Nine items were removed from the individualism factor due to insignificant fit as suggested by the MIs (the items values 6 “What happens to me is my own doing”; values 15 “I enjoy being unique and different from others in many ways”; values 18 “I often do “my own thing”; values 25 “I like my privacy”; values 4 “Winning is everything”; values 10 “It is important for me that I do my job better than others”; values 23 “When another person does better than I do, I get tensed and aroused”; values 30 “Some people emphasize winning; I am not one of them (reversed score)”. Nine items were deleted from the collectivism factor (the items values 11 “I like sharing little things with my neighbours”; values 14 “The well being of my co-workers is important to me”; values 16 “If a relative were in financial difficulty, I would help within my means; values 20 “If a co-worker gets a prize, I would feel proud”; values 22 “To me, pleasure is spending time with others”; values 28 “I feel good when I cooperate with others”; values 29 “I hate to disagree with others in my group”. Results indicated that both individualism and collectivism factors had good internal consistency with Cronbach’s alpha coefficients of .747 and .769. The following figure presents the two-factor CFA respecified model.
Chi-square = 184.054, df = 103, p = .003, CMIN/DF = 1.787, GFI = .903, TLI = .906, CFI = .925, RMSEA = .052.
The above table indicates that the respecified model is a reasonable fit. The model fit is assessed by using goodness-of-fit indices. GFI is satisfactory, 0.903, as it is above the acceptable level of 0.900. The Tucker Lewis Index (TLI), 0.906 and Comparative Fit Index (CFI), 0.925 are satisfactory, as it is above the acceptable level of 0.900.

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<tr>
<th>Fit statistics</th>
<th>Acceptable level</th>
<th>Initial model</th>
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<td>Chi-square</td>
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<td></td>
<td></td>
<td>(df = 103, p = 0.003)</td>
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<td>CMIN/DF</td>
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<td>RMSEA</td>
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<td>.052</td>
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<tr>
<td>GFI</td>
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<td>.903</td>
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<tr>
<td>TLI</td>
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<tr>
<td>CFI</td>
<td>≥ 0.90</td>
<td>.925</td>
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</table>
Appendix 6: Copy of Ethics Approval
To: Assoc Prof Siva Muthaly/Mr Tahmid Naveen, FBE

Dear Siva and Tahmid

**SUHREC Project 0607/202 A comparative study of locally-born and South Asian-born Australian consumer’s decision making style in high involvement products: A case of automobile purchases**  
Assoc Prof Siva Muthaly FBE Mr Tahmid Nayeem  
Approved duration: 05/06/2007 To 31/12/2007

I refer to the ethical review of the above project protocols conducted on behalf of Swinburne's Human Research Ethics Committee (SUHREC) by a Subcommittee (SHESC4) at its recent meeting held Friday 1 June 2007. Your response to the review as emailed today clarifies the query raised, ie, the facility on the questionnaire cover sheet which could have suggested or elicited participant unique identifiers has now been removed. Ethics clearance can therefore be deemed given in line with the following standard conditions.

- All human research activity undertaken under Swinburne auspices must conform to Swinburne and external regulatory standards, including the current *National Statement on Ethical Conduct in Research Involving Humans* and with respect to secure data use, retention and disposal.

- The named Swinburne Chief Investigator/Supervisor remains responsible for any personnel appointed to or associated with the project being made aware of ethics clearance conditions, including research and consent procedures or instruments approved. Any change in chief investigator/supervisor requires timely notification and SUHREC endorsement.

- The above project has been approved as submitted for ethical review by or on behalf of SUHREC. Amendments to approved procedures or instruments ordinarily require prior ethical appraisal/clearance. SUHREC must be notified immediately or as soon as possible thereafter of (a) any serious or unexpected adverse effects on participants and any redress measures; (b) proposed changes in protocols; and (c) unforeseen events which might affect continued ethical acceptability of the project.

- At a minimum, an annual report on the progress of the project is required as well as at the conclusion (or abandonment) of the project.

- A duly authorised external or internal audit of the project may be undertaken at any time.

Please contact me if you have any queries about on-going ethics clearance. The SUHREC project number should be quoted in communication.

Best wishes for the project.

Yours sincerely

Keith Wilkins  
Secretary, SHESC4

**************************************************************************

Keith Wilkins  
Research Ethics Officer  
Office of Research and Graduate Studies (Mail H68)  
Swinburne University of Technology  
P O Box 218  
HAWTHORN VIC 3122  
Tel: 9214 5218
Appendix 7: Preliminary Analyses including Transformations
A.7.1 Descriptive Statistics

The sample consisted of 202 respondents, including men (53.5%) and women (46.5%). Most of the respondents were aged between 26 and 35 years (39.1%). The next most prevalent age group was 17 to 25 years (20.3%), followed by 46 to 55 years (15.8%), 36 to 45 years (15.3%), 56 to 65 years (6.9%) and 66 years and above (2.5%). The majority (41.6%) of the sample was single, 37.1% were married and 15.3% were in a *de facto* relationship. The proportion of people with children under 18 was 24.3%. With regard to education, 2.5% of the sample had no formal qualification, 11.9% had a pass in Year 12 or equivalent, 16.3% had a TAFE certificate, 35.6% had a Bachelor Degree, 31.7% had a Postgraduate Degree, and 2% had another qualification. Household income varied; under $20,000: 3%, $20,000-$29,999: 10%, $30,000-$39,999: 10%, $40,000-$49,999: 11.9%, $50,000-$59,999: 8.5%, $60,000-$69,999: 11.4%, $70,000-$79,999: 10%, $80,000-$89,999: 7%, $90,000-$99,999: 7%, and over $100,000: 21.4%. See Table A1 for more details. As shown in the Table, the median income fell in the interval $40,000 - $ 49,000.

**Table A7.1: Frequencies and Percentages for Age, Gender, Education, Marital Status, Children and Income.**

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<th>Total Sample (%)</th>
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<td>26-35 years</td>
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<td>Pass in Year 12 or</td>
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| Marital status                 | Single                   | 84 | 41.6|
|                                | De facto                 | 31 | 15.3|
|                                | Married                  | 75 | 37.1|
|                                | Other                    | 12 | 5.9 |

| Number of children under 18    | 0                        | 153| 75.7|
| years                          | 1                        | 26 | 12.9|
|                                | 2                        | 19 |  9.4|
|                                | 3                        |  3 |  1.5|
|                                | 4                        |  0 |  0.0|
|                                | 5                        |  1 |  0.5|

| Household income               | Under $20,000            | 6  | 3.0 |
|                                | $20,000-$29,999           | 20 | 10.0|
|                                | $30,000-$39,999           | 20 | 10.0|
|                                | $40,000-$49,999           | 24 | 11.9|
|                                | $50,000-$59,999           | 17 |  8.5|
|                                | $60,000-$69,999           | 23 | 11.4|
|                                | $70,000-$79,999           | 20 | 10.0|
|                                | $80,000-$89,999           | 14 |  7.0|
|                                | $90,000-$99,999           | 14 |  7.0|
|                                | Over $100,000            | 43 | 21.4|
A.7.2 Cultural Background

Of the 202 participants, 49% were locally-born Australians and 51% were Asian-born. Among the Asian-born participants, 42.2% were born in South Asia and 51.1% were born in South-East Asia.

Family background varied. For the Australian-born participants, 36% had a father who was born overseas and 32% had a mother who was born overseas. As shown in Table A2 (see below), countries of origin for the Australian-born participants’ parents predominantly included Australia (64% and 68% for fathers and mothers, respectively) and Europe (27% and 28% for fathers and mothers respectively). Countries of origin for the Asian-born participants’ fathers predominantly included South Asia (45%) and South-East Asia (55%). Countries of origin for collectivist participants’ mothers predominantly included South Asia (43%) and South-East Asia (56%). English was the first spoken language for 96% of the individualist participants and 14% of the Asian-born participants (see Table below for more details).
Table A2: Descriptive Statistics for Demographics by Cultural Background.

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A.7.3 Comparison of sample composition for Australian-born versus Asian-born respondents

Most of the respondents for Australian-born were aged between 17 and 25 years (27%). The next most prevalent age group was 26 to 35 (22%) and 46 to 55 years (also with 22%). In contrast, most of the respondents for Asian-born were aged between 26 to 35 years (55.9%). The next most prevalent age groups for Asian-born were 17 to 25 (13.7%) and 36 to 45 (13.7%). The majority of the Australian-born respondents were male (55%). The majority of Asian-born respondents were female (61.8%). With regard to education, 48% respondents for the collectivist group had a postgraduate degree followed by bachelor degree (34.3%), pass in year 12 or equivalent (9.8%) and TAFE certificate (7.8%). In contrast, 15% of Australian-born respondents had a Postgraduate Degree. However 37% Australian-born respondents had a Bachelor Degree, followed by TAFE certificate (25%), pass in year 12 or equivalent (14%) and no formal qualification (5%). In terms of household income, the highest income group for Australian-born respondents were over $100,000 with 23.2%, followed by $70,000-$79,000 (13.1%), $40,000-$49,000 (11.1%), $60,000-$69,000 (10.1%), $90,000-$99,000 and $20,000-$29,000 (9.1%), $80,000-$89,000 and $30,000-$39,000 (8.1%), $50,000-$59,000 (7.1%) and under $20,000 with 1%. The highest income group for Asian-born respondents was also over $100,000 with 19.6%, followed by $70,000-$79,000 and $40,000-$49,000 (12.7%), $30,000-$39,000 (11.8%), $20,000-$29,000 (10.8%), $50,000-$59,000 (9.8%), $70,000-$79,000 (6.9%), $80,000-$89,000 (5.9%) and the lowest group was under $20,000 with 4.9%.
A.7.4 Outliers
Given that the hypotheses are based on grouped data, screening for outliers was performed separately for the 100 Australian-born and 102 Asian-born participants. One multivariate outlier was detected among the Asian-born participants. This case was deleted.

A.7.5 Normality
Variables were examined for skewness within each group i.e., Australian-born and Asian-born. The variables that were positively skewed for Australian-born participants are: brand quality ratings for Kia and Volvo, importance of information from television advertisements, time spent with dealers, number of cars test-driven and time spent researching decision. The variables that were negatively skewed for individualists’ participants are: brand quality ratings for Ford, Holden, BMW, Mercedes, Volkswagen, Alfa Romeo, Toyota and Volvo; importance of information from the internet and ‘word of mouth’ communication. However, the variable was re-reflected after transformation to retain the original direction of interpretation. The remaining variables were not transformed in order to preserve the meaningful metric of the original scales.

The variables that were positively skewed for Asian-born participants were: brand quality ratings for KIA and Daewoo, time spent with dealers, number of cars ‘test-driven’ and time spent researching decision. The variables that were negatively skewed for Asian-born were: brand quality ratings for Ford, Holden, BMW, Mercedes, Volkswagen and Alfa Romeo; importance of family/friends; and importance of information from dealer, the internet, magazine, and ‘word of mouth’ communication. The variables were not transformed, in order to preserve the meaningful metric of the original scales.
Appendix 8: Pattern Matrix for Exploratory Factor Analysis (EFA) of the CSI
### Pattern Matrix for EFA

#### Pattern Matrix

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Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalisation.
a. Rotation converged in 90 iterations.
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Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalisation.
Appendix 10: Correlation Matrix for Study Variables
A 10.1 Correlations between cultural backgrounds, consumer decision-making styles, brand quality ratings and external influences

The correlation is one of the most useful and valuable statistics for evaluating the relationship between variables. For this research, Pearson Product Moment correlations were performed between individualism, collectivism, consumer decision-making styles, brand quality ratings and external influences for automobile purchase decision-making (see Table 4.10, 4.11 and 4.12).

A10.1.1 Correlations between individualism, collectivism and consumer decision-making styles

The following Table 4.10 presents the correlations between cultural backgrounds and consumer decision-making styles.

Table A10.1: Correlation matrix

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Note: Significant correlations have shown in bold. $r \leq |.18|$ are significant at $\alpha = .05$; $r \geq |.19|$ are significant at $\alpha = .01$.

Referring to the Table 4.10, individualism was positively correlated with the perfectionist, high quality conscious and innovation conscious decision-making styles. Collectivism was negatively correlated with rational and positively correlated with habitual, brand loyal decision-making styles.
A.10.1.2 Correlations between individualism, collectivism, consumer decision-making styles and automobile quality ratings

Table 4.11 shows the correlations between cultural backgrounds and automobile quality ratings.

Table A10.2: Correlation matrix

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Note: Significant correlations have shown in **bold**. \( r \leq |.18| \) are significant at \( \alpha = .05; r \geq |.19| \) are significant at \( \alpha = .01 \).

Table 4.11 has shown that individualism was positively correlated with Holden, whereas collectivism positively correlated with BMW, Mercedes, Volkswagen, Nissan and Volvo. The perfectionist, high quality conscious decision-making style was positively correlated with Ford, BMW, and Mercedes. As expected, the brand conscious decision-making style was positively correlated with Mercedes, but negatively correlated with Ford, Holden, Toyota and KIA. The rational, price conscious decision-making style was positively correlated with Ford but negatively correlated with BMW and Volkswagen. The habitual decision-making style was positively correlated with Ford and Holden. The innovation conscious decision-making style was positively correlated with Mercedes and Toyota.
A.10.1.3 Correlations between individualism, collectivism, consumer decision-making styles and external influences for automobile decision-making

Table A10.3 below shows the correlations between cultural backgrounds and external influences.

Table A10.3: Correlation matrix

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Note: Significant correlations have been shown in **bold**. $r \leq |.18|$ are significant at $\alpha = .05$; $r \geq |.19|$ are significant at $\alpha = .01$
A.10.4 Correlations between Consumer Decision-Making Styles and External Influences

According to Table 4.12, collectivism was positively correlated with importance of family/friends, importance of information from television advertisements, importance of information from dealers, importance of information from magazines, importance of information obtained through ‘word of mouth’ communication, number of dealers consulted and number of family/friends consulted.

There were some other interesting, and also anticipated, observations in terms of consumer decision making styles: the perfectionist, high quality conscious decision-making style was positively correlated with importance of dealers, importance of family/friends, importance of information from dealer, importance of information from the internet, importance of information from magazines, importance of information from television advertisements, importance of information obtained through ‘word of mouth’ communication, and number of family/friends consulted. The rational, price conscious decision-making style was also positively correlated with importance of information from dealers, family/friends, and time spent researching final decision. The brand conscious decision-making style was positively correlated with time spent with dealers and number of cars ‘test-driven’. The habitual, brand conscious decision-making style was negatively correlated with time spent with dealers. However, the innovation conscious decision-making style was positively correlated with importance of information through internet and television.
Appendix 11: Supplementary Analyses
A.11.1 Supplementary Analysis

This section reports the findings of brand quality ratings and the external influences on consumer decision-making for automobile purchases between Australian-born and Asian-born consumer groups. These findings were used in the discussion chapter to describe the brands of cars Australian-born and Asian-born consumers purchase, and the impact of external influences such as importance of information from dealer, internet, magazine, family and friends have on the decision-making of these two groups. With the use of this information, marketers could develop effective messages to communicate with potential and current consumers within these cultural groups (see Discussion for more details).

A.11.2 Brand Quality Ratings

A comparison of brand quality ratings between the two groups indicated that Australian-born rated the quality of Ford significantly higher than did Asian-born participants, $t (197.38) = 2.32, p < .005$ (mean difference = .313). There were no other significant differences in brand quality ratings between the two groups.

A.11.3 External Influences on Consumer Decision-Making

Australian-born and Asian-born participants were compared on the following variables: importance of dealers; importance of family/friends; importance of information from dealers, internet, magazines, television advertisements, ‘word of mouth’ communication; number of dealers consulted; time spent with dealers (hours); number of cars ‘test driven’; time spent researching decision; and number of family/friends consulted.

The two groups significantly differed on importance of information from dealers, $t (197.66) = -2.29, p < .05$ (mean difference -0.41); importance of information
from magazines, \( t (191.96) = -4.74, p < .001 \) (mean difference = -0.76); importance of information from television advertisements, \( t (197.30) = -3.56, p < .001 \) (mean difference = -0.54); number of dealers consulted, \( t (198.56) = -2.32, p < .05 \) (mean difference = -0.38); and number of family members consulted, \( t (199) = -3.77, p < .001 \) (mean difference = .000), with Asian-born participants scoring significantly higher on all of these variables. There were no other significant differences between the two groups.