

# CHAPTER 1

## INTRODUCTION

This chapter endeavours to present the background of the study, to explain the importance of examining the effect of several socialization agents and their effects on the orientation of materialism among young adult consumers. This chapter consists of several sections. This includes the background of the study. This follows by the problem statement for the study. The research questions and objectives of this study are addressed. The significance of the study is also addressed based on supporting evidence from relevant literature. And lastly, the organization of the report and a summary of the chapter are presented.

### **1.1 Background of the Study**

The first research on consumer socialization by Ward (1974) identified three major socialization agents influencing children's consumer behaviour: parents, peers and mass media. Parents have been described as the main socialization agent until adolescence where peers take over and play a more important role (e.g., DeMotta et al., 2013; Moschis et al., 2013; Santos and Fernandes, 2011; Dotson and Hyatt, 2005; Moschis and Moore, 1979a).

This picture seems to be more complex today with a growing number of influencers as a result of increased access to information via digital media, more shopping possibilities, and available brands (Dotson and Hyatt, 2005). The point of departure in this study will be the broader view on consumer socialization as social

learning. Social learning is not about a certain type of behaviour (e.g., purchasing), rather it is a way of adopting skills, values and competences that can be put into practice in different kinds of consumer behaviour.

The core notion in various social science fields such as political science, anthropology, psychology and sociology is socialization. It covers the process of inheriting norms and customs and providing the individual with the skills, values and habits necessary for participating in society (Clausen, 1968). All human activity is subject to habit formation and implies that a specific future action can be carried out again in the same way with lesser effort (Berger and Luckmann, 1991).

Habits have a tendency to persist once they are formed, but the possibility of changing or even dissolving those remains. When habits and the institutional setting are passed on to the next generation the objectivity of the institutional world hardens not only for the children, but for the parents as well (Berger and Luckmann, 1991), and as a result of this, the socialization process takes place.

The classical understanding of socialization is divided into two types of socialization: 1) primary socialization, which occurs when a child adopts attitudes, values, norms and actions appropriate to individuals as members of a particular family, and 2) secondary socialization, which is the process of learning what is appropriate behaviour as a member of a smaller group within a larger society; this occurs later in life than the primary process (Grusec and Davidov, 2007). It is generally assumed that our basic values are acquired through childhood socialization (Clausen, 1968).

When it comes to consumer socialization, attitudes, behaviours, norms and values are important elements in the study of the consumer socialization process as defined by

Ward (1974). It is widely agreed that the sources of socialization influence, called socialization agents, include parents, peers, media and school. During childhood, parents are the main agents in children primary socialization process, in which implicitly and explicitly they teach and transmit consumer-related orientations to the child (Malaki and Inokoba, 2011; Abdelmuhdi, 2012; John, 2000; Moore and Wilkie, 2005; Ward, 1974). In the secondary socialization process, peers, school and media gain influence (Moschis, 1985).

This, however, does not imply that socialization is a one-way process. Often children attempt to influence their parents (Larsson et al., 2010; Nørgaard et al., 2007) and this can lead to a ‘reverse’ socialization process (Foxman et al., 1989; Moschis, 1985). Thus, a socialization process can be described as a “bidirectional interactive process” where mutual influence and value exchange take place (Kuczynski and Parkin, 2007).

**Family communication influences.** Family influences on consumer socialization seem to proceed more through subtle social interaction than purposive educational efforts by parents (Ward, 1974). Given the more subtle nature of family influences, researchers have turned their attention to general patterns of family communication as a way to understand how the family influences the development of consumer values (including materialism). Most influential have been the typology of family communication patterns (e.g., Moschis et al., 2011; Adib and El-Bassiouny, 2012; Moschis et al., 2013; Moore and Moschis, 1981).

**Television viewing influences.** Across diverse theoretical formulations, television is widely acknowledged as a powerful agent of socialization. For this reason, this study attempts to investigate if it has any implications on young adults’ orientation towards

materialism. Television has a number of essential qualities that may contribute to its impact as an agent of consumer socialization. Television is ubiquitous and previous studies have linked television viewing to materialism (e.g., Vega et al., 2011; Shrum et al., 2011; Moschis et al., 2011; Shu-Chuan et al., 2012). In the U.S., Nielsen Media Research found that the average American family watches more than seven hours of television per day, the average individual more than four hours per day (A.C. Nielsen Co., 1995). In terms of exposure, television rivals many traditional socialization agents such as school, church, and even parents, thus making a subject of interest for researchers.

**Peers communication influences.** Previous research has also suggested that, as a socializing agent, peers are more important than family for adolescents (e.g., Chaplin and John, 2010; Chia, 2010; Santos and Fernandes, 2011; Chan, 2013; Churchill and Moschis, 1979; Moschis and Churchill, 1978). Besides from family communication structure, and television viewing, peers have been identified as dominant influences among adult as well (e.g., Moschis et al., 2009; Benmoyal-Bouzaglo and Moschis, 2010; Moschis et al., 2013).

Previous research indicates that peer as a socialization agent plays a significant role in influencing an individual in many aspects of their consumption behaviour, norms and values (DeMotta et al., 2013; Shi and Xie, 2013; Churchill and Moschis, 1979; Moschis and Mitchell, 1986). This study attempt to explore peer influence, particularly the communication and interaction patterns that takes place between young adults and their peers to determine if there is any implication on the endorsement of materialism.

**Materialism** among today's youth has received strong interest among educators, parents, consumer activists and government regulators. The topic of materialism has

received much interest for several reasons. For instance, longitudinal studies of materialism among college and high school students show dramatic increases in materialistic values (Korten, 1999). In 1967, Korten (1999) reported that two-thirds of college students said “developing a meaningful philosophy of life” was very important to them, while less than one-third said the same thing about “making a lot of money.” By 1997, however, those figures were reversed among college students (Korten, 1999). This example, illustrate the dramatic increase in the level of materialistic values among young adults.

Studies have generally found that the level of materialism vary by age, gender, socioeconomic status, birth order, and religion (e.g., Pieters, 2013; Brouskeli and Loumakou, 2014; Guðnadóttir and Garðarsdóttir, 2014; Garðarsdóttir and Dittmar, 2012; Pace, 2013; Chan, 2003). Although materialism has long been of interest to consumer researchers, surprisingly however, with such a growing concern about young adults becoming too materialistic, research into this area has received little attention from academic researchers.

Studies until today are centered mostly on personality, social, and behavioural characteristics that are correlated with materialism, either as *antecedents* or as *consequences* (e.g., Chavosh et al., 2011; Dawson, 2011; Flurry and Swimberghe, 2013; Strizhakova and Coulter, 2013; Xie et al., 2013; Xie et al., 2013; Watson, 2014).

Consistent findings from past studies indicated a negative correlation between materialism and self-esteem, well being and life satisfaction (e.g., Reeves et al., 2012; Burroughs and Rindfleisch, 2002; Richins and Dawson, 1992; Belk, 1985). Researchers have also confirmed links between materialism and conspicuous consumption (e.g., Podoshen et al., 2011; Podoshen and Andrzejewski, 2012).

There is also evidence that materialism predicted compulsive and impulsive buying (e.g., Weaver et al., 2011; Chavosh et al., 2011). Many empirical works conducted by researchers from sociology, psychology and marketing have also found that materialism was linked to brand resonance and luxury consumption (e.g., Rindfleisch et al., 2006; Hudders and Pandelaere, 2012).

## **1.2 Problem Statements**

Despite the interest in understanding more about materialism, a significant gap in research remains that would be useful in understanding the relationship between social-cognitive development and consumption values such as materialism (John, 2000). Most prior studies have investigated how materialism developed among children and adolescents, but very few studies have focused their research on young adults (for e.g., Moschis et al., 2009; Moschis et al., 2011; Kau et al., 2000).

A major limitation of previous studies into the effects of socialization agents has been the limited scope of the analyses, confined to a given developmental stage (e.g., childhood, adolescents and adulthood). Cross sectional data analyzed at a specific development stage in a person's life tell us little about the possible causal influences of socialization agents, living room for criticisms about the nature of influence between materialism and measures of the person's interaction with socialization agents (Moschis, 1985).

Furthermore, it is not clear whether specific socialization agents in general, and communication environment in particular, can instill materialism in young adult consumers. Previous research suggested that, as socializing agents, family

communication environment, television viewing and peer communication are important agents in influencing the development of materialistic values (e.g., Vega et al., 2011; Shrum et al., 2011; Moschis et al., 2011; Shu-Chuan et al., 2012; Adib and El-Bassiouny, 2012; Moschis et al., 2013; DeMotta et al., 2013; Shi and Xie, 2013; Churchill and Moschis, 1979).

Most past studies which have investigated the effect of **family communication** patterns and its relationship with materialism have mainly focused on adolescents and parents (e.g., Rose et al., 1998; Bakir et al., 2005; Chan and Prendergast, 2007; Moschis and Moore, 1979a; Carlson et al., 1994).

Very few studies have explored the relationship between family communication patterns and its relationship with materialism, among young adult consumers in particular (e.g., Moschis et al., 2011; Adib and El-Bassiouny, 2012; Moschis et al., 2013; Moschis et al., 2009). For instance, in Moschis et al. (2011) study, it was found that the influence of the socio-oriented family communication structure on materialistic attitudes might be indirect by affecting the youth's patterns of television viewing.

Past studies have also found an association between **television viewing** and materialism, but very few have been centered on young adults. For instance, in a study by Vega et al. (2011), it was found that television exposure predicted materialistic values. In Moschis et al. (2011) study it was found that television might be an important socialization agent in individualistic countries among young adults.

Past studies which have explored the relationship between **peer communication** and materialism have mostly focused on children and adolescents (e.g., Moore and Moschis, 1981; Taylor, 1998; Chan and Zhang, 2007; Chia, 2010; Santos and

Fernandes, 2011). However, very few studies have examined the effect of peer communication on materialism among young adult consumers in particular (e.g., Chan and Zhang, 2007; Moschis et al., 2013). For instance, Moschis et al. (2013) surveyed young and found that peer communication during adolescent years had a significant association with materialistic values held by young adults.

Although many studies have been conducted to better understand the influence of socialization agents on materialism, no research have yet explored the effects of these combined agents (i.e., family communication, television viewing, and peer communication) in a model and explore its various implications on the orientation of materialism among young adult consumers in particular.

This leaves rooms for assumptions on which particular socialization agent would exert more influence on young adults' orientation towards materialism. This study examines young adults' exposure to various family communication structures at home, television viewing and peer communication during adolescent years and its effect on the orientation towards materialism in adulthood. In so doing, this study provides a better understanding on the orientation of materialism among young adults.

### **1.3 Research Questions**

The research questions developed for this present study leads to the investigation of the various factors influencing young adults' orientation towards materialism. The role of family communication, peer communication and television viewing on young adults' orientation towards materialism are explored. The following research questions are addressed:

- a. Are young adults who are exposed to a socio-oriented family communication structure at home during adolescents years oriented towards materialism in their adulthood?
- b. Are young adults who are exposed to a concept-oriented family communication structure at home during adolescent years oriented towards materialism in their adulthood?
- c. Are young adults who are exposed to a religiously-oriented family communication structure at home during adolescent years oriented towards materialism in their adulthood?
- d. Does young adults' exposure to television viewing at home during adolescent years effect their orientation towards materialism in their adulthood?
- e. Does young adult person's exposure to a socio-oriented family communication structure at home during adolescent years have a positive effect on peer communication?
- f. Does young adult person's exposure to a concept-oriented family communication structure at home during adolescent years have a positive effect on peer communication?
- g. Does young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years have a positive effect on peer communication?
- h. Does young adult person's exposure to television viewing at home during adolescent years positively associated with peer communication?

- i. Does young adults' communication with peers during adolescent year's effect on their orientation towards materialism in their adulthood?
- j. Does peer communication mediate the relationship between young adults' exposure to a socio-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood?
- k. Does peer communication mediate the relationship between young adults' exposure to a concept-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood?
- l. Does peer communication mediate the relationship between young adults' exposure to a religiously-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood?
- m. Does peer communication mediates the relationship between young adults' exposure to television viewing at home during adolescent years and their orientation towards materialism in their adulthood?

#### **1.4 Objectives of the Study**

Although the study of socialization was once restricted to learning that takes place during childhood, it has been extended in recent years to include the study of learning that occurs throughout a person's lifetime (Brim, 1966). Because people learn continuously and because they learn different things at different times in their lives from different agents, the emphasis is on changes in a person's cognitions and behaviours as the individual moves through the life cycle, specifically in the post-adolescent period.

There are two major ways of understanding materialism in consumer research. Belk views materialism as a collection of personality traits. His current view of materialism includes four original traits of envy, nongenerosity, possessiveness and preservation (Ger and Belk, 1993). In contrast, Richins (e.g., Fournier and Richins, 1991; Richins, 1994a, 1994b; Richins and Dawson, 1992) sees materialism as a value (the basic enduring belief that it is important to own material possessions). This includes beliefs about acquisition centrality and the role of acquisition in happiness and success.

Although the scales produced by Belk and Richins differ significantly, they both share a basic understanding of materialism as the importance a consumer attaches to worldly possessions. However, despite this convergence of views, the most currently dominant conceptualization of materialism has been that of Richins and colleagues (Shrum et al., 2013). According to Shrum et al. (2013) materialism in Richin and Dawson view is an enduring concept that is developed over time through the socialization process and for this reason this study adopted Richins and Dawson view of materialism.

Specifically, this study argues that materialism is a phenomenon that is associated with young adults' interaction with television viewing, family communication environment and peer communication. As children grow up to become adults, they start defining themselves in a more complex manner and also develop a new appreciation for others' differing perspectives.

The overall objectives of this study are to investigate which of these factors are most influential in young adults' orientation towards materialism. The following research objectives of this study are as follows:

- a. To examine the effect of young adult who are exposed to a socio-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.
- b. To investigate the effect of young adults who are exposed to a concept-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.
- c. To explore the effect of young adults who are exposed to a religiously-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.
- d. To probe into the effect of young adults' exposure to television viewing at home during adolescent years and their orientation towards materialism in their adulthood.
- e. To examine young adult person's exposure to a socio-oriented family communication structure at home during adolescent years and the effect on peer communication.
- f. To investigate young adult person's exposure to a concept-oriented family communication structure at home during adolescent years and the effect on peer communication.
- g. To examine young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years and the effect on peer communication.
- h. To investigate young adult person's exposure to television viewing at home during adolescent years and the effect on peer communication.

- i. To examine the effect of young adults' communication with their peers during adolescent years and their orientation towards materialism in their adulthood.
- j. To identify the mediating effect of peer communication in the relationship between young adults' exposure to a socio-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.
- k. To find out the mediating effect of peer communication in the relationship between young adults' exposure to a concept-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.
- l. To explore the mediating effect of peer communication in the relationship between young adults' exposure to a religiously-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.
- m. To identify a possible mediating effect of peer communication in the relationship between young adults' exposure to television viewing at home during adolescent years and their orientation towards materialism in their adulthood.

## **1.5 Significance of the Study**

Several reasons exist for the study of the selected socialization agents' factors and their influences on the orientation of materialism among young adults in this study. The following illustrates the reasons for the selection of the socialization agents for this study.

*Family communication influences.* To date, although there have been many studies examining the effect of family communication patterns (through various communication typologies) on the development of consumer values, very limited studies have examined the effect of family communication, specifically utilizing socio-oriented, concept-oriented and religiously-oriented family communication dimensions and its effect on the development of materialism. Furthermore, most past studies on family communication and materialism have investigated children and adolescents, but very few examined young adult consumers (e.g., Moschis et al., 2009; Moschis et al., 2011; Moschis et al., 2013).

Although much discussions and emphasis have been placed on family communication patterns and materialism in previous studies, the extent to which religious beliefs on family interaction have however remained remarkably unnoticed. When researchers described families, religious traditions are not noted, but religious beliefs created a taken for granted subtext for the interaction patterns (Vangelisti, 2004).

Mahoney et al. (2001) reported that there is some evidence for linking religiousness with greater use of adaptive communication skills. If religious beliefs are accepted as impacting family interactions, then it is important to investigate the implication of family who are exposed to a religiously-oriented family communication pattern and its impact on materialism. Although occasionally, religious family rituals (Baxter and Braithwaite, 2002) and interfaith relationship (Hughes and Dickson, 2005) have been explored in the study of family communication, the main area of reference has been to certain faith enrichment programmes only.

Previous research has not examined this important pattern of communication on materialism. This study addressed the effect of young adults who are exposed to a religiously-oriented family communication at home and the possible implications on materialism as well as on peer communication, as these have remained unexplored.

*Peers communication influences.* Although the topic of peers influence, an important socializing influence, has received considerable attention among researchers (for e.g., Bristol and Mangleburg, 2005; DeMotta et al., 2013; Santos and Fernandes, 2011; Bachmann et al., 1993; Achenreiner, 1997), the effect of peer communication in particular, has not been extensively studied in past research.

In the consumer context, many aspects of socialization, including an understanding of materialism, arise from peer communication. It has been recommended that research along these lines be furthered by breaking down peer relationships into factors such as frequency of interaction and communication. In this study, peer communication is investigated in a model to capture its effect on the orientation of materialism among young adults.

This study investigates the mediating effect of peer communication as suggested by past studies. Although there exist some evidence from the literature review to suggest that peer may play a mediating role, prior studies did not investigate the possible mediating effect of this variable in the relationship between the various family communication structure at home and television viewing on materialism. Past studies on peer communication and materialism have mostly concentrated on children and adolescents. Very few studies have examined the effect of peer communication and

materialism among young adult consumers. In so doing, an important literature gap is fulfilled.

*Television viewing influences.* Television's effects are often invisible. Because so many people watch television, its effects can become obscured. Whereas messages from other sources vary from household to household, television's message is much more homogeneous (Gerbner et al., 1982). Even with an increasing number of channels and some corresponding increase in programming diversity, scholars (e.g., Miller, 1988) argued that the basic structure and thematic center of television have not changed much at all.

Although past researches have extensively explored the effect of television viewing on materialism, most of the studies were concentrated on children and adolescents, rather than young adults. In addition, prior studies have not explored the effect of television viewing in a model which combines the family and peer communication environment.

*Young adults.* Studies analyzing consumer behaviour have fundamentally focused on adolescents, and their findings have generally not been transferable to young adults (Ganassali et al., 2009). Young adult consumers have been a subject of interest for consumer research for several reasons. For instance, according to Mokhlis (2009) due to the transition period that takes place from adolescence to early adulthood, the person seek to establish their own individual personas and form behaviour patterns, attitudes, and values, hence their own consumption patterns. Furthermore, young adult consumers represent an important segment that forms a powerful consumer spending group in their own way (Mokhlis, 2009).

## **1.6 Organization of the Report**

Chapter 1 outlines the background of the study. The point of departure is a broader view on consumer socialization as social learning. Based on prior research three major socialization agents influencing consumer behaviour have been identified. It consists of family influences, television viewing influences and peer influences. These socialization agents were found to have considerable impact on materialism among consumers.

Following which, the problem statement of the study is addressed. Next, the research questions and objectives of this study are presented. A discussion about the significance of this study is then presented. The chapter concludes with the organization of this report and a chapter summary.

Chapter 2 consists of the literature review of this study. It begins with an introductory section which provides an overview on the theories and concepts addressed in this study. The chapter discusses the conceptualization and development of consumer socialization theory. It also explores the cultivation and social cognitive theory which have been linked to materialism.

Next, the self-determination theory, Maslow's human need theory, and the symbolic self-completion theory are examined. And lastly, the life course theory which adds value to the theories of self-determination, human need, and symbolic self-completion are examined. Parental influence can be categorized into parental styles, family structure, family resources, and family communication. Each of them is discussed in sequence. Following this, the chapter opens a discussion on religiously-oriented family communication. Next, the dependent variable of this study is discussed.

Next, this study examined materialism as an independent and dependent variable. This study also explores the demographic variables associated with materialism. Following this, the chapter opens a discussion on television and peer influences, and how it has been explored in previous studies. The chapter concludes with a chapter summary.

Chapter 3 consist of the model development for this study. It begins with an introductory section which provides a general description on how the various variables of this study have been examined in past studies. Next, the chapter presents an overview of the research framework and its relationship with the objectives of this study. It then establishes the relationship among the variables of this study.

First, the link between socio-oriented, concept-oriented and religiously-oriented family communication and television viewing on materialism is depicted based on relevant research. Next, this chapter establishes the relationship between socio-oriented, concept-oriented and religiously-oriented family communication and television viewing with peer communication. Next, the relationship between peer communication and materialism is presented. Following this, a discussion on peer as a mediating variable is presented. Lastly, the relationship between age and materialism is addressed. The chapter ends with a chapter summary.

Chapter 4 presents the methodology of this study. It begins with an introductory section which addresses the various sections addressed in the chapter. Next, the hypotheses of this study are presented. Following this, the various measurements for all constructs are illustrated and the measurement for socio-oriented family

communication construct is presented. Next, the measurement for concept-oriented family communication construct is illustrated.

Following this, the measurement for religiously-oriented family communication construct is presented. Next, the instrument employed to measure television viewing construct is presented. The instrument to measure peer communication is then illustrated. Next, the measurement used to measure materialism construct is presented.

The chapter next illustrate the questionnaire design of this study. Following this, the sampling technique is then presented. The data collection technique is then illustrated. Lastly, the chapter ends with an illustration on the data analysis technique, and concludes with a chapter summary.

Chapter 5 presents the results of the preliminary statistical analyses from this study. First, the descriptive statistical data including the response rate, and respondent demographic, and the characteristics of the constructs studied were presented. Second, exploratory measurement assessments which included exploratory factor analyses and scale reliabilities were covered.

Third, additional statistical analyses using independent sample t-tests were used to examine the variable gender with all constructs of this study. One-way ANOVA was used to examine the variables age, ethnicity, religion, marital status, education level, income, with respect to all the constructs of this study. The fourth part presented the correlations between the hypothesised constructs. Lastly, preliminary results are assessed.

Chapter 6 presents the measurement assessment of confirmatory factor analysis as well as the hypotheses testing results using structural equation modelling (SEM) technique. First, measurement scale validation in which the assessment of fit, unidimensionality and construct validity of the measurement model are presented. Second, two full structural model testing which includes the alternative model comparison are covered. This is followed by a discussion on the results of hypotheses testing. Lastly, the final hypothesised structural model is evaluated.

Chapter 7 briefly summarizes the results and discusses the limitations of the research. In this chapter, the contribution and implications of the findings are discussed, and reasonable explanations of the research results are presented.

## **1.7 Chapter Summary**

In summary, the point of departure of this study provided a broader view on consumer socialization. Studies on consumer socialization have identified three major socialization influencers as having an impact on materialism. Family influence, television viewing and peer communication, mentioned as socialization agents, have often been identified in prior research as major factors which exert significant influence on the development of materialism. A brief overview of these socialization agents were provided as a point of departure for this study.

The problem statement of this study was then formulated and addressed. Basically, although these socialization influencers have been extensively studied in prior studies, many areas have remained unexplored. This study then formulated the research questions and objectives. Generally, the research questions which led to the

objectives of the study asked whether young adults' exposure to a socio-oriented, concept-oriented, religiously-oriented family communication structures at home, and television viewing during adolescent years have an effect on young adults' orientation towards materialism.

Next, whether young adults' exposure to a socio-oriented, concept-oriented, religiously-oriented family communications structures at home, and television viewing during adolescent years would have an effect on peer communication. And whether peer communication during adolescent years would lead to young adults' orientation towards materialism. The study also examines peer communication as a mediating variable in the relationship between socio-oriented, concept-oriented, religiously-oriented family communication structures at home, and television viewing on materialism.

Next the chapter addressed the significance of conducting this study. Although there have been many studies which examined the effect of family influence on the development of materialism, other areas of family communication such as religious orientation communication structure at home and its effect on materialism among young adult consumers has remained unexplored. The significance and importance of television viewing and peer communication on the orientation of young adults towards materialism were also discussed.

Many studies have explored the direct effect of television viewing on materialism, but very few have studied the indirect effect of television viewing on materialism through peer communication. Similarly, for peer influence, many studies on peer influence and its consequences on materialism were conducted. However, in the context of communication environment, very few studies have explored the effect of

peer communication on materialism, especially among young adult consumers. There exists evidence that peer communication during adolescent years could play a mediating role between family communication and television viewing on materialism among young adult consumers.

This chapter ends with an overview of the organization of this report, which consists of seven chapters. The sequence of the chapters are as follows: introduction, conceptual and theoretical background of the study, literature review, methodology, preliminary analysis of research results, hypotheses testing using structural equation modelling, and discussion and conclusion.

## **CHAPTER 2**

### **LITERATURE REVIEW**

The chapter endeavours to cover the literature background for this study. Relevant theories of consumer socialization are first drawn upon to establish the link with materialism. The family environment, which entails the domain of parental style, family structure, resources and communication, is explored. The construct of materialism is then discussed. Factors which are found to correlate with materialism as an independent and dependent variable in past studies are discussed, and the various demographic variables associated with materialism is illustrated. Other major constructs of this study, which includes television and peer environment influences are then expounded, and the chapter ends with a chapter summary.

#### **2.1 Introduction**

Past researches have highlighted the various theories and concepts which were found to be associated with the study of consumer socialization and materialism. Important theories such as the theory of consumer socialization, cultivation theory, social cognitive theory, self-determination theory, human need theory, symbolic self-completion theory, and the life course theory provide some insight into how the family environment, mass media and peer influence helped individuals to learn consumer knowledge, skills and values.

The theories have also been extensively linked with materialism in past studies and are relevant and applicable in consumer behaviour literature. Television, family

and peer environment influences may affect directly and indirectly individuals' values which includes materialism. The following section lay down the theoretical foundation for the model framework of this study.

## **2.2 Consumer Socialization Theory**

The author Scott Ward defined consumer socialization as the “process by which young people acquire skills, knowledge and attitudes relevant to their functioning as consumers in the marketplace,” (Ward, 1974, p. 2).

According to Reimer and Rosengren (1990) there are at least eight major socialization agents in modern societies. Traditional socialization agents include family, peer group, work group, places of worship and school, large organizations representing popular movements and interest groups, and the mass media can be found in most societies (Reimer and Rosengren, 1990).

The work of Piaget (1955), explained that young children's consumer learning mainly comes from their modeling on parents and peers while the influence of mass media is low. However, for teenagers, observational learning is an important device of their consumer socialization. They turn away from parents to peers and seek consumer information from various mass media.

McLeod and O'Keefe (1972) provided a complete socialization theory which deal with five types of variable: (a) content or criterion behaviour; (b) agent or source of the influence; (c) learning processes involved in socialization; (d) social structural constraints affecting learning; and (e) age or life cycle position of the person being influenced.

a) Content or Criterion Behaviour

McLeod and O’Keefe (1972) explained that learning properties can be divided into: (1) properties that help a person function in any given social system and (2) properties related to a person’s individual behaviour. The criteria relevant to the functioning in any given social system are prescribed by that society and they are based on normative theories of human behaviour. Individual behaviour includes cognitions and behaviours that enable the person to enact a given social role.

b) Agent or Source of Influence

According to McLeod and O’Keefe (1972), socialization is a social process by which norms, attitudes, motivations and behaviours are transmitted from specific sources, commonly known as “socialization agents” to the learner (McLeod and O’Keefe, 1972).

According to Brim (1966), a socialization agent may be a person or an organization directly involved in socialization because of frequency of contact with the individual, primacy over the individual, and control over rewards and punishments given to the individual.

Other researchers have put forward categories based on the type of agents. Earlier study by Talmon (1963) has classified these agent-to-learner relationships into four categories on the basis of the formality of the type of agent and the role of the learner: (1) formal organization (agent), role of learner specified (e.g., school); (2) formal organization, role of learner not specified (e.g., mass media); (3) informal organization, role of learner specified (e.g., family); (4) informal organization, role of learner not specified (e.g., peers).

c) Learning Processes

According to McLeod and O’Keefe (1972), the processes by which the learner acquires specific values and behaviours from the socialization agents, while interacting with them, can be divided into three categories: modeling, reinforcement, and social interaction. Modeling explanations involve imitation either through a conscious attempt to emulate the socialization agent or because the agent’s behaviour is the most salient alternative open to the person.

Reinforcement is where learning involves either reward or punishment mechanisms. And lastly, social interaction which is a mechanism involving a combination of modeling and reinforcement. This explanation holds that the characteristic social norms involved in the person’s interactions with other significant persons shape the individual’s attitudes, values, and behaviour.

d) Social Structural Constraints

According to McLeod and O’Keefe (1972), social structural explanations of socialization emphasized the person’s social environment within which learning takes place. Social variables such as social class, sex, and birth order can have a direct as well as indirect effect in socialization by influencing learning processes.

e) Age or Life Cycle Position

According to Brim (1966), the study of socialization includes the study of learning that occurs throughout a person’s lifetime. People learn continuously and the emphasis is on changes in a person’s cognitions and behaviours as the individual moves through the life cycle, specifically in the post-adolescent period. Theory and research

suggested that people at different age or life cycle levels may be influenced differently by environmental factors (Ward et al., 1977).

### **2.3 Cultivation Theory**

According to Cohen and Weimann (2000) cultivation theory is a social theory which examines the long-term effects of television. Cultivation theory states that the more time people spend “living” in the television world, the more likely they are to believe social reality portrayed on television (Griffin, 2012). Developed by Gerbner and Gross (1976), cultivation theory posits that television as a mass medium of communication had formed in to a common symbolic environment that bound diverse communities together, socializing people in to standardized roles and behaviours.

A tradition of mass communication research examines mass media’s contribution to the audience’s conceptions and perceptions of social reality that in turn guide people’s behaviour. The tradition can also be considered as a social cognitive perspective of mass communication. It is represented by the cultivation analysis of Gerbner et al. (2002) and Bandura’s (2002) social cognitive theory of mass communication.

According to Shrum (2002), two related principles from social cognition research can be borrowed to explain how people’s perceptions, attitudes and belief judgments are influenced by television. The first principle, the *Heuristic/Sufficiency Principle*, states that when people form judgments, they recall only a small quantity of information available according to the criterion of sufficiency. The second principle, the *Accessibility Principle*, states that the small quantity of available information recalled to construct a judgment is often the information that comes most readily to mind (Shrum, 2002).

## **2.4 Social Cognitive Theory**

Bandura's (1977) social cognitive learning theory suggests that humans can learn through observation without imitating the observed behaviour. Humans can learn from behaviours indirectly or directly by observing behaviours and the consequences of those behaviours. The theory suggests that a combination of behavioural, cognitive, and environmental factors influence behaviour.

Bandura (1977) suggested that observational or social learning focused on four component processes needed to model and learn behaviour. They were attention, retention, behaviour production, and motivation. Attention states that one must attend to the main components of the modeled behaviour in order to learn from observation. Retention states that in order for an individual to learn from behaviour, one must remember the modeled behaviour. One must remember the behaviour imaginably or verbally. Imaginably means that pictures or mental images serve as symbols of the behaviour.

Verbally means that the behaviour is captured by words. Behaviour production is putting the observation into action. One takes the actions observed and uses it to gradually adjust to fit the model. Motivation suggests that people are more likely to adopt a new behaviour if it indicates it will result in a positive outcome.

## **2.5 Self-Determination Theory**

Ryan and Deci's (2000) self-determination theory posits that the way and degree to which children's growth (food and shelter) and psychological (love, emotional support, sense of belonging, esteem) needs are satisfied have important implications for the values they will later develop and adhere to.

Drawing from this theory, Kasser et al. (2002) suggest that individuals may become concerned with self-worth and consume on grounds of how others view them when the environment in which they grew up, blocked or frustrated the satisfaction of psychological needs. In this situation, materialism may be highly valued as a means of self-definition, and self-transformation and for social communication of power and self-esteem (Richins and Rudmin, 1994).

## **2.6 Human Need Theory**

Maslow's human need theory is useful in studying people's motivation. Maslow examined people without deficiencies (Oleson, 2004). As individuals progressively interact with various environments (for example, the family, school, media, cultures), Maslow (1943) asserts that they develop specific needs which motivate them to respond to their experiences in varied ways. As Kasser et al. (2002) suggested, materialistic values are largely derived from a society that failed to satisfy people's physiological and security needs.

## **2.7 Symbolic Self-completion Theory**

Wicklund and Gollwitzer's (1982) symbolic self-completion theory also emphasises the importance of psychological need satisfaction in materialistic orientations. Materialism according to this theory is fuelled by perceived self-discrepancies (disparity between how an individual sees her/himself (actual self) and how s/he would ideally wish to be (ideal self). Drawing from the symbolic self-completion theory Dittmar et al. (1996) developed a theoretical model of impulse buying that shows that social (for example, gender, age group, social class) and

personality (inner/other directedness) factors impact on an individual's self-discrepancies. Self-discrepancies are picked up when people judge their self-worth, a process Wicklund and Gollwitzer (1982) term as self-definition or description. Individuals who perceive self- discrepancies or a sense of incompleteness are motivated to compensate usually with symbolic material possessions such as apparel items.

## **2.8 The Life Course Theory**

Moschis (2007) defines the life course paradigm, a theoretical framework that integrates several approaches used in different disciplines (e.g., sociology, history, developmental psychology and economics) to study consumer behaviour over the course of people's lives. It deals with an understanding of how events that happened at an earlier age or stage in an individual's life affect his/her thoughts and way of behaving later on in life. It emphasise the importance of recognizing the historic timing of events, the place (where the events happened), time (duration) or intensity of a child's experience of these events, and the relationship of these events to other events in the child's life (Moschis, 2007).

## **2.9 Family Influence**

The family is a major influence on the consumer behaviour of its members (Sharma, 2011). According to Hawkins et al. (2004), a family is defined as a group of two people or more (one of whom is the household) related by birth, marriage or adoption and residing together. Researchers have examined the family environment and its various implications in consumer socialization research mainly in terms of parental styles (e.g., Abdelmuhdi, 2012; Limbu et al., 2012; Malaki and Inokoba, 2011;

Frank et al., 2010), family structure (e.g., Benmoyal-Bouzaglo and Moschis, 2010; Moschis et al., 2013), family resources (e.g., Baker et al., 2013; Churchill and Moschis, 1979) and family communication patterns (e.g., Martin, 2013; Moschis et al., 2011; Vega et al., 2011; Adib and El-Bassiouny, 2012). The following section is an attempt to provide an explanation on how family environment influences consumer behaviour with the context of consumer socialization.

### **2.9.1 Parental Styles**

Parental style is defined as “a constellation of attitudes toward the child that are communicated to the child and that, taken together, create an emotional climate in which aren’t behaviours are expressed” (Darling and Steinberg, 1993, p. 488). Table 2.1 provides selected studies related to parental styles in the context of consumer socialization.

According to Berman (1997), an important factor that fosters the development of prosocial or socially competent behaviour is the type of control that their parents exhibit over their children (please refer to Table 2.1). Studies have examined parental discipline on various outcomes. For instance, Hoffman’s theory takes as established that inductive discipline is linked to prosocial behaviour and accounts for this relation by positing that empathy plays a key role (Hoffman, 1982) (please refer to Table 2.1).

Power assertions such as coercion or threats of punishment are posited to promote self-focused concerns with external consequences, which can in turn reduce prosocial behaviour. According to Salztein (1975), power assertion seeks to bring the child’s behaviour into conformity with parental expectations through the use of physical or other material rewards or punishment (please refer to Table 2.1).

**Table 2.1**  
**Some Findings Related to Parental Styles**

Authors	Findings
Salztein (1975).	Power assertion seeks to bring the child's behaviour into conformity with parental expectations through the use of physical or other material rewards or punishment.
Hoffman (1982).	Hoffman's theory takes as established that inductive discipline is linked to prosocial behaviour and empathy plays a key role.
Baumrind (1991).	Provided four typologies of parental styles, namely: Authoritarian, Authoritative, Permissive and Uninvolved parenting.
Berman (1997).	Factor that fosters the development of prosocial or socially competent behaviour depends on the type of control that parents exert over children.
Burrough and Rindfleisch (2002).	Parents who hold materialistic values may use a controlling and dominating parental style as part of their need to show power and authority over others.
Lammers et al. (2010).	Materialistic parents may hold their child quite strictly to moral standard. When the child violates moral rules, parents respond more punitively to the child.
Malaki and Inokoba (2011).	Found significant influence of parental child rearing patterns on students' attitude towards cultism.
Abdelmuhdi (2012).	Investigated the relationship of parenting styles to neurotic behaviours among a sample of adolescents. The results indicated that there were statistically significant differences in the parenting styles.
Limbu et al. (2012).	Examined parental influence and materialism effects on consumers' credit card attitudes and behaviour. Parental influence also mediated materialism's effect on trust and balance management.

Other researchers have put forth categorical distinctions for parental disciplinary styles that closely parallel to those introduced by Hoffman and his colleagues. Baumrind (1991) has identified two key dimensions underlying parental style: *demandingness* is the extent to which parents show maturity demands, supervision, disciplinary efforts and willingness to confront the child who disobeys; *responsiveness* is the extent to which parents show affective warmth, acceptance, and involvement. The combined effects of these two dimensions yield a four-fold classification of parental styles (please refer to Table 2.1).

According to Baumrind (1991) typology of parental styles, parents can be categorized as employing one of the four parenting styles, representing attitudes and

values toward parenting, communication patterns with their children, and specific practices they employ in socializing their children. “Authoritarian” parents are very controlling and engage in little meaningful two-way communication with their children. “Authoritative” parents exert firm control but are supportive and warm. “Permissive” parents are lenient and nonpunitive, while “neglecting” parents are uninvolved and cold with their children (please refer to Table 2.1).

Parental materialistic values also influence the way that parents interact and socialize with their children. Research based on Schwartz’s value circumplex found that materialism is closely related to Schwartz’s power value (Burrough and Rindfleisch, 2002). Parents who hold materialistic values may be more likely to use a controlling and dominating parental style as part of their need to show power and authority over others (Burrough and Rindfleisch, 2002) (please refer to Table 2.1).

Research by Lammers et al. (2010) indicated that materialistic parents may hold their child quite strictly to moral standard, while at the same time setting a less than proper moral example. When their children violate moral rules, these strict views of materialistic parents towards moral transgressions may lead them to respond more punitively than parents who are less materialistic (please refer to Table 2.1).

In another study, Malaki and Inokoba (2011) have examined the influence of parental child rearing patterns and parental marital relationships and attitude of university undergraduates to cultism. The findings revealed that there was significant influence of parental child rearing patterns on students’ attitude towards cultism (please refer to Table 2.1). Abdelmuhdi (2012) investigated the relationship of parenting styles to neurotic behaviours among a sample of adolescents. The results indicated that there

were statistically significant differences in the parenting styles. And there were statistically significant differences in the strength of these relationships due to gender (please refer to Table 2.1).

Limbu et al. (2012) examined parental influence and materialism effects on consumers' credit card attitudes and behaviour. It was also found that parental influence improved students' commitment, trust, and use and balance management while discouraging overuse. Parental influence mediated materialism's effect on trust and balance management (please refer to Table 2.1).

## **2.9.2 Family Structure**

According to Coleman (1988), children grow up in a variety of family structures. Single parent families and two-parent families are created and recreated through marriage, divorce, remarriage, cohabitation and births outside of marriage.

Table 2.2 provides selected studies related to family structure. Two theoretical perspectives have dominated the study of family structure and children's development. The family composition perspective emphasizes family structure and the family process perspective emphasizes family processes.

Theorists who take the family composition perspective argue that two-parent intact families are the best family structure for children. McLanahan and Sandefur (1994) claimed that children who are not raised by their biological parents will suffer lower levels of well-being than children from intact families. Children who grow up in single-parent families or reconstituted families have lower levels of well-being (please refer to Table 2.2).

**Table 2.2**  
**Studies Related to Family Structure**

Authors	Findings
McLanahan and Sandefur (1994).	Two-parent intact families are the best family structure for children. Children in single-parent families or reconstituted families have lower levels of well-being.
Acock and Demo (1994).	Intact family structure has several benefits for children as compared to a never-married family. A never-married family faces many of the same difficulties as divorced mothers. Children in stepfamilies are exposed to problems and benefits of these family forms prior to forming their new stepfamily.
Amato and Booth (1991).	Children from divorced and separated families have experienced a marital disruption. Separated individuals are likely to be in the initial phase of a marital breakup.
Rindflesich et al. (1997).	Found that materialism is positively correlated with experiencing divorce in one's family children from disrupted family.
Roberts et al. (2003).	The effects of family structure on the happiness dimension of materialism were fully mediated by family stressors.
Gauthier and Monna (2008).	Found that single or divorced parents spent less time with their children as compared to biological two parent families.
Forry et al. (2010).	Non-traditional family structures were characterized by conflict over both the temporal and financial resources dedicated to the child.
Benmoyal-Bouzaglo and Moschis (2010).	Examined television, peers and family influences as a mediator in the relationship between family structure and materialism. However, none of these variable significantly mediated the effects of family structure (intact versus dislocated) on materialistic values.
Li et al. (2011).	Results indicated that life dissatisfaction led to materialism, and both of these factors led to favorable attitudes toward marriage, which led to greater desire for children.
Carroll et al. (2011).	Materialism had a negative association with marital quality, even when spouses were unified in their materialistic values. Marriages in which both spouses reported low materialism were better off on marital quality.
Moschis et al. (2013).	Perceived stress was not a mediator of the relationship between disruptive family events and materialism.

Family processes, such as the parent-child relationship and parental conflict, and socioeconomic variables, vary across family structures. According to Acock and Demo (1994), the majority of children in intact families have never experienced a marital disruption. This family structure has been theorized to have several benefits for

children. For example, children have easy access to both biological parents (please refer to Table 2.2).

According to Amato and Booth (1991), children from divorced and separated families have experienced a marital disruption. According to the crisis model of divorce, the effects of marital disruption are most influential during the divorcing years and the years following divorce (please refer to Table 2.2). On the other hand, a never-married family is created when mothers do not marry the biological father of their children. This family structure faces many of the same difficulties as divorced mothers (Acock and Demo, 1994). In stepfamilies, children are exposed to all the possible problems and benefits of these family forms prior to forming their new stepfamily (Acock and Demom, 1994) (please refer to Table 2.2).

Other researchers have examined how family structure affects the development of materialism. A study by Rindflesich et al. (1997) found that materialism was positively correlated with experiencing divorce in one's family children from disrupted family (please refer to Table 2.2). Roberts et al. (2003) examined the impact of disrupted family on materialism. Across the three dimensions of materialism (happiness, centrality and success), results revealed that family structure directly affected the happiness dimension of materialism. It was also found that the effects of family structure on the happiness dimension of materialism were fully mediated by family stressors (please refer to Table 2.2).

Gauthier and Monna (2008) have reviewed literature on parental time, and found few differences in the parental time allocation patterns of cohabitating and married parents, but multiple studies showed that single or divorced parents spent less time with their children as compared to biological two parent families (please refer to Table 2.2).

Forry et al. (2010) found that when there has been dissolution of a parental union, non-traditional family structures were characterized by conflict over both the temporal and financial resources dedicated to the child. Their study found that, with higher conflict after separation, both fathers and mothers were less involved in their child's education (please refer to Table 2.2).

Benmoyal-Bouzaglo and Moschis (2010) have examined the differences in materialistic values among young consumers. In the study, television, peers and family influences were examined as a mediator in the relationship between family structure and materialism. However, none of these variable significantly mediated the effects of family structure (intact versus dislocated) on materialistic values (please refer to Table 2.2).

Li et al. (2011) examined factors related to attitudes toward marriage and the importance of having children. Their results indicated that life dissatisfaction led to materialism, and both of these factors led to favorable attitudes toward marriage, which led to greater desire for children. The results also indicated that a consideration of psychological variables such as materialism, may lead to a better understanding of low fertility rates among developed East Asian countries (please refer to Table 2.2).

Carroll et al. (2011) developed a typology of couple materialism to investigate how congruent and incongruent patterns of materialism between spouses influence marital outcomes. It was found that materialism had a negative association with marital quality, even when spouses were unified in their materialistic values. Marriages in which both spouses reported low materialism were better off on marital quality (please refer to Table 2.2).

There are also studies which examined the stress level with parental style. For instance, recently Moschis et al. (2013) hypothesized that the level of perceived stress associated with disruptive family events would mediate the relationship between disruptive family events experienced in adolescence and materialistic tendencies in early adulthood. However, the result indicated that perceived stress was not a mediator of the relationship between disruptive family events and materialism, since the effect of disruptive family events on materialism was not significant (please refer to Table 2.2).

### **2.9.3 Family Resources**

According to Rindflesich et al. (1997) family resources is defined as the perceived level of both tangible (for e.g., food and clothing) and intangible (for e.g., guidance and emotional support) resources provided by the parents when the child grows up. There has also been a long tradition of research which have indicated that parents of varying socioeconomic status (SES) often experience different conditions of life, develop different conceptions of social reality, and vary in the value systems they transmit to children (e.g., Kohn and Schooler, 1982; Peterson and Rollins, 1987). For instance, white collar parents learn the importance of working effectively with others and the need to exercise initiative and self-direction to meet job expectations they face on a daily basis (Kohn and Schooler, 1982).

These parents use child-rearing approaches that emphasize autonomy and interpersonal skills as being components of social competence. In contrast, blue collar parents often work under conditions of close supervision and demands for conformity. Therefore, they tend to use child-rearing practices that encourage various dimensions of social competences such as obedience and conformity (Kohn and Schooler, 1982).

Differences have been found between blue-collar adults and their white-collar counterparts. Consequently, the parenting repertoires of blue-collar adults tend to be more coercive, punitive and authoritarian than those of their white-collar counterparts (Peterson and Rollins, 1987).

In addition, Kasser et al. (1995) found that adolescents from lower socioeconomic backgrounds valued financial success aspirations significantly more than self-acceptance, affiliation, or community feeling than did adolescents from higher socioeconomic backgrounds. However, in the context of materialistic values, Moschis and Churchill (1978) did not find a significant relationship between materialism among adolescents and their family's socioeconomic status.

Research conducted by Roberts et al. (2003) has also attempted to test if the relationship between family structure and materialistic attitudes is mediated by adolescents' perceived level of family resources. The results however indicated that family resources did not mediate the effects of family structure on happiness-materialism.

Baker et al. (2013) tested a theoretical model that explained the development of materialistic beliefs and compulsive buying. Their findings indicated that family resources played a mediating role between childhood family disruptions and young adulthood consumption orientations.

Recently, Moschis et al. (2013) study posited a negative relationship between socio-oriented family communication and levels of material and intangible family support. Both hypotheses were supported, as the correlation, suggesting that depletion of family resources promoted the development of socio-oriented family communication.

## 2.10 Family Communication

McLeod and Chaffee (1972) refer to the family communication patterns as the frequency, type, and quality of communication among family members. Researchers explain that the degree of influence that a child has in purchasing is directly related to patterns of interaction and communication within the family (Carlson and Grossbart, 1988; Carlson et al., 1992; Rose, 1999). McLeod and Chaffee (1972) explained that family communication utilized two dimensions from Newcomb's (1953) general model of effective communication. These dimensions are *socio-orientation* and *concept-orientation* and are describe as follows:

a) *Socio-orientation*

According to McLeod and Chaffee (1972), socio-orientation captures vertical communication which is indicative of hierarchical patterns of interaction and establishes deference among family members and usually resulted in controlling and monitoring children's consumption-related activities.

b) *Concept-orientation*

According to McLeod and Chaffee (1972), the second dimension, concept-orientation, actively solicits the child's input in discussions, evaluates issues from different perspectives, and focuses on providing an environment that stimulates the child to develop his/her own views.

Together, these two dimensions of family communication structure have produced a four-fold typology of family communication patterns: laissez-faire, protective,

pluralistic, and consensual (McLeod and Chaffee, 1972). According to Bakir (2005), pluralistic parents emphasized low socio-orientation and high concept-orientation and encouraged their children to engage in overt communication and discussions. This communication pattern results in children that possessed independent perspectives and become skilled consumers. Consensual parents emphasized high socio-orientation and high concept-orientation, and encourage children to formulate independent ideas, but maintain a hierarchy of power within the family and control and monitor their children's consumption environment.

The other two other typologies of family communication are laissez-faire and protective parents. Laissez-faire parents emphasized low socio-orientation and low concept-orientation and can be characterized as having low levels of parent-child communication in general. Children in this type of environment are more influenced by external socialization agents such as the media and peers. Finally, protective parents emphasized high socio-orientation and low concept-orientation and emphasize obedience. They promote vertical relationships with their children, focus less on issue-oriented communication, and tightly control and monitor their children's consumption (Bakir, 2005).

Moschis (1985) explained that the influence of family communication, as generalized to other situations, persists well into adulthood and is part of the developing individual's personality that s/he carries outside of the home. Besides, the link between materialism and family communication, family communication patterns have repeatedly been linked to other aspects of consumer socialization.

Table 2.3 provides selected studies related to family communication. Moschis and Churchill (1978) presented the results of a large-scale study of adolescent consumer

socialization. Their results indicated that adolescent communication about consumption and the adolescent's economic motivations for consumption was significant (please refer to Table 2.3).

In a study by Moschis and Moore (1979a) the type of family communication patterns was related to adolescent's perception of consumer socialization issues (please refer to Table 2.3). In Moschis and Moore (1979b) study, the correlation between socio-oriented family communication structure and materialism was statistically significant, while the relationship between concept-oriented communication structure and materialism was insignificant (please refer to Table 2.3).

In another study by Moschis et al. (1983), it was found that learning mechanisms (i.e., modeling, reinforcement, and interaction) were associated with materialism. Furthermore, concept-oriented communication was generally associated with positive reinforcement, while socio-oriented communication was linked to the use of negative reinforcement among adolescents (please refer to Table 2.3).

A study by Carlson et al. (1990) found that mother's concept-orientation was related to the number of consumer socialization goals, co-viewing, child's influence, co-shopping, yielding, and granting consumption independence. On the other hand, socio-orientation was generally linked to restriction of consumption (please refer to Table 2.3). A study employing maternal sample found that mothers' materialistic values were related to family communication patterns (Carlson et al., 1994). Protective mothers were believed to have more materialistic attitudes than pluralistic mothers, while more concept-oriented mothers tended to shop at more stores and have more rational, economically motivated consumption motives than less concept-oriented mothers (please refer to Table 2.3).

**Table 2.3**  
**Studies Related to Family Communication**

<b>Study</b>	<b>Sample</b>	<b>Findings</b>
Moschis and Churchill (1978).	Adolescents.	Adolescent communication about consumption and the adolescent's economic motivations for consumption was significant.
Moschis and Moore (1979a).	Adolescents.	Adolescents from pluralistic families have a greater knowledge of consumer related issues. Socio-oriented family structure encouraged the development of materialistic orientations.
Moschis and Moore (1979b).	Adolescents.	Socio-oriented family communication structure and materialism was significant while concept-oriented communication structure and materialism was not.
Moschis et al. (1983).	Adolescents.	Concept-oriented communication was associated with positive reinforcement, while socio-oriented communication was linked to the use of negative reinforcement.
Carlson et al. (1990).	Parents.	Mother's concept-orientation was related to the number of consumer socialization goals. Socio-orientation was generally linked to restriction of consumption.
Carlson et al. (1994).	Parents.	Protective mothers were believed to have more materialistic attitudes than pluralistic mothers.
Palan and Wilkes (1998).	Parents.	Communication quality and consumption interaction were positively related to consumer activity.
Rose et al. (1998).	Parents.	Pluralistic and consensual mothers had negative attitudes toward advertising, while laissez-faire mothers had the most positive attitudes toward their children's media use.
Flouri (1999).	Adolescents.	Family environment were associated with adolescents materialistic values.
Bristol and Mangelburg (2005).	Adolescents.	Materialism of teens in protective family was significantly greater than materialism in pluralistic.
Bakir et al. (2005).	Parents and children	The correlation between socio-oriented communication and control of TV viewing was high for mothers and fathers.
Chan and Prendergast (2007).	Adolescents.	Socio-oriented and concept-oriented family communication patterns were not related to social comparison with friends.
Chia (2010).	Adolescents.	Exposure to advertising was indirectly associated with materialism.
Moschis et al. (2011).	Young adults.	The influence of socio-oriented family communication structure on materialistic attitudes might be indirect by affecting the youth's patterns of television viewing.
Vega et al. (2011).	Children.	Concept-oriented family communication did not moderate the relationship between advertising/television and materialism.
Adib and El-Bassiouny (2012).	Adults and children.	The results indicated a positive relationship between socio-oriented family communication and parental restrictive mediation.

**Table 2.3 Cont'd**  
**Studies Related to Family Communication**

Study	Sample	Findings
Martin (2013).	Adolescents.	Communication quality between parents and their adolescent children impacted the consumption interaction taking place between the parents and their children.
Moschis et al. (2013).	Young adults.	A significant positive association between the socio-oriented structure of family communication and materialistic values was found.

Palan and Wilkes (1998) conducted a study to examine communication, quality and consumption interaction on consumer activity. Their findings indicated that communication quality and consumption interaction were positively related to consumer activity (please refer to Table 2.3). A study by Bristol and Mangelburg (2005) among indicated that materialism of teens in protective family was significantly greater than materialism in pluralistic (please refer to Table 2.3).

Rose et al. (1998) have examined concept and socio-oriented communication patterns on attitude toward advertising, discussions about TV advertising, and co-viewing among a sample of mothers. The result of their study indicated that pluralistic and consensual mothers had the highest mediation of and most negative attitudes toward advertising, while laissez faire mothers had the most positive attitudes toward and the lowest mediation of their children's media use (please refer to Table 2.3).

In Flouri's (1999) study, the findings indicated that family environment was associated with the relative strength of adolescents materialistic values (please refer to Table 2.3). In another study by Bakir et al. (2005) among married couple, the correlation between socio-oriented communication and control of TV viewing was high for mothers and fathers. The relationship between concept-oriented communication and

control TV viewing was non-significant for mothers but significant and negative for children and fathers (please refer to Table 2.3).

Another study conducted by Chan and Prendergast (2007) among married couple, respondents were found to communicate more frequently with their peers about consumption than with their parents. The study reported that social family communication patterns and concept-oriented family communication patterns were not related to social comparison with friends (please refer to Table 2.3).

Chia (2010) proposed a theoretical framework by which it could identify how media influence and social influence interplay and produced joint effects on materialistic values. Exposure to advertising was indirectly associated with his or her materialistic values. The indirect association was mediated by the adolescents' interpersonal communication with parents (please refer to Table 2.3).

Moschis et al. (2011) examined the role of family communication in promoting materialistic values in youths in four countries that represent the Eastern and Western cultures. The findings suggested that the influence of socio-oriented family communication structure on materialistic attitudes in Western cultures might be indirect by affecting the youth's patterns of television viewing. The findings also suggested that concept-oriented family communication has no effect on youth's development of materialistic values (please refer to Table 2.3).

Vega et al. (2011) examined the roles that television exposure, advertising recognition, and family communication played in stimulating materialism in children. Concept-oriented family communication did not moderate the relationship between advertising/television and materialism (please refer to Table 2.3).

Adib and El-Bassiouny (2012) conducted a study to gain a better understanding of youth materialism along with parental influence in the transmission of materialistic values among children and parents. The results indicated a positive relationship between socio-oriented family communication and parental restrictive mediation (please refer to Table 2.3).

Martin (2013) examined the influence of family communication patterns on parent-adolescent consumption interaction and adolescent shopping enjoyment. The results indicated that communication quality between parents and their adolescent children impacted the consumption interaction taking place between the parents and their children (please refer to Table 2.3).

Recently, Moschis et al. (2013) study posited a positive association between the socio-oriented structure of family communication and materialistic values. The results of their study indicated that the correlation between the two variables was significant (please refer to Table 2.3).

## **2.11 Religiously-oriented Family Communication**

According to Delener (1990), religion is an abstract concept. Religion is seen as a unified system of beliefs while religiosity is often viewed as the extent to which beliefs in specific religious values are held and practiced by an individual (Delener, 1990).

Religiosity and religiousness in general can be defined in terms of fundamentalism, the degree of conviction in one's beliefs about the absolute definiteness (Stark and Glock, 1968). Table 2.4 provides related studies on religiousness. To date, no research has provided a specific definition for religiously-oriented family communication. In this study, the concept is broadly viewed as the

**Table 2.4**  
**Studies on Religiousness**

<b>Authors</b>	<b>Findings</b>
Hoge and Keeter (1976).	Found that parental religiosity may extend into adulthood; a study of college teachers indicated that their parents' church attendance constituted the best predictor of their own religiousness.
Hunsberger (1976).	Studies have indicated that parental religiousness is a good predictor of adolescents' and adult children's religiousness.
Hoge and Petrillo (1978).	Peer influence may be more important with respect to youth group participation and enjoyment of that participation.
de Vaus (1983).	Parents were more influential for religious beliefs, but peer also influenced religious practice to some extent.
Potvin and Sloane (1985).	Parental religiosity was a significant predictor of adolescents' religious practice.
Benson et al. (1986).	Three main factors predicted adolescents' religiousness: perceptions of the importance of religion for the parents, positive family environment and home religious activity.
Cornwall (1988).	Parents were influential in terms of adolescents' religious and spiritual development.
Benson and Eklin (1988).	Found that for most adults, faith was under-developed. Maturity of faith was strongly linked to age, increasing with each successive decade.
Ozorak (1989).	Both social factors and cognitive variables influence adolescents' religiousness. Parents were powerful influencers but may decrease as adolescents make the transition into adulthood.
Heaven (1990).	For individuals with strong religious values, religion represented one of the most important aspects of their lives and guided their everyday activities.
Erickson (1992).	Peer influence might not be seen as very important in adolescent religiousness because of the way in which effects were measured.
Wilson and Sherkat (1994).	Children who reported a warm, close relationship with their parents were less likely to rebel against religious teachings.
Sprinthall and Collins (1995).	Peer influences adolescents. Studies which have done so have reported that peer group effects were weaker than parental influences.
Myers (1996).	The main determinant of offspring religiosity was parental religiosity, the quality of the family relationship and traditional family structure.
Brody et al. (1996).	Found that greater parental religiousness contributed to a closer, more cohesive family as well as to less conflict between the parents.
Putnam (2000).	People who belong to religious group tended to have more contacts in their lives; this increase social interaction may allow for greater peer influence.
Mahoney et al. (2001).	Evidence for linking religiousness with greater use of adaptive communication skills, positivity in family relationship, and parental coping.

**Table 2.4 Cont'd**  
**Studies on Religiosity**

Authors	Findings
Baxter and Braithwaite (2002); Hughes and Dickson (2001).	Religious families' rituals and interfaith relationship has been explored in the study of family communication, but the main area of reference has been to certain faith enrichment programs.
King et al. (2002).	Verbal communication tends to be the primary vehicle through which parents have an influence, but peers tend to have an impact through both verbal discussion and shared religious activities.
Oman and Thoresen (2003).	Have proposed that Bandura's (1986) theory of social learning. External influencers such as parents and peers affected individuals directly through religious teachings or family practices.
Mahoney et al. (2003).	Many highly religious parents see parenting as a sacred duty, with religious values and beliefs as among the most important things to be transmitted to their children.
Vangelisti (2004).	When researchers described families, religious traditions were not noted, but religious beliefs created a taken for granted subtext for the interaction patterns.
Regnerus et al. (2004).	Found that though parents are the primary influence, the ecological context provided by friends matter as well in adolescent religious development.
Dollahite and Marks (2005).	Central processes by which parents facilitate religious development in their families include nurturing growth in family members through teaching, and discussion and example.
Schwartz (2006).	Both parent and friend transmission and transaction variables significantly and positively predicted the measure of religious faith.
Mokhlis (2009).	Three shopping orientation factors: quality consciousness, impulsive shopping and price consciousness were related to religiosity.
Jianfeng et al. (2009).	Trend shopper was consistently related to religiosity, suggesting that religiosity was considered as a possible determinant of shopping behaviour.
Moschis and Ong (2011).	Examined the effects of religiosity on well-being and changes in consumer preferences of adults. The results confirmed the positive effects of religiosity on well-being.
Syed et al. (2011).	Religiosity acted as a full mediating role in the relationship between relative and contextual variables, and purchase behaviour.
Abedin and Brettel (2011).	Religiosity was positively associated with importance attached to adhering to religious rules on consumption. Religiosity also had a significantly negative impact on materialism.
Mansori (2012).	Religiosity had negative impact on innovativeness.

commitment one has to belief in the divine, the importance one places on religion in life (Heaven, 1990), and the extent which these religious beliefs have on family interaction

(please refer to Table 2.4). According to Vangelisti (2004) the extent to which religious beliefs on family interaction have remained remarkably unnoticed. When researchers described families, religious traditions were not noted, but religious beliefs created a taken for granted subtext for the interaction patterns. Religious affiliation has connections to gender role, parental styles, as well as family/work decisions (please refer to Table 2.4).

Mahoney et al. (2001) reported that there was some evidence for linking religiousness with greater use of adaptive communication skills, collaboration in handling disagreement, positivity in family relationship, and parental coping. Some data reported an inverse relationship between religion and marital verbal conflicts (please refer to Table 2.4).

Although occasionally, religious families rituals (Baxter and Braithwaite, 2002), and interfaith relationship (Hughes and Dickson, 2001) has been explored in the study of family communication, the main area of reference has been to certain faith enrichment programs (please refer to Table 2.4). Many external influences have the potential to affect people's religiousness, such as for example, parents, peers and the mass media.

Oman and Thoresen (2003) have proposed that Bandura's (1986) theory of social learning, with its emphasis on observation and vicarious learning is capable of providing such as a framework for the psychology of religion. External influencers such as parents and peers affect individuals directly through religious teachings or family practices (please refer to Table 2.4). Cornwall (1988) noted that the religious socialization literature has traditionally focused on three agents of socialization: Parents, peers and church.

Among these agents, parents were influential in terms of adolescents' religious and spiritual development (please refer to Table 2.4). According to Mahoney et al. (2003) many highly religious parents see parenting as a sacred duty, with religious values and beliefs as among the most important things to be transmitted to their children (please refer to Table 2.4).

A social-cognitive model of religious change in adolescents developed by Ozorak (1989) predicted that both social factors (such as parental and peer influence) and cognitive variables (such as intellectual aptitude and existential questioning) influenced adolescents' religiousness. Ozorak (1989) concluded that parents were especially powerful influencers in the religious socialization process. However, parental influence may decrease as adolescents make the transition into adulthood (please refer to Table 2.4).

Studies have found that many factors predicted adolescent's religiousness. For instance, Hunsberger (1976) found that the greater emphasis on religion in one's childhood home was associated with religiousness during college (please refer to Table 2.4). Importantly, three main factors were found to be among the predictors of adolescents' religiousness: perceptions of the importance of religion for the parents, positive family environment and home religious activity (Benson et al., 1986) (please refer to Table 2.4).

Potvin and Sloane (1985) found that parental religiosity is a significant predictor of adolescent's religious practice and such influence may even extend into adulthood (please refer to Table 2.4). A number of studies have suggested that the quality of young people's relationship with parents can also affect religious socialization.

Children who had a warm, close relationship with their parents were less likely to rebel against religious teachings (Wilson and Sherkat, 1994) (please refer to Table 2.4).

Myers (1996) interviewed parents and their adults' offspring, and concluded that the main determinants of offspring religiosity were parental religiosity, and traditional family structure (please refer to Table 2.4). In Brody et al. (1996) study, it was found that greater parental religiousness contributed to a closer, more cohesive family as well as to less conflict between the parents (please refer to Table 2.4).

Importantly, studies have found that communication aspect is a very important mechanism that allows parents to instil religiousness in their children. For instance, Dollahite and Marks (2005) have utilized a narrative approach based on highly religious families and have identified central processes by which parents facilitate religious and spiritual development in their families. Among these processes, nurturing growth in family members through teaching, and discussion and example were important (please refer to Table 2.4).

Researchers have also reported that peer played an important role in influencing adolescents generally (for e.g., Sprinthall and Collins, 1995) (please refer to Table 2.4). But relatively very few studies have investigated peer influence on religiousness. Studies which have done so have reported that peer group effects were weaker than parental influences. However, the direction of the influence (positive or negative) was not specified.

In a comparative study between peers and parents de Vaus (1983) concluded that parents were more influential for religious beliefs, but peer also influenced religious practice to some extent (please refer to Table 2.4). Erickson (1992) pointed out that peer influence might not be seen as very important in adolescent religiousness because

of the way in which effects were measured, and also because it was difficult to separate peer influence from religious education, which itself involved a social friendship settings that might constitute of a kind of peer influence (please refer to Table 2.4).

Importantly, King et al. (2002) found that although parental influence tended to be the most significant, the influence of peer should not be overlooked. Verbal communication tends to be the primary vehicle through which parents have an influence, peers tend to have an impact through both verbal discussion and shared religious activities (please refer to Table 2.4).

Regnerus et al. (2004) found that though parents are the primary influence, the ecological context provided by friends matter as well in adolescent religious development (please refer to Table 2.4). Ozorak (1989) explained that peers did influence adolescent's religiousness but the relationship was complex and often overshadowed by parental influences (please refer to Table 2.4).

According to Hoge and Petrillo (1978) peer influence peers may have little influence on core religion measures such as frequency of church attendance, but may be more important with respect to youth group participation and enjoyment of that participation (please refer to Table 2.4). Putnam (2000) has pointed out that people who belong to religious group tended to have more social commitment and contacts in their lives; this increase social interaction may allow for greater peer influence (please refer to Table 2.4).

Schwartz (2006) conducted a study to elucidate the contributions of the transmission (e.g., parent church attendance) and transactional (e.g., discussions about faith) models of socialization. The results indicated that both parent and friend

transmission and transaction variables significantly and positively predicted the measure of religious faith (please refer to Table 2.4). Benson and Eklin (1988) study indicated that for most adults, faith was under-developed, lacking some of the key elements necessary for faith maturity. Maturity of faith was strongly linked to age, increasing with each successive decade (please refer to Table 2.4).

Mokhlis (2009) seek to examine the influence of religiosity on shopping orientation. The findings revealed that three shopping orientation factors, namely quality consciousness, impulsive shopping and price consciousness were related to religiosity (please refer to Table 2.4).

Jianfeng et al. (2009) have examined the effect of religiosity on consumer choice and was based on the proposition that religiosity significantly influenced shopping behaviour. Their results indicated that trend shopper was consistently related to religiosity, suggesting that religiosity was considered as a possible determinant of shopping behaviour (please refer to Table 2.4).

Recent studies have emphasized on the impact of religiosity on well being. For instance, Moschis and Ong (2011) have examined the effects of religiosity on well-being and changes in consumer preferences of adults. The results confirmed the positive effects of religiosity on well-being (please refer to Table 2.4).

Syed et al. (2011) examined the effect of religiosity on consumer behaviour and on purchasing decision among working adults. The findings confirmed that religiosity acted as a full mediating role in the relationship between relative and contextual variables, and purchase behaviour (please refer to Table 2.4).

Abedin and Brettel (2011) study examined whether religiosity has an influence on innovativeness, materialism, and importance attached to adhering to religious rules on consumption. It was found that religiosity was strongly and positively associated with importance attached to adhering to religious rules on consumption. It was also found that religiosity had a significantly negative impact on materialism dimension (please refer to Table 2.4). Mansori (2012) study has tested the effect of religiosity on innovativeness to explore disparities between devote and casual religions' followers. The results showed that religiosity had negative impact on innovativeness (please refer to Table 2.4).

## **2.12 Materialism**

There are several varying definitions for materialism and it depends on the perspective on how researchers look at it. Table 2.5 provides the definitions of materialism in selected research. Materialism has been viewed as a trait (Belk, 1985), a process (Rassuli and Hollander, 1986), a culture (Murkerji, 1983), and a value (Richins and Dawson, 1992). Belk (1984) defined materialism as a trait perspective as “the importance a consumer attaches to worldly possessions” (p.291).

Murkerji (1983) defined materialism from a sociocultural perspective as “a cultural system in which material instinct is not made subservient to other social goals” (p.8) (please refer to Table 2.5). Although these different perspectives existed, the two most popular way of conceptualizing materialism by far has been either as a value or as an attitude/trait.

Richins and Dawson (1992) defined materialism from a value perspective as “the importance a person places on possessions and their acquisition as a necessary or

**Table 2.5**  
**Definitions of Materialism in Selected Research**

<b>Authors</b>	<b>Definitions</b>
Ward and Wackman (1971).	Defined materialism as “an orientation which views material goods and money as important for personal happiness and social progress” (p. 422).
Inglehart (1981).	Considered materialism as an economic orientation to life, a cultural or structural variable, giving precedence to economic values over other values such as freedom or civil power.
Belk (1984).	Materialism reflected the importance a consumer attaches to worldly possessions. At the highest levels of materialism, such possessions assume a central place in a person’s life and provide a source of satisfaction.
Belk (1985).	Materialism is a manifestation of psychological traits such as envy, acquisitiveness, nongenerosity and possessiveness.
Mukerji (1983).	Defined materialism from a sociocultural perspective as “a cultural system in which material instincts are not made subservient to other social goals” (p.8).
Daun (1983).	Described materialism as a lifestyle in which a high level of material consumption functioned as a goal and served as a set of plans.
Ger and Belk (1990).	When measuring materialism cross-culturally, they found a new dimension called tangibilization. Tangibility was defined as the conversion of experience in material form.
Richins and Dawson (1992).	Described materialism as a value system. Materialism reflected the importance a person places on possession and their acquisition as a necessary form of conduct to reach desired end states.
Shrum et al. (2013).	Refers to materialism as the extent to which individuals attempt to engage in the construction and maintenance of the self through the acquisition and use of products, services, experiences, or relationships that are perceived to provide desirable symbolic value.

desirable form of conduct to reach desired end states including happiness” (p. 307). Richins and Dawson (1992) stated that “it is the pursuit of happiness through acquisition rather than through other means that distinguishes materialism” (p. 307) (please refer to Table 2.5).

Research on materialism has been conducted in terms of personality traits and behavioural tendencies associated with it. According to Belk (1985), materialism is a manifestation of psychological traits such as envy, acquisitiveness, nongenerosity and possessiveness. Studies examining materialism as an attitude have correlated a list of

personal traits and behaviours with the construct without however providing explanation as to why such correlations may exist (please refer to Table 2.5).

Inglehart (1981) considered materialism as an economic orientation to life, a cultural or structural variable, giving precedence to economic values over other values such as freedom, civil power, aesthetics, and friendship (please refer to Table 2.5). Inglehart (1981) argued that materialism was a value situated within the constellation of a value system.

Daun (1983) described materialism as a lifestyle in which a high level of material consumption functioned as a goal and served as a set of plans. Materialism lends meaning to life and provides an aim for everyday work (please refer to Table 2.5). Ward and Wackman (1971) defined materialism as “an orientation which views material goods and money as important for personal happiness and social progress” (p. 422) (please refer to Table 2.5).

A current expanded conceptualization of materialism refers to “the extent to which individuals attempt to engage in the construction and maintenance of the self through the acquisition and use of products, services, experiences, or relationships that are perceived to provide desirable symbolic value” (Shrum et al., 2013, p. 1180) (please refer to Table 2.5).

### **2.12.1 Materialism Studied as Dependent Variable and other Independent Variables.**

Factors which were found to be correlated with materialism can be categorized as personal, social and behavioural and demographics. Table 2.6 provides studies on materialism as a dependent variable and other independent variables.

**Table 2.6**  
**Studies on Materialism as Dependent Variable and other Independent Variables**

Source	Independent Variables	Findings
Moschis and Churchill (1978).	Social utility reasons for watching TV; Peer communication	Social utility reasons for watching TV shows, social utility reasons for watching TV ads, and peer communication were predictive of materialism in adolescents.
Belk (1984).	Giving and receiving; Spending and acquiring;	Materialistic people were more likely to buy things for themselves when they were in a good or bad mood, to hang on to possessions rather than throwing them out, than non-materialistic people.
Carlson and Grossbart (1988).	Parental Style.	Neglecting mothers were more materialistic than authoritative mothers.
Richins and Dawson (1992).	income; Financial security; Sense of accomplishment;	Materialists desired higher level of income, valued financial security more and sense of accomplishment and warm relationships with others less than non-materialists.
Cohen and Cohen (1996).	Mental disorders.	Reported that teenagers who endorsed materialistic values were more likely to have mental disorders
Kasser et al. (1995).	Socio-economic.	Teenagers who strongly value materialism were more likely to come from lower social-economic backgrounds.
Rindfleisch et al. (1997).	Family structure.	Young adults who reported being raised in a one-parent household were more materialistic.
Chan and Joseph (2000).	Self-esteem.	Materialistic values were associated with low self-esteem.
Kasser and Ryan (2001).	Substances.	Materialism positively related to use substances such as tobacco, alcohol, and drugs frequently.
Roberts et al. (2003).	Family structure.	The effects of family structure on materialism were fully mediated by family stressors.
Shrum et al. (2005).	Television viewing.	Television viewing was positively related to materialism.
Speck and Roy (2008).	Religiosity.	Religiosity played a countervailing role in negatively influencing materialism.
Cherrier and Munoz (2008).	Religion.	Found that religion had an effect on personal materialism.
Speck and Peterson (2010).	Media and Church	Found that the power of media was seen via television advertising and programming.
Xu (2010).	Media exposure.	Media exposure was the most significant predictor of materialism among children.

**Table 2.6 Cont'd**  
**Studies on Materialism as Dependent Variable and other Independent Variables**

Source	Independent Variables	Findings
Vega et al. (2011).	Television exposure.	Television exposure predicted materialistic values.
Shrum et al. (2011).	Television viewing.	Television viewing level influenced materialism.
Moschis et al. (2013).	Family communication; peer communication.	The correlation between socio-oriented structure and materialistic values and between peer communication and materialism were significant.
Xie et al. (2013).	Anticipated positive emotions; Perceived behavioral control.	Anticipated positive emotions and perceived behavioral control were significant predictors of desire and intentions to pursue materialistic lifestyles.
Watson (2014).	Neuroticism; Agreeableness.	High levels of materialism were found with high neuroticism and low agreeableness.

Past studies have treated these factors as antecedents of materialism (for eg., Vega et al., 2011; Shrum et al., 2011; Moschis et al., 2013; Xie et al., 2013; Watson, 2014). A study by Moschis and Churchill (1978) among adolescent consumer socialization indicated that the more television adolescents watched the more materialistic they become. It was also found that social utility reasons for watching TV shows, social utility reasons for watching TV ads, peer communication and gender were predictive of materialism (please refer to Table 2.6).

Belk (1984) investigated the relationship between materialism and types of purchase and consumption experiences. The results indicated that materialistic people were more likely to buy things for themselves when they were in a good or bad mood, to hang on to possessions rather than throwing them out, than non-materialistic people (please refer to Table 2.6).

Carlson and Grossbart (1988) investigated the relationship between general parental socialization styles and children's consumer socialization. Their results

indicated that neglecting mothers were more materialistic than authoritative mothers (please refer to Table 2.6). Studies have also linked materialism with other variables such as income, financial security.

Later on, another study conducted by Richins and Dawson (1992) found that materialists desired higher level of income, valued financial security more and sense of accomplishment and warm relationships with others less than non-materialists, were more self-centered, reported living a life of material complexity, and were less satisfied with life (please refer to Table 2.6).

Materialism has also been correlated with personality disorders and anti-social behaviour. Cohen and Cohen (1996) examined whether materialistic values and the priority put on being rich were associated with mental disorders. They reported that teenagers who endorsed materialistic values were more likely to have mental disorders (please refer to Table 2.6).

On the other hand, Kasser et al. (1995) found that teenagers who strongly value materialism were more likely to come from lower social-economic backgrounds than were children who value self-acceptance, relationship, and community contribution (please refer to Table 2.6). Another study by Rindfleisch et al. (1997) found that young adults who reported being raised in a one-parent household were materialistic. It was also found that children from divorced families experience less love and affection, and they are more likely to turn to materialistic pursuits (please refer to Table 2.6).

Materialistic values were also associated with low self-esteem, especially when people believe that their self-worth depends on external signifiers such as money and status (Chan and Joseph, 2000) (please refer to Table 2.6). Kasser and Ryan (2001) also

found that college students with a strong materialistic value orientation were highly likely to use substances such as tobacco, alcohol, and drugs frequently (please refer to Table 2.6).

Roberts et al. (2003) examined the relationship of family structure and its relationship to materialism, and the impact of disrupted family on materialism among adolescents. Their findings indicated that family structure affected materialism. The results also revealed that the effects of family structure on the happiness dimension of materialism were fully mediated by family stressors (please refer to Table 2.6).

Shrum et al. (2005) extended a research which showed that television viewing cultivated perceptions of the prevalence of societal affluence through a memory-based process that relies on the application of judgmental heuristics. In their study television viewing was positively related to materialism (please refer to Table 2.6).

Speck and Roy (2008) examined the relationship between television viewing, religiosity and materialism, and perceived well-being factors. The findings of the study revealed that religiosity played a countervailing role in negatively influencing materialism (please refer to Table 2.6). Cherrier and Munoz (2008) research have addressed the concepts of materialism and vanity in the globalizing Emirate of Dubai, UAE. Their results indicated that religion had an effect on personal materialism (please refer to Table 2.6).

In Speck and Peterson (2010) study, the role played by two socialization agents, media and church have been explored in terms of how each was related to an important facet of consumer attitudes and level of materialism. Their result indicated that the power of media as a socialization agent for both groups was seen via television

advertising and programming (please refer to Table 2.6). Other studies have examined the effect of media on materialism.

Xu (2010) has examined the influences of media exposure, cognitive development and demographics on materialism. The results showed that children held lukewarm attitudes to materialistic values and all forms of media exposure was the most significant predictor of materialism among children (please refer to Table 2.6).

Vega et al. (2011) have examined the roles that television exposure and advertising recognition play in stimulating materialism in children. The results of the study demonstrated that television exposure predicted materialistic values (please refer to Table 2.6). Shrum et al. (2011) conducted investigated the interrelations among television viewing, materialism, and life satisfaction, and their underlying processes. The results indicated that viewing level influenced materialism (please refer to Table 2.6).

Recently, Moschis et al. (2013) examined if changes in family structure played a role in the development of materialism tendencies among undergraduates students in Brazil. The results indicated that the correlation between socio-oriented structure of family communication and materialistic values was significant. The correlation between peer communication and materialism was significant (please refer to Table 2.6).

Xie et al. (2013) examined Chinese materialists and non-materialists and their related decision-making processes. It was found that anticipated positive emotions and perceived behavioral control were significant predictors of desire and intentions to pursue materialistic and non-materialistic lifestyles, but subjective norms only

influenced decisions for materialists, and attitudes only affected decisions for non-materialists (please refer to Table 2.6).

Asides from studies which have investigated the effect of materialism on decision-making, past studies have also investigated the effect of agreeableness and neuroticism on materialism. For instance, Watson (2014) investigated the effect of agreeableness, neuroticism on materialism. In the study, high levels of materialism were found with high neuroticism and low agreeableness. The study also found that high neurotic and agreeable and low neurotic and agreeable were medium materialist. While low levels of materialism were found with low neuroticism and high agreeableness (please refer to Table 2.6).

### **2.12.2 Materialism as Independent Variables and the Other Dependent Variables**

Past studies have been conducted to identify factors which were correlated with materialism. These factors were treated as consequences and include happiness, life satisfaction, conformity behaviour, antisocial behaviour, conspicuous consumption, compulsive consumption, impulsive consumption and luxury consumption (e.g., Bruni and Stanca, 2008; Faber and O'Guinn, 1992; Mick, 1997; Dawson, 2011; Weaver et al., 2011; Podoshen et al., 2011; Chavosh et al., 2011; Hudders and Pandelaere, 2012). Table 2.7 provides studies on materialism as an independent variable.

Consistent and extensive research findings across disciplines have found that materialism was negatively correlated with outcomes such as happiness and life satisfaction. Empirical data showed that dissatisfaction with life was related to a materialistic consumer orientation (Belk, 1985) (please refer to Table 2.7).

**Table 2.7**  
**Studies on Materialism as Independent Variable and other Dependent Variables**

Author(s)	Dependent Variables	Findings
Belk (1985).	Life satisfaction.	Materialism was negatively related to both happiness and life satisfaction.
Richins (1987).	Life satisfaction.	Correlation between material satisfaction and overall life satisfaction was highest for consumer scoring high on the materialism.
Richins and Dawson (1992).	Life satisfaction.	Materialism was negatively related to all five measures of satisfaction.
Cohen and Cohen (1996).	Antisocial behaviour.	Found that materialistic individuals were correlated with antisocial behaviour.
Burrough and Rindfleisch (1997).	Life stress.	The relationship between materialism and life stress was moderated by family structure.
La Barbara and Gürhan (1997).	Subjective well-being.	Found a negative relationship between subjective well being and materialism.
Kasser and Ashuvia (2002).	Well being.	Materialism measure was significantly correlated with all but one of the well-being variable.
Burroughs and Rindfleisch (2002).	Life satisfaction.	Respondents high in religious values, the inclusion of stress reduced the effect of materialism on life satisfaction.
Dittmar (2005).	Compulsive buying.	Found that materialistic value endorsement emerged as the strongest predictor of individuals' compulsive buying.
Wang and Wallendorf (2006).	Product satisfaction.	Materialism was negatively related to product satisfaction in product categories with high potential for status signalling.
Weaver et al. (2011).	Compulsive buying.	Found that one's experiences and circumstances in adolescence were related to materialism.
Rindfleisch et al. (2006).	Brand resonance.	Found that materialism encouraged consumers to form strong connections with their brands.
Podoshen et al. (2011).	Conspicuous consumption.	Significant differences were found in both materialism and conspicuous consumption.
Chavosh et al. (2011).	Impulsive buying.	A significant relationship between materialism and consumers' impulse purchasing behaviour was found.
Dawson (2011).	Risk taking behaviour; Anti-social behaviour.	Significant interaction effect was found between materialism and risk-taking in predicting risk for reoffending.
Podoshen and Andrzejewski (2012).	Conspicuous consumption, impulse buying.	Materialism was positively related to conspicuous consumption, impulse buying, and brand loyalty.
Reeves et al. (2012).	Celebrity worship; Self-concept clarity; Well-being.	Materialism significantly correlated with celebrity worship. Materialism was significantly related to lower self-concept clarity and to lower levels of well-being.

**Table 2.7 Cont'd**  
**Studies on Materialism as Independent Variable and other Dependent Variables**

Authors	Dependent Variables	Findings
Hudders and Pandelaere (2012).	Luxury consumption.	It was found that materialistic consumers were more inclined to consume luxury goods than less materialistic consumers.
Kalanit and Aviv (2013).	Aggressive driving.	Results showed a significant impact of materialism on aggressive driving behaviour.
Ostero-Lopez and Estibaliz (2013).	Addictive buying.	Anxiety and depression mediated the effects of the materialism on addictive buying, and depression mediated the influence of materialism.
Flurry and Swimberghe (2013).	Consumer ethics.	Results showed that materialistic values guide in describing consumer ethics of adolescents.
Strizhakova and Coulter (2013).	Concern for environmentally friendly products.	In emerging markets, strong positive effects of materialism on the concern for environmentally friendly products were found.

Richins (1987) conducted a study to examine the relationship between media exposure, materialism, and life satisfaction. The results indicated that the correlation between material satisfaction and overall life satisfaction was highest for consumer scoring high on the materialism (please refer to Table 2.7).

Also in Richins and Dawson (1992) study, materialism was found to be negatively related to all measures of life satisfaction (please refer to Table 2.7). Behavioural factors have been found to correlate with materialism. Different behaviours have been found to be positively correlated with materialism. For instance, while researchers have suggested that materialistic individuals is correlated with antisocial behaviour with materialistic tendencies (Cohen and Cohen, 1996) (please refer to Table 2.7).

In another study among young adults, Burrough and Rindfleisch (1997) found that the relationship between materialism and life stress was moderated by family structure (please refer to Table 2.7). A study has been conducted by LaBarbera and Gürhan (1997) to examine the relationship between subjective well-being (SWB) and

materialism. The study also examined how religiosity interacted with materialism attitudes in the prediction of SWB. The results indicated a negative relationship between SWB and materialism, and a positive relationship between religiosity and SWB (please refer to Table 2.7).

Kasser and Ahuvia (2002) have examined whether values focus on money, image and popularity were associated with lower well-being. The correlations between the participants' well-being and their relative expected livelihood of success of material aspirations indicated that high materialistic expectations were associated with lower well-being (please refer to Table 2.7).

The important of personal values have also been linked to materialism. For instance, studies have also examined important life values and its relationship with materialism. Burroughs and Rindfleisch (2002) examined the relationship between material values and other important life values.

It was hypothesized that the individual orientation of material values conflicted with collective-oriented values, such as family values and religious values. The results found considerable support for this conflicting values perspective. Among respondents with high family values, the inclusion of stress reduced the effect of materialism on life satisfaction (please refer to Table 2.7).

Dittmar (2005) research aimed to improve understanding of compulsive buying through examining endorsement of materialistic values. The central findings were that materialistic value endorsement emerged as the strongest predictor of individuals' compulsive buying, and that it significantly mediated the observed age differences (please refer to Table 2.7).

Wang and Wallendorf (2006) found that materialism was negatively related to product satisfaction in product categories with high potential for status signaling, but unrelated to product satisfaction in product categories with lower potential for status signalling (please refer to Table 2.7).

Rindfleisch et al. (2006) have examined the relationship between materialism and brand resonance. Their results suggested that materialism encouraged consumers to form strong connections with their brands (please refer to Table 2.7). Weaver et al. (2011) study indicated that one's experiences and circumstances in adolescence were related to both materialism and compulsive buying in early adulthood, but the processes involved in their development differed (please refer to Table 2.7).

Other variables which have been of interest cross-culturally include conspicuous consumption. Podoshen et al. (2011) conducted a cross-cultural study to discuss the rise of materialism and conspicuous consumption. In their study, significant differences were found in both materialism and conspicuous consumption (please refer to Table 2.7).

Chavosh et al. (2011) evaluated the impact of product characteristics and consumer characteristics on consumer's impulse purchasing behaviour. The results indicated a significant relationship between consumer characteristics (gender, age, mood, materialism, shopping enjoyment, impulse buying tendency) and consumers' impulse purchasing behaviour (please refer to Table 2.7).

Dawson (2011) study aimed to assess a model of interactive risk. The results indicated that both callous-unemotional traits and materialism were predictors of self-

reported antisocial behaviour. The only significant interaction effect was between materialism and risk-taking in predicting risk for reoffending (please refer to Table 2.7).

Researchers have examined how materialism affects different consumption patterns. Podoshen and Andrzejewski (2012) examined the relationships between materialism, conspicuous consumption, impulse buying, and brand loyalty. The findings indicated that materialism was positively related to conspicuous consumption, impulse buying, and brand loyalty (please refer to Table 2.7).

Reeves et al. (2012) study tested common predictions from the absorption-addiction model of celebrity worship and the empty self theory. It was found that materialism significantly correlated with celebrity worship. Materialism was also significantly related to lower self-concept clarity and to lower levels of well-being (please refer to Table 2.7).

Hudders and Pandelaere (2012) proposed that luxury consumption may reinforce a materialistic lifestyle. It was found that materialistic consumers were more inclined to consume luxury goods than less materialistic consumers. Furthermore, although the impact on negative and positive mood was not moderated by materialism, the impact of luxury consumption on satisfaction with life was more pronounced for materialistic consumers than for less materialistic consumers (please refer to Table 2.7).

Studies have also attempted to identify if materialism was related to aggressive driving. Kalanit and Aviv (2013) have examined the impact of the theory of planned behaviour, and materialism on aggressive driving. Their results showed a significant impact of materialism on aggressive driving behaviour. They found the theory of

planned behaviour to be a good indicator of the intentions but a poor predictor of aggressive behaviour (please refer to Table 2.7).

Ostero-Lopez and Estibaliz (2013) have explored the possible mediating roles of anxiety and depression in the link between materialism and addictive buying. The result indicated that anxiety and depression mediated the effects of the materialism dimensions, “importance” and “success,” on addictive buying, and that depression also mediated the influence of the “importance” and “happiness” dimensions (please refer to Table 2.7).

Flurry and Swimberghe (2013) presented a study which attempted to deal the need to better understand factors contribute to ethical teenager consumer behavior. It also examined whether love for money and growing materialism has an effect on their consumer ethics. Results showed that materialistic values and a love for money guide in describing consumer ethics of adolescents (please refer to Table 2.7).

Strizhakova and Coulter (2013) examined the “green” side of materialism in emerging markets and developed markets. In emerging markets, strong positive effects of materialism on the concern for environmentally friendly products were found. In addition, for individuals with a global cultural identity, a significant positive relationship between materialism and these measures of environmentally friendly tendencies were found (please refer to Table 2.7).

### **2.12.3 Demographic Variables Associated with Materialism**

In terms of demographic factors, research has also been conducted to correlate certain demographic variables such as age, gender, socioeconomic status (SES) marital status, birth order, religion and ethnicity with materialism.

a) **Age and Materialism**

Studies have associated age variable with materialism. A study by Belk (1984) indicated that materialism measures were found to be significantly related to age. Envy showed a negative correlation with age while non-generosity showed a positive correlation with age.

Chaplin and John (2007) conducted a study with children and adolescents in the age group of 8 to 18 years old to find an explanation for age differences and its effect on materialism. Their results indicated that age differences in materialism existed among children and adolescents. More specifically, early adolescents (ages 12–13) tended to be more materialistic than younger children (ages 8–9). And late adolescents (ages 16–18) were found to be less materialistic than early adolescents (ages 12–13).

According to Sheldon and Kasser (2001) middle aged people (40-50 years of age) treasure their past experiences and value keepsakes and mementos, both in the form of possessions and special places. Older people cared less about material possessions and felt happier than younger people.

Kau et al. (2000) have also examined if the level of materialistic inclination differed among respondents with different demographic characteristics. In their study, teenagers in the age group of between 15 to 19 years old were less materialistic; their older counterparts in the age group of 20 to 29 years old were more materialistic. Flouri (2001) surveyed adolescents boys aged 13-19 in the U.K., and found that materialism was inversely related to age.

Osajima et al. (2010) examined Japanese materialistic behaviour and consumption trends by comparing age-cohort differences between the Japanese “new breed” and “second baby-boomer age-cohorts.” Results suggested that the Japanese new breed was more materialistic, as compared to second baby-boomer. On the other hand, second baby-boomers were less materialistic as compared to the Japanese new breeds.

Pieters (2013) conducted a study to provide evidence that materialism and loneliness form a self-perpetuating cycle with vicious and virtuous sides. In his study, it was found that the initial level of materialism was lowest when respondents were older and higher at younger ages. Age however, did not influence growth in overall materialism.

Brouskeli and Loumakou (2014) study investigated materialism and its relationship with stress. Comparing young students ( $\leq 21$  years old) to those above 21 years old with respect to materialism, the results indicated that older students (above 21 years old) were less materialistic compared to young students ( $\leq 21$  years old), meaning that older students tended to be less materialistic.

**b) Gender and Materialism**

Studies have associated gender variable with materialism. Generally, the findings of studies vary across cultures. Most studies however found that, boys tended to be more materialistic than girls. Moschis and Churchill (1978) conducted a study among adolescents to examine the relationship between male and female and whether they differed in their materialistic values. The result revealed that male adolescents hold stronger materialistic attitudes.

On the other hand, Kongsompong et al. (2010) presented empirical results of ethnocentrism, materialism, and social influence in purchasing behaviour as related to the degree of collectivism among subjects in three countries - Thailand, China and India. The intra-national results for subjects of the three countries showed that men were less materialistic than their female counterparts.

Workman and Lee (2011) examined the relationships among materialism, gender and fashion consumer groups from two countries—one representative of an individualistic culture (US) and one representative of a collectivistic culture (Korea). The results indicated that females scored higher on materialism than males which seemed to be based on higher scores on the centrality subscale.

Felix and Garza (2012) investigated how women in an emerging economy relate the importance of material possessions to the importance they assigned to the appearance of their body. The results showed strong correlations between materialism and body appearance in a sample of relatively young and affluent female students. More materialistic women did focus substantially more on body appearance than less materialistic women.

Ashikali and Dittmar (2012) have examined whether materialism was linked to women's responses to thin-ideal media. Data from several studies confirmed that the internalization of materialistic and body-ideal values was positively linked in women. Exposure to materialistic media had a clear influence on women's body image. Limbu et al. (2012) examined the demographics, parental influence and materialism effects on consumers' credit card attitudes and behaviour. The findings indicated that that student who were female, materialistic and with less parental influence were at more risk to credit card abuse.

In another study by Watchravesringkan (2012), it was found that while female participants were more likely to view materialism as central to their lives, male participants placed more emphasis on viewing materialism as the pursuit of happiness than female participants. Furthermore, both genders tended to regard materialism as a sign of success. In Pieters (2013) study, males were slightly more materialistic than females because they endorsed possession defined success and acquisition as happiness more.

In Guðnadóttir and Garðarsdóttir (2014) study, materialistic values was strongly linked to the internalization of body-perfect ideals: the thin-ideal for young women, and the muscular-ideal for young men. A materialist value orientation also predicted body dissatisfaction and was linked to body shaping behaviors, albeit differently for young women and men.

c) **Socioeconomic Status and Materialism**

Socioeconomic status has been a demographic variable of interest for researchers conducting studies on materialism. According to the American Psychological Association socioeconomic status is commonly conceptualized as the social standing or class of an individual or group. It is often measured as a combination of education, income and occupation (American Psychological Association, 2012).

Studies dated back in 1970s by Blumenfeld (1976), assessed beliefs related to materialistic values, among middle and working class children in kindergarten, third and sixth grades. Significant differences between social class groups were obtained. The findings suggested that as children mature, they become increasingly discriminating in their perception of the instrumental value of material goods for attaining desired ends.

In a study by Kasser et al. (1995), it was found that teenagers who strongly value materialism were more likely to come from lower social-economic backgrounds. In LaBarbera and Gürhan (1997) study, it was found that those less educated consumers with high materialistic attitudes reported lower SWB as compared to highly materialistic consumers with more education.

Kraaykamp (2002) has analyzed differences in cultural consumption, materialistic preferences and eating and drinking habits. The results indicated that there was taste differentiation between status groups with cumulated resources and status groups with specific types of resources.

Piko (2006) investigated the relationship between life satisfaction, materialism and psychosocial health. Socioeconomic status and materialistic success were positively correlated. Nguyen et al. (2009) presented a general conceptual framework derived from life course perspectives. The study results indicated that family disruption influences materialism among young adults from lower social classes.

In Li et al. (2011) study conducted among Singaporean, it was found that materialistic standards of success were related to the emphasis women placed on potential marriage partners' earning capacity. Garðarsdóttir and Dittmar (2012) investigated materialism among future educators and its relationship with stress and a number of health behaviours. In the study, it was found that materialism was a stronger predictor of amount of debt than either income or money-management skills.

In Pieters (2013) study it was found that higher educated people were less materialistic as compared to those with lower education because they endorsed

possession- defined success and acquisition as the pursuit of happiness less, but they endorsed acquisition centrality more.

d) **Birth Order and Materialism**

According to Flanagan and Morrison (2007) birth order refers to the chronological positions in the family and some psychologists have labeled it the “family constellation.” Many factors influence the child personality development.

The gender of the children and the years between each birth can influence the child personality development. According to Flanagan and Morrison (2007) some common characteristics of each birth order position can be described as follows: Firstborn receives undivided attention from parents until the next child arrives.

The only child is special because, either by choice or circumstance, they are the only chance their parents will have at parenting. While the middle child is often in between an ambitious older sibling and a precocious younger one (Flanagan and Morrison, 2007).

Birth order has also been reported as a contributing factor to materialism in some ways. Zemanek and Claxton (2000) found that the last-born group produced higher materialism scores than first-borns and middle-borns. Chan (2003) examined urban Chinese children’s level of materialism and found that even the youngest children aged six to seven developed an understanding of value of possessions that based on social significance.

e) **Religion Variables Associated with Materialism**

Tylor (1871) refers to religion as the belief in spiritual beings. The theologian Vergote (1996) also emphasized the “cultural reality” of religion, which he refers to as the entirety of the linguistic expressions, emotions and, actions and signs that refer to a supernatural being or supernatural beings.

He use the term “supernatural” to mean anything that transcends the powers of nature or human agency. Studies on religion and materialism have been a subject of interest for researchers. Early study by Belk (1984) reported mean levels materialism traits between two groups (machine shops workers and religious institute students). Studies have also examined differences and similarities among specific religious groups. For instance,

Cherrier et al. (2009) study aimed to appreciate the differences and similarities between Arab and non-Arab consumers. Their results indicated that religion had an effect on materialism. In Pace (2013) study, the effects of Buddhist ethics on consumers’ materialism was examined, and it was found that Buddhism reduced materialism directly.

### **2.13 Television Influences**

Research into the area of consumer socialization and materialism has placed much emphasis on the influence of television on materialism. Studies on the influence of television on materialism are many and varied. Table 2.8 provides selected studies on television influences.

**Table 2.8**  
**Studies on Television Influences**

<b>Author (s)</b>	<b>Sample</b>	<b>Findings</b>
Moschis and Churchill (1978).	Adolescents.	Correlation between materialism and the amount of television viewing was statistically significant.
Churchill and Moschis (1979).	Adolescents.	Television indirectly affects the acquisition of consumer-related properties.
Roloff and Greenberg (1980).	Adolescents.	Television viewing clusters were inconsistent predictors of adolescent's use of pro and anti social modes.
Moschis and Moore (1982).	Adolescents.	Television advertising viewing was correlated with materialism.
Bybee et al. (1985).	Adults.	Young heavy viewers of television were more vulnerable to televised materialistic values.
Moschis and Mitchell (1986).	Adolescents.	Age was negatively associated with television advertising viewing.
Richins (1987).	Subjects across a range of ages.	As amount of television viewing increased, level of materialism increased.
Easterlin and Crimmins (1991).	Adolescents and young adults.	College students who were better educated could not resist some materialistic influences of television and commercials.
Lee and Lee (1995).	Not specify.	Found that people enjoyed discussing shared television experiences.
Ducheneaut et al. (2008).	Not specify.	Found that certain qualities in TV shows encouraged sociability.
Chorianopoulos (2007).	Not specify.	Found that viewers were able to react emotionally to television content by sharing and discussing television content with friends.
O'Guinn and Shrum (1997).	Student participants.	Found that activities associated with an affluent lifestyle were positively related amount of television watched.
Sirgy et al. (1998).	Adults.	Television viewerships positively influence materialism.
Kwak et al. (2002).	Adults.	Heavy exposure to television commercials showed significantly reduced negative attitudes toward advertising.
Goldberg et al. (2003).	Adolescents and Adults.	Youth scoring high on materialism were found to have more interest in watching more television.
Chan (2003).	Children.	Exposure to television advertising and programmes did not contribute to greater materialism.
Buijzen and Valkenburg (2000).	Parent-child dyads.	Concept-oriented consumer communication was more effective in reducing the relations between advertising exposure and children's materialism.
Shrum et al. (2005).	Adults.	Television viewing was positively related to materialism.

**Table 2.8 Cont'd**  
**Studies on Television Influences**

<b>Author (s)</b>	<b>Sample</b>	<b>Findings</b>
Chan and Zhang (2007).	Adults.	Imitation of celebrity models was positive predictors of materialism.
Chan and Prendergast (2007).	Adolescents.	Respondents who frequently compared possessions with media figures were more materialistic.
Pandya and Jayswal (2007).	Adolescents.	Buying behaviour and spending habits has significant relevance with preference for television commercial.
Speck and Roy (2008).	Adults.	The quantity of television viewing was positively shown to influence materialism.
Gu et al. (2009).	Adolescents and adults.	Media exposure exerts a strong influence on adolescents' materialism.
Moschis et al. (2009).	Adults.	Exposure to television during adolescent years and the person's strength of materialistic values in early adulthood was statistically significant.
Chan and Cai (2009).	Adolescents	Heavy television advertising viewers were more likely to have a higher perceived affluence than light television advertising viewers.
Chia (2010).	Adolescents.	Showed that an adolescent's exposure to television advertising was associated with materialistic values.
Xu (2010).	Children.	All forms of media exposure was the most significant predictor of materialism among children.
Abideen and Salaria (2009).	Children.	Found that television advertising led to increase materialism in children.
Vega et al. (2011).	Children.	Television exposure predicted materialistic values.
Shrum et al. (2011).	Adults.	Television's specific cultivation of materialism mediates a more general cultivation effect for life satisfaction.
Moschis et al. (2011).	Adults.	Socio-oriented family communication structure on materialistic attitudes might be indirect by affecting the youth's patterns of television viewing.
Shu-Chuan et al. (2012).	Adults.	A positive, significant relationship between materialism and respective intensity of social networking site and video sharing site usage was found in the both U.S and China.
Vandenbosch et al. (2012).	Adolescents.	Adolescents were more likely to conform to the programme preferences of their close peers.

Moschis and Churchill (1978) examined the influence of mass media, on youth's development of consumer related values. The findings indicated that the correlation

between the strength of favourable attitudes toward materialism and the amount of television viewing was statistically significant. Social utility reasons for watching television advertisements were strong predictors of the adolescent's attitudes toward materialism (please refer to Table 2.8).

Churchill and Moschis (1979) study found that the television indirectly affected the acquisition of consumer-related properties by stimulating interactions about consumption with parents (please refer to Table 2.8). In Roloff and Greenberg (1980) study, it was found that television viewing clusters were inconsistent predictors of adolescent use of the two modes (please refer to Table 2.8).

Longitudinal studies have also examined the effect of television advertising on consumer learning. For instance, Moschis and Moore (1982) examined the relationships between television advertising and consumer learning and found that television advertising viewing was correlated with materialism. Early exposure to television advertisements was associated with later development of materialism (please refer to Table 2.8).

Bybee et al. (1985) have examined the effect that television has on children. Their results indicated that young heavy viewers of television were more vulnerable to televised materialistic values (please refer to Table 2.8). Moschis and Mitchell (1986) examined the effects of television advertising and interpersonal communications on teenager's consumer behaviour. Age was negatively associated with television advertising viewing. Advertising viewing frequency was not associated with the child's participation in consumer decisions (please refer to Table 2.8).

Richins (1987) examined the relationship between media exposure, materialism, and life satisfaction. The results indicated that as amount of television viewing increased, an increasingly large rise in viewing is needed to result in a change in level of materialism. Television exposure correlated with materialism among those who find commercial portrayals of consumers to be realistic (please refer to Table 2.8). Television has also been found to influence young adults. In a study, Easterlin and Crimmins (1991) it was found that compared to teenagers, college students who were better educated could not resist some materialistic influences of television and commercials (please refer to Table 2.8).

Lee and Lee (1995) presented the results of research into the viewing behaviour on how and why people watch television. Their result indicated that people enjoyed discussing shared television experiences (please refer to Table 2.8). Ducheneaut et al. (2008) described a study illustrating how people interacted in front of a television set. Their results indicated that respondents routinely held viewing parties with their friends. It was found that certain qualities in TV shows encouraged sociability and provided opportunities for interaction (please refer to Table 2.8).

Chorianopoulos (2007) has explored the social dimension of television. It was reported that viewers were able to react emotionally to television content by sharing television content with friends and discussing shows either in real time, or afterwards (please refer to Table 2.8).

In O'Guinn and Shrum (1997) study, it was found that activities associated with an affluent lifestyle were positively related to the total amount of television watched. The amount of television viewing was a mediating variable between income and

education and the affluence estimates. Also relevant information was more accessible in memory for heavy viewers than light viewers (please refer to Table 2.8).

Sirgy et al. (1998) examined if television viewership influenced materialism and dissatisfaction with standard of living which in turn could contribute to dissatisfaction in life. It was found that television viewership positively influence materialism. The results showed that television viewership, played a significant role in life dissatisfaction (please refer to Table 2.8).

Buijzen and Valkenburg (2000) investigated the effectiveness of various types of parental communication mediation of three potentially undesired effects of television advertising. The results indicated that concept-oriented consumer communication was more effective in reducing the relations between advertising exposure and children's materialism, than socio-oriented consumer communication (please refer to Table 2.8).

Other studies investigated attitudes towards ads on compulsive buying. For instance, Kwak et al. (2002) investigated the effects of compulsive buying tendencies on attitudes toward advertising. The results suggested that heavy exposure to television showed significantly reduced negative attitudes toward advertising invoked by audiences' compulsive buying tendencies (please refer to Table 2.8).

Goldberg et al. (2003) examined the relationship between responses to television commercials and materialism level among youth. Youth scoring high on materialism were found to have more interest in watching more television and were more influenced by advertising (please refer to Table 2.8).

Chan (2003) study examined the factors that determine a child's sense of materialism. It was found that mere exposure to television advertising and programmes

did not contribute to greater materialism (please refer to Table 2.8). Shrum et al. (2005) extended research showed that television viewing cultivates perceptions of the prevalence of societal affluence. Their findings revealed that television viewing was positively related to materialism (please refer to Table 2.8).

Studies have also examined the impact of media celebrities on materialism. For instance, Chan and Zhang (2007) examined the influence of media celebrities on young people's endorsement of materialistic values. The result indicated that motivation for viewing advertisements was positively related to imitation of celebrity models. In turn, imitation of celebrity models was positive predictors of materialism (please refer to Table 2.8).

Elsewhere in Asia, Chan and Prendergast (2007) examined the influences of interpersonal communication on adolescents' tendency to engage in social comparison and endorsed materialistic values. The result indicated that respondents who frequently compared possessions with media figures were more materialistic (please refer to Table 2.8).

Other studies which examined television influences cross-culturally included the work of Pandya and Jayswal (2007). Their findings revealed that the majority of the adolescents buying behaviour and spending habits has significant relevance with their preference for television commercial (please refer to Table 2.8).

Speck and Roy (2008) have empirically examined the relationship between television viewing, core values, and perceived well-being factors. In the study it was found that the quantity of television viewing was positively shown to influence materialism directly in some cases, as well as through perceived realism in others (please refer to Table 2.8).

Gu et al. (2009) conducted a study to examine materialism from a historical generation perspective. Their results showed that adolescents were more materialistic than the parent generation in terms of acquisition centrality and susceptibility to social influence. The results also showed that media exposure exerts a strong influence on adolescents' materialism (please refer to Table 2.8).

Moschis et al. (2009) presented a general conceptual background of the life course paradigm for discussing, organising, integrating and presenting these consumer research findings on materialism. The relationship between exposure to television during adolescent years and the person's strength of materialistic values in early adulthood was statistically significant (please refer to Table 2.8).

Chan and Cai (2009) have examined the cultivation effects of television advertising viewing on the perceived affluence in society and the materialistic value orientations among adolescents. Heavy television advertising viewers were more likely to have a higher perceived affluence than light television advertising viewers. Heavy television advertising viewers were also more materialistic than light television advertising viewers (please refer to Table 2.8).

Chia (2010) has examined how media influence and social influence interplay and produce joint effects on adolescents' materialistic values. The results showed that an adolescent's exposure to television advertising was associated with materialistic value (please refer to Table 2.8).

Xu (2010) has examined children's endorsement of materialistic values and investigated the influences of media exposure, cognitive development and demographics. Children held lukewarm attitudes to materialistic values and all forms of

media exposure was the most significant predictor of materialism among children (please refer to Table 2.8).

In Abideen and Salaria (2009) study it was found that television advertising led to increase materialism in children (please refer to Table 2.8). Vega et al. (2011) have examined the roles that television exposure, advertising recognition, and family communication play in stimulating materialism in children. The results of the study demonstrated that television exposure predicted materialistic values (please refer to Table 2.8).

Shrum et al. (2011) investigated the interrelations among television viewing, materialism, and life satisfaction, and their underlying processes. It was found that materialism mediated the cultivation effect for life satisfaction, suggesting that television's specific cultivation of materialism mediates a more general cultivation effect for life satisfaction (please refer to Table 2.8).

Moschis et al. (2011) examined on whether the development of materialistic values in early life reflected cultural norms or is the outcome of media and family influences. Their findings suggested that the influence of the socio-oriented family communication structure on materialistic attitudes in Western cultures might be indirect by affecting the youth's patterns of television viewing and that television might be important a socialization agent in the development of materialistic values in individualistic countries (please refer to Table 2.8).

Vandenbosch et al. (2012) examined the influence of closely related peers on early adolescents' television programme preferences. It was found that adolescents were more likely to conform to the programme preferences of their close peers than to

the programme preferences of the overall group of the same-aged peers (please refer to Table 2.8).

Shu-Chuan et al. (2012) investigated whether the intensity of social media usage was related to materialism in China and the United States. A positive, significant relationship between materialism and respective intensity of social networking site and video sharing site usage was found in the both samples (please refer to Table 2.8).

#### **2.14 Peer Influences**

Peer influence is defined as the extent to which peers exert influence on the attitudes, thoughts, and actions of an individual (Bristol and Mangleburg, 2005). Past research shows that people are particularly sensitive to ideas and trends popular among their peers during their adolescence (Bachmann et al., 1993). Table 2.9 provides selected studies on peer influences and materialism.

Studies have found that peer communication has an effect on materialism. For instance, two studies among adolescents by Moschis and Churchill (1978) and Churchill and Moschis (1979) examined the influence of peer group on youth's development of specific values in the context of consumer socialization. The studies indicated that youths may learn the expressive aspects of consumption from their peers. Peer communication about consumption was related positively to adolescent's materialism (please refer to Table 2.9).

Moore and Moschis (1981) studied the influence of peers within the context of a conceptual model of consumer socialization. It was found that the frequency of peer communication seems to lead to the development of materialistic orientation (please

**Table 2.9**  
**Studies on Peer Influences**

<b>Author (s)</b>	<b>Sample</b>	<b>Findings</b>
Moschis and Churchill (1978).	Adolescents.	Peer communication about consumption was related positively to adolescent's materialism.
Churchill and Moschis (1979).	Adolescents.	Materialism increase with the extent of peer communication.
Moore and Moschis (1981).	Adolescents.	Frequency of peer communication led to the development of materialistic values.
Flouri (1999).	Adolescents.	Materialism in adolescents was positively and independently predicted by the extent of peer influence.
Taylor (1998).	Adolescents.	Adolescent females reported higher mean level of peer communication and support in comparison to males.
Nickerson and Nagle (2004).	Adolescents.	Attachments to peers predicted life satisfaction.
Gu et al. (2005).	Adolescents.	Adolescents were more susceptible to peer influence resulting in an overall higher tendency for consumption materialism.
Chan et al. (2006).	Adolescents.	Materialistic adolescents tended to communicate more with their peers and less with their parents.
Chan and Prendergast (2007).	Adolescents.	Peer communications were positive predictors of social comparison with friends, and peer influence had a positive correlation with materialism.
Chan and Zhang (2007).	Young adults.	Those who place a high importance on material possessions were keen to engage in social comparison and peer interaction.
La Ferle and Chan (2008).	Adolescents.	The results indicated that peer influence were positive predictors of materialistic values.
Roberts et al. (2008).	Adolescents.	Normative peer influence was shown to increase the level of materialism.
Banerjee and Dittmar (2008).	Children.	Peer rejection was related to higher perceived peer culture pressure, which in turn was associated with greater materialism.
Jiang and Chia (2009).	Young adults.	Advertising produced a direct and indirect effect on college students' materialism via their presumed advertising influence on peers.
Moschis et al. (2009).	Young adults.	Peer communication during adolescent years had a significant association with materialistic values held by young adults.
Benmoyal-Bouzaglo and Moschis (2010).	Young adults.	Peer communication about consumption during adolescent years and materialistic values held by young adults was supported.
Chaplin and John (2010).	Adolescents.	Peers boosted adolescents' self-esteem, which decreased their need to turn to material goods.
Chia (2010).	Adolescents.	Adolescent's exposure to advertising was indirectly associated with materialism. The indirect association was mediated by adolescent's interpersonal communication with friends.

**Table 2.9 Cont'd**  
**Studies on Peer Influences**

Author (s)	Sample	Findings
Santos and Fernandes (2011).	Adolescents.	Adolescents' level of contact with their peers indicated higher degree of materialism.
DeMotta et al. (2013).	Adolescents.	The positive relationship between peer influence and materialism was greater for consumers from China than those from India and Thailand.
Shi and Xie (2013).	Adolescents.	High-status peers were particularly influential on low-status individuals.
Moschis et al. (2013).	Young adults.	The correlation between peer communication and materialism was significant.
Chan (2013).	Adolescents.	Social comparison of consumption with friends was the most important factor in predicting respondents' endorsement of materialistic values, followed by self-esteem.
Lee et al. (2013).	Adolescents.	Examined the role of materialism in affecting purchase intentions of mobile phones among adolescents and their findings revealed that peer groups strengthen materialism.

refer to Table 2.9). Taylor (1998) has examined the relationship between prosocial peer interaction and academic outcomes among adolescents. The results indicated that adolescent females reported higher mean level of peer communication and support in comparison to males (please refer to Table 2.9).

Flouri (1999) has examined if family environment mediate the relationship susceptibility to interpersonal influence communication with peer about consumption and materialism. The results indicated within a maternal sample, adolescents' materialism correlated with peer influence and materialism in adolescents was positively and independently predicted by the extent of peer influence (please refer to Table 2.9).

Nickerson and Nagle (2004) examined satisfaction in different life domains with respect to parent and peer relationships in middle childhood and early adolescence. It was found that attachments to peers predicted life satisfaction, although the influence of

the relationship varied as a function of grade level and life domain (please refer to Table 2.9).

In Asia, researchers have also explored the impact of social changes that could influence teenager's values. Gu et al. (2005) research aimed to explore historical and environmental factors that could influence the adolescent's development of materialist value. The findings of the study indicated that adolescents were more susceptible to peer influence resulting in an overall higher tendency for consumption materialism (please refer to Table 2.9).

Chan et al. (2006) looked at attitudes of Chinese adolescents to materialism, including the influence of peers. The results indicated that materialistic adolescents tended to communicate more with their peers and less with their parents (please refer to Table 2.9).

In Chan and Prendergast (2007) study peer communications were positive predictors of social comparison with friends, and that peer influence had a positive correlation with materialism. The findings also indicated that normative peer influence was related to social comparison with friends while informative peer influence was not (please refer to Table 2.9).

Chan and Zhang (2007) have examined the influence of peers and media celebrities on young people's endorsement of materialistic values. The results indicated that peer communication and susceptibility to peer influence were positively related to social comparison. Those who placed a high importance on material possessions were keen to engage in social comparison and peer interaction (please refer to Table 2.9).

La Ferle and Chan (2008) have examined social influences factors such as peers on adolescents' endorsement of materialistic. They found that respondent would seek advice from peers when they buy products. The results indicated that peer influence were positive predictors of materialistic values. Respondents who perceived higher level of peer influence were more materialistic (please refer to Table 2.9).

Studies have also found that normative peer influence inceases materialism. Roberts et al. (2008) have investigated adolescents' susceptibility to peer influences, and how this susceptibility impact materialistic values and compulsive buying. The results of the study indicated that normative peer influence was shown to increase the level of materialism (please refer to Table 2.9).

Studies have introduced new scales to measure the influence of peer pressure among children. Banerjee and Dittmar (2008) examined the associations between materialism and peer relations among children.

It was found that peer rejection was related to higher perceived peer culture pressure, which in turn was associated with greater materialism. In the study, the endorsement of social motives for materialism mediated the relationship between perceived peer pressure and materialism (please refer to Table 2.9).

The direct and indirect effects of advertising on materialism have been examined. Jiang and Chia (2009) examined how advertising and peer influence interacted with each other and exert joint effects. The results indicated that advertising produced a direct and indirect effect on college students' materialism via their presumed advertising influence on peers (please refer to Table 2.9).

Moschis et al. (2009) have developed the 'life course' approach in consumer behaviour research to study the development of materialism. In their study, peer communication during adolescent years had a significant association with materialistic values held by young adults. The study examined the mediating effect of peer communication between disruptive family events and materialism (please refer to Table 2.9).

Benmoyal-Bouzaglo and Moschis (2010) seek to explain the differences in materialistic values among young French consumers. The hypothesized relationship between peer communication about consumption during adolescent years and materialistic values held by the young French adults was supported (please refer to Table 2.9).

In the study of Chaplin and John (2010) peers was viewed as an important source of emotional support and psychological well-being, which increased self-esteem in adolescents. The results of the study indicated that peers boosted adolescents' self-esteem, which decreased their need to turn to material goods to develop positive self-perceptions. In the study self-esteem mediated the relationship between peer influence and adolescent materialism (please refer to Table 2.9).

In another study, Chia (2010) examined how media influence and social influence interplay and produce joint effects on adolescents' materialistic values. The results showed that adolescent's exposure to advertising was indirectly associated with materialism. The indirect association was mediated by adolescent's perception of advertising effect on friends and adolescents' interpersonal communication with friends (please refer to Table 2.9).

Santos and Fernandes (2011) investigated the antecedent variables of materialism. The result of their study indicated that adolescents' level of contact with their peers indicated higher degree of materialism. The results supported the impact of socialization during adolescence in the formation of materialism and the influence of the interaction with peers (please refer to Table 2.9).

Recently DeMotta et al. (2013) investigated the moderating role of one-child policy on the relationship between susceptibility to social influence from peers and the levels of materialism of consumers. The study found that the positive relationship between peer influence and materialism was greater for consumers from China than those from India and Thailand (please refer to Table 2.9). Studies have also examined the effect of peer influence among high and low status in group.

Shi and Xie (2013) study indicated that high-status peers were particularly influential on low-status individuals in girls' groups and on high-status individuals in boys' groups. The findings implied that special attention should be given to high-status youth in groups who highly endorse social benefits of material possessions (please refer to Table 2.9).

In Moschis et al. (2013) study, it was hypothesized that peer communication about consumption during adolescent years had a positive association with materialistic values in young adulthood. The correlation between peer communication and materialism was significant (please refer to Table 2.9).

Chan (2013) developed a model to predict young people's materialistic values. The result showed that social comparison of consumption with friends was the most important factor in predicting respondents' endorsement of materialistic values (please

refer to Table 2.9). Lee et al. (2013) examined the role of materialism in affecting purchase intentions of mobile phones among adolescents and their findings revealed that peer groups strengthen materialism (please refer to Table 2.9).

### **2.13 Chapter Summary**

In summary, this chapter has laid down the theoretical background of the present study. It attempted to highlight the various theories and concepts which were found to be associated with the study of consumer socialization and materialism.

As the primary source of information for young people, mass media, family and peer group helped them learn consumer knowledge, values and skills (Churchill and Moschis, 1979). McLeod and O'Keefe (1972), stated that socialization theory must deal with five types of variable: (a) content or criterion behaviour; (b) agent or source of the influence; (c) learning processes involved in socialization; (d) social structural constraints affecting learning; and (e) age or life cycle position of the person being influenced.

Cultivation and social cognitive theory have also been link to materialism. Drawing from self-determination theory, Kasser et al. (2002) suggested that individuals may become concerned with self-worth and consume on grounds of how others view them and materialism may be highly valued as a means of self-definition (Richins and Rudmin, 1994).

Based on Maslow's human need theory, Kasser et al. (2002) suggested that materialistic values are derived from a society that failed to satisfy people's physiological and security needs. Wicklund and Gollwitzer's (1982) symbolic self-

completion theory emphasises the importance of psychological need satisfaction in materialistic orientations.

The life course theory also adds value to the theories of self-determination, human need, and symbolic self completion, by emphasising the importance of recognizing the historic timing of the events, the place, time or intensity of a child's experience of these events, and the relationship of these events to other stressful events in the child's life (Moschis, 2007).

Within the context of family influences, it has been found that parenting styles, family structure and family resources all contributed to affect how individuals feel about themselves, which in turn affect the degree to which they turn to material possessions. In terms of family communication, studies have found that two relatively uncorrelated dimensions of communication structure were associated with family communication environment: socio-oriented and concept-oriented family communication. The two general dimensions of parent-to-child communication also produced a four fold typology of family communication patterns (FCP): laissez-faire, protective, pluralistic, and consensual.

The development of religiously-oriented family communication structure is derived from studies on religiousness. Studies have indicated that parental religiousness was a good predictor of adolescents' and adult children's religiousness. Investigations have revealed that there were three main factors predicting adolescents' religiousness; perceptions of the importance of religion for the parents, positive family environment and home religious activity. Particularly, verbal communication tended to be the primary vehicle through which parents have an influence, and peers tended to have an impact through both verbal discussion and shared religious activities.

Studies have also found that materialism had a positive relationship with satisfaction with income level, desired higher level of income, valued financial security more and sense of accomplishment and warm relationships with others less than non-materialists. Studies have found a positive relationship between materialism and normative influence, public self-consciousness, social anxiety, and envy. Materialism was negatively related to both happiness and life satisfaction.

In terms of demographic variables associated with materialism, it has been found that age was a strong predictor of materialism. People in different age group were found to differ in their level of materialism. Gender has also been associated with materialism level. Past researches which have assessed beliefs related to materialism have found differences between social class groups. Birth order has been reported as a contributing factor to materialism.

Generally, studies have found that the last-born group produced higher materialism scores than first-borns and middle-born. Studies on religion and materialism have reported that religion generally has an effect on materialism. Prior studies have found that people who are more religious tended to be less materialistic.

There also exist huge amounts of research on how television exerts its influences in the field of consumer socialization research. Generally, studies have indicated that television advertising viewing was correlated with materialism. Studies have also indicated that viewing level influenced materialism and that materialism mediated the cultivation effect for life satisfaction. With regards to peer communication influences, studies found that peer communication about consumption variable was related positively to the adolescent's materialism.

## CHAPTER 3

### MODEL DEVELOPMENT

This chapter endeavours to present the research framework of this study. This chapter begins with an illustration on how the variables for this study have been explored in past studies. Next, an overview of the research framework is then presented. Next, the relationship between socio-oriented, concept-oriented, religiously-oriented family communication and television viewing on materialism is then discussed. Following this, the relationship between socio-oriented, concept-oriented, religiously-oriented family communication and television viewing on peer communication is presented. Based on the review of literature, the relationship between peer communication and materialism is then discussed. Next, a discussion follows on peer communication as a mediating variable for this study. Following this, the relationship between age and materialism is discussed and lastly, this chapter ends with a chapter summary.

#### 3.1 Introduction

**Family communication.** Generally research on family communication have found that adolescents from pluralistic families were more likely to have a greater knowledge of consumer related issues, more able to filter puffery in advertising, and cognitively differentiate product related information in the ads (e.g., Moschis and Moore, 1979a). Besides from these studies, the four typologies of family communication patterns have also been studied with other outcome variables. Findings on family communication patterns suggested that adolescents from pluralistic communication

patterns displayed the most competent consumer behaviour, whereas adolescents from laissez-faire families were the least competent (e.g., Moschis et al., 1986). Mother's concept orientation was related to the number of consumer socialization goals, discussing advertising, co viewing. Socio-orientation was generally been linked to restriction of consumption (e.g., Carlson et al., 1990).

Studies have related family communication patterns to various parental styles. For instance, studies found positive relationship between socio-oriented family communication and parental restrictive mediation (e.g., Adib and El-Bassiouny, 2012). It has also been found that communication quality between parents and their adolescent children impacted the consumption interaction taking place between the parents and their children (Martin, 2013). Studies also found positive association between the socio-oriented structure of family communicate on and materialistic values (e.g., Moschis et al., 2013).

Studies have also emphasized on the impact of religiosity on well being and have confirmed the positive effects of religiosity on well-being (e.g., Moschis and Ong, 2011). Religiosity has also been found to act as a full mediating role in the relationship between relative and contextual variables, and purchase behaviour (e.g., Syed et al., 2011).

Religiosity has also been found to be strongly and positively associated with importance attached to adhering to religious rules on consumption and had a significantly negative impact on materialism dimension (e.g., Abedin and Brettel, 2011). Studies have tested the effect of religiosity on innovativeness to explore disparities between devote and casual religions' followers and results showed that religiosity had negative impact on innovativeness (e.g., Mansori, 2012).

**Television influences.** A large number of studies have also examined the influence of television viewing. Generally, studies have found that adolescent's motivations for watching television commercials and programs were strong predictors of most of the consumer skills (e.g., Moschis and Churchill, 1978). Social utility reasons for watching television advertisements were strong predictors of the adolescent's attitudes toward materialism (e.g., Moschis and Churchill, 1978).

In other studies, materialism has been found to mediate the relationship between television viewing and attitudes about the natural environment (e.g., Good, 2007). Studies also found that motivation for advertisement viewing was a positive predictor of social comparison with media figures (e.g., Chan and Prendergast, 2007). Studies also found that adolescents buying behaviour and spending habits had significant relevance with their preference for television commercial (e.g., Pandya and Jayswal, 2007).

La Ferle and Chan (2008) study indicated that respondents view advertisements or finding out where they could buy and for information about products, but did not use advertisement for knowing products to impress others. Speck and Roy (2008) study found that the quantity of television viewing positively influence materialism directly in some cases, as well as through perceived realism in others.

Chia (2010) study showed that an adolescent's exposure to television advertising was both directly and indirectly associated with his or her materialistic values. The indirect association was mediated by the adolescent's perception of television advertising effect on friends and by the adolescents' interpersonal communication with parents and with friends. A study by Speck and Peterson (2010) indicated that the power of media as a socialization agent for both groups was seen not only via television advertising, but also through television programming.

Other study by Moschis et al. (2011) suggested that the influence of the socio-oriented family communication structure on materialistic attitudes in Western cultures might be indirect by affecting the youth's patterns of television viewing. Studies also found that materialism mediated the cultivation effect for life satisfaction (e.g., Shrum et al., 2011).

**Peer influences.** Generally, past research showed that peer groups were particularly significant sources of influence among adolescents (e.g., Moschis and Churchill, 1978). Research showed that adolescents acquired several cognitive skills by interacting with their peers (e.g., Moschis and Churchill, 1978; Churchill and Moschis, 1979).

Results indicated that peer communication and susceptibility to peer influence were positively related to social comparison (e.g., Chan and Zhang, 2007). A study by Roberts, et al. (2008) has indicated that normative peer influence was shown to increase the level of materialism.

Banerjee and Dittmar (2008) have confirmed that the endorsement of social motives for materialism mediated the relationship between perceived peer pressure and materialism. In addition to that, studies have showed that advertising produced an indirect effect on college students' materialism via their presumed advertising influence on peers (e.g., Jiang and Chia, 2009).

Studies have also supported the impact of socialization during adolescence in the formation of materialism and the influence of the interaction with peers (e.g., Santos and Fernandes, 2011). Studies also found positive relationship between peer influence

and materialism was greater for consumers from China than those from India and Thailand (e.g., DeMotta et al., 2013).

Studies between genders indicated that high-status peers were particularly influential on low-status individuals in girls' groups and on high-status individuals in boys' groups (e.g., Shi and Xie, 2013). Also previous studies found significant correlation between peer communication and materialism (e.g., Moschis et al., 2013).

**Materialism.** Results from the various studies across time and cultures indicated that a number of variables appeared to influence materialism. Earlier findings have indicated that materialistic people were more likely to buy things for themselves when they were in a good or bad mood (e.g., Belk, 1984). Generally, materialists desired higher level of income, valued financial security more and sense of accomplishment and warm relationships (Richins and Dawson, 1992).

Materialistic values have been associated with low self-esteem, especially when people believe that their self-worth depends on external signifiers such as money and status (e.g., Chan and Joseph, 2000). Studies also found that family structure directly affected the happiness dimension of materialism (e.g., Roberts et al., 2003). Materialism was negatively related to both happiness and life satisfaction (e.g., Belk, 1985).

Materialism has also been positively related to conspicuous consumption, impulse buying, and brand loyalty (e.g., Podoshen and Andrzejewski, 2012). Other studies have found that Materialism significantly correlated with celebrity worship (e.g., Reeves et al., 2012). It has also been found that materialistic consumers were more inclined to consume luxury goods than less materialistic consumers (e.g., Hudders and Pandelaere, 2012).

Previous studies also showed a significant impact of materialism on aggressive driving behaviour (e.g., Kalanit and Aviv, 2013). In Ostero-Lopez study, it has been found that anxiety and depression mediated the effects of the materialism on addictive buying, and depression mediated the influence of materialism.

Results also showed that materialistic values guide in describing consumer ethics of adolescents (e.g., Flurry and Swimberghe, 2013). In emerging markets, strong positive effects of materialism on the concern for environmentally friendly products were found (e.g., Strizhakova and Coulter, 2013).

Family structure has been found to play a role in the development of materialism tendencies (e.g., Moschis et al., 2013). It has also been found that anticipated positive emotions and perceived behavioral control were significant predictors of desire and intentions to pursue materialistic and non-materialistic lifestyles (e.g., Xie et al., 2013). Recently high levels of materialism were found with high neuroticism and low agreeableness (e.g., Watson, 2014). Researchers have also examined how materialism affects different consumption patterns. Materialism has been found to positively related to conspicuous consumption, impulse buying, and brand loyalty (e.g., Podoshen and Andrzejewski, 2012).

Studies have also identified a significant impact of materialism on aggressive driving behaviour (e.g., Kalanit and Aviv, 2013). Studies have also found that materialistic values and a love for money guide in describing consumer ethics of adolescents (e.g., Flurry and Swimberghe, 2013). Drawing on cultural identity theory, global consumer culture theory, and sustainability research, studies have found strong positive effects of materialism on the concern for environmentally friendly products (e.g., Strizhakova and Coulter, 2013).

## **3.2 Research Framework of the Study**

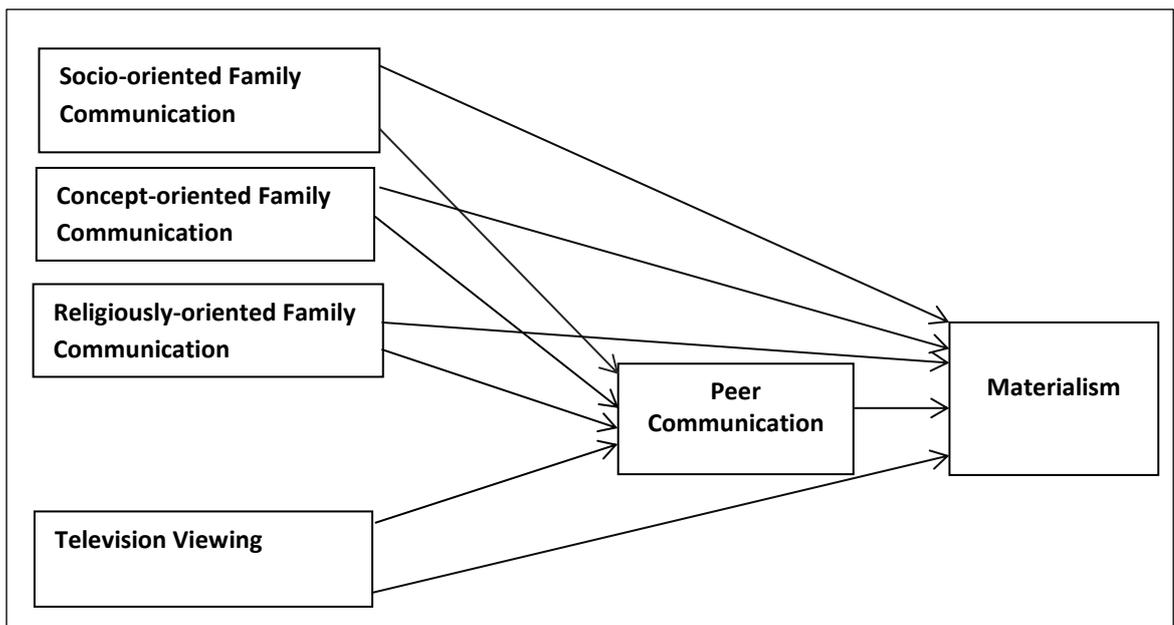
This section presents the research framework of this study. First, it presents an overall explanation of the theoretical model. The proposed framework depicted a hypothesized relationship between socio-oriented, concept-oriented, religiously-oriented family communication and television viewing on materialism. Following this, a hypothesized relationship between socio-oriented, concept-oriented, religiously-oriented family communication and television viewing on peer communication is illustrated. Based on the review of literature, a hypothesized relationship between peer communication and materialism is then depicted. Figure 3.1 presents the research framework for the study.

### **3.2.1 Overview of the Theoretical Model of the Study**

The theoretical model of this study is primarily derived from established theories of consumer socialization research, in which the family communication environment, peer communication and television viewing influence have been found to play a significant and key role in influencing an individual's orientation towards materialism. In this model, it first illustrates how young adults' exposure to the various type of family communication structures at home during adolescents years will influence their orientation towards materialism in their adulthood.

The model particularly emphasize on the different types of communication structure which exist at home during young adults' adolescent years and through which the child and family members interacts and communicates about consumption matters. Past studies suggested that, socio-oriented family communication, concept-oriented

**Figure 3.1**  
**The Research Framework of the Study**



family communication and religiously-oriented family communication structures were the three dimensions which contributed to an individual's orientation towards materialism.

Based on the literature review, this model posits that young adults who were exposed to a socio-oriented family communication structure at home during adolescent years would tend to be oriented towards materialism in their adulthood as opposed to those who were exposed to a concept-oriented and religiously-oriented family communication structure at home during adolescent years. The model also posits that young adults' exposure to television viewing at home during adolescent years will lead to their orientation towards materialism in their adulthood.

The model also explains that during young adults' adolescent years, regardless of the type of family communication structure which existed at home, they would interact and communicate with their peers. This is mainly due to the fact that although the family is considered as the primary force of influence in childhood, but as an individual

transit into adolescence, peer influence continuously exerts its influence on the individual as compared to the family (e.g., Ward et al., 1977; Churchill and Moschis, 1979; Moschis and Churchill, 1978; Moschis and Moore, 1979a; Moschis and Mitchell, 1986).

Asides from the family communication environment, young adults are exposed to television viewing at home during adolescent years, following which, they held discussions about what they watched on television with their peers outside the house about consumption matters. Due to young adults' interaction and communication with their peers about consumption matters during adolescent years, this may lead to their orientation towards materialism in adulthood.

### **3.2.2 The Relationship Between Socio-oriented Family Communication and Materialism**

This section provides a review of research conducted and the result of several findings on the relationship between socio-oriented family communication and materialism. Table 3.1 provides selected studies on socio-oriented family communication and materialism.

Moschis and Moore (1979a) suggested that a socio-oriented family communication structure, which encourages the child to develop respect for others and other social orientations led to the development of materialistic orientations. The researchers hypothesized that socio-oriented family communication structure was positively related to the adolescent's materialistic attitudes. The result of the study indicated that the correlation between socio-oriented family communication structure and materialism was statistically significant (please refer to Table 3.1).

**Table 3.1**  
**Studies on Socio-oriented Family Communication and Materialism**

Author(s)	Sample	Major Findings
Moschis and Moore (1979a).	Adolescents.	The correlation between socio-oriented family communication structure and materialism was statistically significant.
Carlson et al. (1994).	Mothers with children and adolescents.	Mothers' materialistic values were related to family communication patterns. Protective mothers were believed to have more materialistic attitudes than pluralistic mother.
Flouri (1999).	Adolescents.	Mothers' materialism level and family communication style could reliably predict their child's level of endorsement of materialistic values.
Bristol and Mangelburg (2005).	Adolescents.	Materialism of teens in protective (high in socio- oriented communication) family was significantly greater than materialism in pluralistic (high in concept-oriented communication).
Moschis et al. (2011).	Young adults.	Socio-oriented family communication structure on materialistic attitudes might be indirect by affecting the youth's patterns of television viewing.
Moschis et al. (2013).	Young adults.	A positive association between the socio-oriented structure of family communication and materialistic values was significant.

In a different study, Carlson et al. (1994) further explored the socio-oriented family communication structure and materialism among mothers with children and adolescents. Their findings indicated that mothers' materialistic values were related to family communication patterns. Protective mothers were believed to have more materialistic attitudes than pluralistic mothers (please refer to Table 3.1).

Similarly Bristol and Mangelburg (2005) have explored the typologies of family communication structure. Among the four typologies of family communication, it was found that materialism of teens in protective family was significantly greater than materialism in pluralistic family (please refer to Table 3.1). In Flouri (1999) study it was found that mothers' materialism level and family communication style could reliably predict their child's level of endorsement of materialistic values.

Moschis et al. (2011) study examined whether the development of materialistic values in early life reflects cultural norms or is the outcome of family communication influences. However, their results indicated that the influence of socio-oriented family communication structure on materialistic attitudes in individualistic cultures was indirect (please refer to Table 3.1). Moschis et al. (2013) study posited a positive association between the socio-oriented structure of family communication and materialistic values. The correlation between the two variables was significant (please refer to Table 3.1).

Based on the literature, studies have established that adolescents who were exposed to a socio-oriented family communication structure at home tended to be more oriented towards materialism. Given that individuals tend to carry values they learned from their childhood into their adulthood, this study attempts to find out if young adults who were exposed to a socio-oriented family communication structure at home during their adolescent years would remain oriented towards materialism in their adulthood. Studies have also emphasized that as an individual grows older, their materialism level may be lower. The following hypothesis statement was developed for this study:

**Hypothesis 1:** Young adult person's exposure to a socio-oriented family communication structure at home during adolescent years is positively associated with their orientation towards materialism in their adulthood.

### **3.2.3 The Relationship Between Concept-oriented Family Communication and Materialism**

It is also noted that most previous studies which examined the concept-oriented family communication structure were mostly centered on children and adolescents.

This study only identified one study from the review of literature which examined how a concept-oriented family communication structure which exist at home during adolescent years affect the behaviour of the individual during his or her adulthood, particularly in their orientation towards materialism. This section provides a review of the very few research conducted and the result of several findings on the relationship between concept-oriented family communication and materialism. Table 3.2 provides selected studies on concept-oriented family communication and materialism.

In an established study by Moschis and Moore (1979a), their results indicated that the relationship between concept-oriented communication structure and materialism was insignificant (please refer to Table 3.2). Carlson et al. (1994) further analysed the construct of concept-oriented family communication by examining the typologies of the construct.

The findings indicated that mothers' materialistic values were related to family communication patterns. Specifically, it was found that pluralistic (emphasizing high concept-oriented family communication) mothers were less materialistic than protective mothers (low concept-oriented family communication) (please refer to Table 3.2).

Similarly, Bristol and Mangelburg (2005) have explored the typologies of family communication structure. It was found that materialism of teens in pluralistic family was lesser than materialism in protective family (please refer to Table 3.1). Moschis et al. (2011) examined whether the development of materialistic values was the outcome of media and family influences. In their findings, concept-oriented family communication had no effect on youth's development of materialistic values, regardless of cultural background (please refer to Table 3.2).

**Table 3.2**  
**Studies on Concept-oriented Family Communications and Materialism**

Author(s)	Sample	Findings
Moschis and Moore (1979a).	Adolescents.	The relationship between concept-oriented communication structure and materialism was insignificant.
Carlson et al. (1994).	Mothers with children and adolescents.	Pluralistic (emphasizing high concept-oriented family communication) mothers were less materialistic than protective mothers (low concept-oriented family communication).
Bristol and Mangelburg (2005).	Adolescents.	Materialism of teens in pluralistic family was lesser than materialism in protective family.
Moschis et al. (2011).	Young adults.	Concept-oriented family communication had no effect on youth's development of materialistic values, regardless of cultural background.
Vega et al. (2011).	Children.	Consumer communication predicted materialistic values. Concept-oriented family communication was tested as a moderator, but was not significant in the relationship between advertising/television and materialism.

Vega et al. (2011) have examined the roles that television exposure, advertising recognition, and family communication play in stimulating materialism in children. They found that consumer communication predicted materialistic values. In their study, concept-oriented family communication was tested as a moderator, but it was not significant in the relationship between advertising/television and materialism (please refer to Table 3.2).

Based on the literature, it has been established that adolescents who were exposed to a concept-oriented family communication at home tended to be less materialistic and in some cases no significant relationship were found between the two variables. Given that individuals tend to carry values they learned from childhood into their adulthood, this study attempts to find out if young adults who were exposed by a concept-oriented family communication at home during their adolescents years would remained less materialistics during adulthood. The following hypothesis statement was developed for this study:

**Hypothesis 2:** Young adult person's exposure to a concept-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood.

### **3.2.4 The Relationship Between Religiously-oriented Family Communication and Materialism**

Studies on religiosity are many and varied. Potvin and Sloane (1985) revealed that parental religiosity was a significant predictor of adolescents' religious practice and that such influence extend into adulthood. In a study by Hunsberger (1976) it was found that the greater emphasis on religion in one's childhood home was associated with religiousness during college. Importantly, a survey investigation of high school senior led to the conclusion that the importance of religion for the parents, a positive family environment and home religious activity predicted religiousness (Benson et al., 1986). Kieren and Munro (1987) found that the roles of both mothers and fathers were important in religious transmission to their offspring (Bao et al., 1999).

A number of studies have suggested that the quality of young people's relationship with parents affect religious socialization. For example in a panel investigations spanning the years (1965-1982), children who reported while in high school that they had a warm, close relationship with their parents were less likely to rebel against religious teachings (Wilson and Sherkat, 1994).

Based on the findings from Myers (1996) study, it was found that the main determinant of offspring religiosity were parental religiosity, the quality of the family relationship and traditional family structure. However, if the parents were themselves

nonreligious, the higher quality of family relationship may then cause decreased religiosity in offspring.

Importantly, studies have reported that parents use specific mechanism to instil increased religiousness in their children, and studies have found that communication aspect is a very important mechanism that allows parents to instil religiousness in their children. For instance, in Dollahite and Marks (2005) study, it was found that parents nurtured growth among family members through teaching, discussion and example, and these facilitated religious and spiritual development in the family.

According to Schwartz (2006), parents have been validated as being important contributors to the development of religious faith. Schwartz (2006) study attempted to elucidate the contributions of the transmission (e.g., parent church attendance) and transactional (e.g., discussions about faith) models of socialization. In the study, the results indicated that parent transmission and transaction variables significantly and positively predicted the measure of religious faith.

Belk (1983) study explained that in organized religion all condemn concentrating on building excessive material wealth. In a study by Belk (1985), it was found that religious institute groups had the lowest scores on materialism. Later on, Flouri (1999) examined the extent to which family environment mediated the relationship between religious attendance and materialism. The results indicated that materialism was negatively related to religious service attendance. The results also showed that materialism in adolescents related to decreased religiosity.

Kau et al. (2000) conducted a study to measure the effect of materialistic inclination on the degree of life satisfaction. In the study, it was noted that people with no religious affiliation appeared to be more materialistic. In Burroughs and Rindfleisch

(2002) study, it was found that materialism was negatively related to religious values. Their results suggested that collective oriented values (a significant component of many spiritual belief systems) were in conflict with materialism.

Speck and Roy (2008) have examined the role played by religiosity as a cultural value, and its effects on materialism and on life satisfaction. The findings of the study revealed that religiosity negatively influenced materialism.

Communication patterns that takes place at home plays a very important role in an individual life, regardless of the stage of a person's cognitive development as indicated by the study of Hoge and Keeter (1976). How an individual's adolescent years spent within a religiously-oriented family communication structure affects his or her orientation towards materialism in his or her adulthood years has been overlooked. On the basis of previous research findings, the following hypothesis statement was developed for this study:

**Hypothesis 3:** Young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood.

### **3.2.5 The Relationship Between Television Viewing and Materialism**

Research into the area of consumer socialization and materialism has also placed much emphasis on the impact of television viewing and its influences on materialism. Table 3.3 provides a summary of research conducted in this domain. Moschis and Churchill (1978) examined the influence of mass media, on adolescent's development of materialistic values which is in the context of consumer socialization. The results

**Table 3.3**  
**Studies on Television Viewing and Materialism**

<b>Author (s)</b>	<b>Sample</b>	<b>Findings</b>
Moschis and Churchill (1978).	Adolescents.	The correlation between favourable attitudes toward materialism and the amount of television viewing was significant.
Churchill and Moschis (1979).	Adolescents.	The amount of television viewing among adolescents declined with age and that materialistic values tended to increase with the amount of television viewing.
Moschis and Moore (1982).	Adolescents.	Early exposure to television advertisements may be associated with later development of materialism.
Sirgy et al. (1998).	Adolescents.	It was found that television viewership and advertising did influence materialism.
Buijzen and Valkenburg (2000).	Parent-child dyads.	The relation between advertising and materialism was stronger among children whose parents often used restrictive mediation style materialism.
Shrum et al. (2005).	Young Adults.	Television viewing was positively related to materialism.
Chan and Prendergast (2007).	Adolescents.	Respondents who frequently compared possessions with media figures were more materialistic.
Speck and Roy (2008).	Adolescents.	Television viewing was positively shown to influence materialism directly, as well as through perceived realism.
Chan and Cai (2009).	Adolescents.	Heavy television advertising viewers were more materialistic than light television advertising viewers.
Abideen and Salaria (2009).	Children.	It was found that television advertising led to increase materialism in children.
Shrum et al. (2011).	Young Adults.	Viewing level influenced materialism and materialism mediated the cultivation effect for life satisfaction.

was in support of the view that the more television programming and advertising the adolescents watched, the more materialistic the person's attitudes were (please refer to Table 3.3).

Churchill and Moschis (1979) assessed the effect of television on the development of consumer values. In the study, the amount of television viewing with age declined and materialistic values tended to increase with the amount of television viewing (please refer to Table 3.3).

Moschis and Moore (1982) found that early exposure to television advertisements may be associated with later development of materialism (please refer to Table 3.3). Furthermore, Sirgy et al. (1998) have examined if television viewership influenced materialism and dissatisfaction with standard of living which in turn could contribute to dissatisfaction in life. It was found that television viewership and advertising did influence materialism (please refer to Table 3.3).

Buijzen and Valkenburg (2000) investigated how active and restrictive mediation affect children's advertising-induced materialistic attitudes. Their analyses of the survey data showed that advertising exposure was positively and directly related to materialism. The relation between advertising and materialism was stronger among children whose parents often used a restrictive mediation style materialism (please refer to Table 3.3).

Shrum et al. (2005) research examined whether cultivation effects generalize to materialism. Their findings also revealed that television viewing was positively related to materialism (please refer to Table 3.3). In another study, Chan and Prendergast (2007) found that respondents who frequently compared possessions with media figures were more materialistic (please refer to Table 3.3).

Speck and Roy (2008) have empirically examined the relationship between television viewing, materialistic values, and perceived well-being factors. Television viewing was positively shown to influence materialism directly, as well as indirectly through perceived realism (please refer to Table 3.3).

Chan and Cai (2009) have examined the cultivation effects of television advertising viewing on the perceived affluence in society and the materialistic value

orientations among adolescents. The study indicated that heavy television advertising viewers were more materialistic than light television advertising viewers (please refer to Table 3.3).

Abideen and Salaria (2009) conducted a study to deliberate upon the impact of television advertising on children and to identify which critical impacts led to behavioural and eating disorder in children. In the study it was found that television advertising led to increase materialism in children (please refer to Table 3.3).

Shrum et al. (2011) conducted a study to investigate the interrelations among television viewing, materialism, and life satisfaction. The results indicated that viewing level influenced materialism and materialism mediated the cultivation effect for life satisfaction (please refer to Table 3.3).

Most studies conducted to establish the association between television viewing and materialism have focused mainly on children and adolescents with the exception of few studies which are centred on young adults. Among the studies which examined television influences on materialism in young adults, very few have specifically investigated the effect of television viewing on materialism (e.g., Shrum et al., 2005) and they were mostly conducted in the West which is a different cultural context.

This leaves room for further investigation on how television viewing would affect materialism in an Eastern culture such as Malaysia among young adults. Based on the literature, the following hypothesis statement was developed for this study:

**Hypothesis 4:** Young adult person's exposure to television viewing at home during adolescent years has a positive effect on their orientation towards materialism in their adulthood.

### **3.2.6 The Relationship between Family and Peer Communication**

A review of literature indicates that very few studies have documented on the relationship between family and peer communication environment especially in the context on consumer behaviour and socialization. No studies have thus far empirically examined the consequences of family communication environment and its association with peer communication. This section attempts to establish that, besides from the discussion that takes place in the various family communication structures which exist at home, young adults also interact with their peers during adolescent years to discuss consumption matters. Family communication about consumption issues at home also result into discussion with peers outside the house.

Within the context of family influence, specifically in the context of family structure, studies have previously indicated that there is a possibility of family disruptive events and consequently the strength of materialistic values indirectly acting as stress relievers from aversive psychological feelings (Rindfleisch et al., 1997).

Interaction with groups, other than the family, through exposure to socialization agents, such as peers, was a method used by members of disrupted families to provide temporary relief from aversive feelings. The interaction with socialization agents (i.e., peers), during adolescent years, was strongly supported by existing research as manifesting need felt towards the importance for material possessions (John, 2000; Moschis, 1985).

Moschis et al. (2009) examined the influence of mass media, parents, and peers on the youth's development of specific consumer-related motives and values. Their results

suggested that, adolescents' communications with their peers about consumption matters may be centered on the social importance of goods and services, and they may be a second-order consequence of learning from parents. The study reported a relatively high correlation between intra-family communication about consumption and communication with peers (Moschis and Churchill, 1978).

Studies have also indicated that there was a relationship between peer and family communications. For instance, Churchill and Moschis (1979) reported that during adolescent years, family communication about consumption matters increased with the amount of peer communication. The result suggested that family communication about consumption might lead to communication with peers about such matters. Thus, it was concluded that during adolescent years, the child's needs to evaluate some consumption-related cognitions learned at home may cause him or her to seek out others who are similar and initiate discussions with them.

Another study demonstrated that during adolescent years a positive relationship between the frequency of communication about consumption from parent to adolescent and frequency of adolescent communication with peers existed (Moore and Moschis, 1978b). The findings suggested that the youth were likely to discuss with his/her peers topics that were discussed at home. Moore and Moschis (1978b) explained that it is also possible that peer communications initiated outside the home are likely to be discussed with parents.

One study by Churchill and Moschis (1979) showed that family communication about consumption may lead to communication with peers about such matters, a finding that can be interpreted in line with Festinger's theory of social comparison. It was found

that during adolescent years, the child's need to evaluate some consumption-related cognition learned at home may cause him/her to seek out others who are similar and to initiate discussions with them.

According to Moschis (1985) family influences may also operate indirectly by affecting the child's social relations with peer groups. Based on review literature, it is suggested that irrespective of the type of family communication structure which existed at home during young adults' adolescent years, young adults will be exposed to peers influences through their communication and interaction outside the house to discuss about consumption matters. The following hypotheses statements were developed for this study:

**Hypothesis 5:** Young adult person's exposure to a socio-oriented family communication structure at home during adolescent years has a positive effect on peer communication.

**Hypothesis 6:** Young adult person's exposure to a concept-oriented family communication structure at home during adolescent years has a positive effect on peer communication.

### **3.2.7 The Relationship Between Religiously-oriented Family Communication and Peer Communication**

Researchers have reported that peer generally played an important role in influencing adolescents (e.g., Sprinthall and Collins, 1995). But relatively few studies have investigated the effect of peer influence on religiousness. de Vaus (1983) compared the impact of peers and parents. It was found that parents were more influential for religious beliefs, and that peer tended to have more influence outside of the religious realm.

However, de Vaus (1983) also found that peer influenced religious practice to some extent. On the other hand, Erickson (1992) study found that peer influence was relatively not very important in adolescent religiousness. However, he pointed out that peer influence might be hidden because of the way in which effects were measured, and also because it was difficult to separate peer influence from religious education, which itself involved a social friendship settings that might constitute of a kind of peer influence.

Importantly, King et al. (2002) found that although parental influence tended to be the most significant, the influence of peer should not be overlooked. Verbal communication tends to be the primary vehicle through which parents have an influence, peers tend to have an impact through both verbal discussion and shared religious activities. Regnerus et al. (2004) found that although parents were the primary influence, the ecological context provided by friends matter as well in adolescent religious development.

Ozorak (1989) explained that peers do influence adolescent's religiousness but the relationship was complex and often overshadowed by parental influences. Other researchers have confirmed that the primary importance of parents in religious socialization, but have found evidence that the religiosity of college students' current friends offers a kind of supplementary reinforcing effect (Roberts et al., 2001).

In Schwartz (2006) study, peers have been validated by previous research as being important contributors to the development of religious faith. The study of Schwartz elucidated the contributions of the transmission (e.g., parent church attendance) and transactional (e.g., discussions about faith) models of socialization.

The results indicated that friend transmission and transaction variables significantly and positively predicted the measure of religious faith, with friends' constructs accounting for more variance in religious faith than that of parents.

It is also important not to assume that peer influence is only relevant to children and adolescent religion. Olson (1989) found that the number and quality of friendship were important predictors of adults' decision to join or leave a denomination. Putnam (2000) has pointed out that people who belong to religious group tended to have more social commitment and contacts in their lives; this increase social interaction may allow for greater peer influence.

The importance of verbal communication among peers has also received attention from researchers. Evidence from prior studies suggested that peers tended to have an impact through both verbal discussion and shared religious activities outside of homes. Evidence also suggested that religious group tended to have more social commitment and contacts in their lives; this increase social interaction may allow for greater peer influence. Based on the literature, the following hypothesis statement was developed for the study:

**Hypothesis 7:** Young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years has a positive effect on peer communication.

### **3.2.8 The Relationship between Television Viewing and Peer Communication**

Media research has indicated that people enjoy watching television as a part of socializing in groups although many constraints in daily life limit the opportunities for

doing so. According to Ducheneaut et al. (2008) television has often been criticized as an isolating, anti-social experience. However, early ethnographic studies (Lull, 1980) showed that television is rarely mentioned as vital forces in the construction or maintenance of interpersonal relations, but can now be seen to play central roles in the methods which social units employ to interact normatively.

Television viewing appears to be a social activity, often conducted in groups (Morrison, 2001). According to White (1986), the worth of a particular television program is often gauged according to the amount of social interaction it generates. Television can foster multiple forms of sociability: direct (e.g. when chatting with friends and family during a “movie night” at home) or indirect (e.g. when discussing previously viewed programs with colleagues at the office water cooler) (Ducheneaut et al., 2008).

Studies have also made a distinction between internal and external functions of television viewing. Previous research by Morrison (2001) highlighted a similar distinction between the “internal” social functions of television viewing (when family members watch television together) and its “external” functions (e.g. television programs as topics of conversation at work or elsewhere; special events organized at home such as inviting friends over for watching the Superbowl).

Ducheneaut et al. (2008) study was conducted to describe the initial results from a series of studies illustrating how people interact in front of a television set. Their results indicated that the majority of the survey respondents reported that they routinely held viewing parties with their friends. It was also found that certain qualities in TV shows encouraged sociability. In particular, shows with bursty rhythms or redundant content (such as sporting events) provided opportunities for interaction.

In Moschis and Moore (1982) study, peer communication effects appeared to be correlated with the level of television advertising exposure. Television advertising effects on adolescents interacting with peers were observed in the short run (Moschis and Moore, 1982). Research found that television created a shared and common experience that bonds together members in an extended society (Silverstone, 1994).

There are studies which examined how television helped in creating a shared experience. Television was observed as being a reference. This is so, as people led more widely diverse lives and activities, television has provided a common point or reference –a kind of ‘social glue’ that bonds strangers and acquaintances (e.g., Lee and Lee, 1995). The use of audio visual content as a placeholder for starting and sustaining relationships (e.g. discussions about football match, or a popular TV series) was an everyday experience for the majority of television users (Chorianopoulos, 2007).

Chorianopoulos (2007) explained that television experience was extended by enabling social interaction among participants and increased interaction with content. As television watching takes place over a distance or even during different times, technological advancement facilitate the communication of basic information that discloses status, preference and activity of the distant viewers. For instance, an important functionality of a social TV system would be to create the impression of watching television alongside a group of friends.

Social television provides a shared social context for conversations about the media that individual enjoyed, although not at the same time or place. Evidence from prior studies suggested that generally people tended to interact with their peers after watching television. Television appeared to be of vital forces in the maintenance of

interpersonal relations and even appears to be a social activity. On the basis of previous research findings, the following hypothesis was developed for this study.

**Hypothesis 8:** Young adult person's exposure to television viewing at home during adolescent years is positively associated with peer communication.

### **3.2.9 The Relationship Between Peer Communication and Materialism**

Researches on the effect of peer influence on materialism are many and varied. This section provides a review of research conducted and the result of several findings between peer communication and materialism. Table 3.4 provides selected studies on peer communications and materialism.

Moschis and Churchill (1978) hypothesized that the more frequently an adolescent communicated with their peers about consumption matters, the more positive the individual's materialistic attitudes would be and the hypothesis testing was significant (please refer to Table 3.4). Churchill and Moschis (1979), hypothesized a positive relationship between adolescents frequency of communication with peers about consumption matters and the strength of their materialism value. The findings indicated that materialistic values increase with the extent of peer communication (please refer to Table 3.4).

Moore and Moschis (1981) studied the influence of peers as socialization agents and the effects of demographics variables on consumer learning and it was found that the frequency of peer communication led to the development of materialistic orientations (please refer to Table 3.4). Flouri (1999) examined the extent to which family environment mediated the relationship between family structure, religious

**Table 3.4**  
**Studies on Peer Communications and Materialism**

Author (s)	Sample	Findings
Moschis and Churchill (1978).	Adolescents.	Peer communication about consumption variable was related positively to the adolescent's materialism.
Churchill and Moschis (1979).	Adolescents.	Materialistic values increased with the extent of peer communication.
Moore and Moschis (1981).	Adolescents.	The result indicated that the frequency of peer communication seems to lead to the development of materialistic orientations.
Flouri (1999).	Adolescents.	Materialism in adolescents was independently predicted by the extent of peer influence.
LaFerle and Chan (2008).	Adolescents.	Peer influence was found to be significant predictors of materialistic values among adolescents.
Moschis et al. (2009).	Young adults.	Peer communication about consumption during adolescent years and the person's strength of materialistic values in early adulthood was statistically significant.
Chaplin and John (2010).	Adolescents.	Higher level of peers' materialism was associated with higher levels of adolescents' materialism.
Benmoyal-Bouzaglo and Moschis (2010).	Young adults.	Peer communication about consumption during adolescent years and materialistic values held by young French adults were supported.
Santos and Fernandes (2011).	Adolescents.	Adolescents' level of contact with their peers indicated higher degree of materialism.
Moschis et al. (2013).	Young adults.	Peer communication about consumption during adolescent years had a positive association with materialistic values tendencies reported as a young adult

attendance, susceptibility to interpersonal influence communication with peer about consumption and materialism. The results indicated that materialism was positively related to communication with peers about consumption issues (please refer to Table 3.4).

La Ferle and Chan (2008) examined the influence of marketing communication factors, specifically social influences factors on adolescents' endorsement of materialistic values. They found that respondent would seek advice from peers when

they buy products. Peer influence was found to be significant predictors of materialistic values among adolescents (please refer to Table 3.4).

In Moschis et al. (2009) study, a product-moment correlation was used to test the relationship between peer communication and materialism. The relationship between peer communication about consumption during adolescent years and the person's strength of materialistic values in early adulthood was statistically significant (please refer to Table 3.4).

In Benmoyal-Bouzaglo and Moschis (2010) study which attempted to explain differences in materialistic values among young French consumers, the hypothesized relationships between exposure to television and peer communication about consumption during adolescent years and materialistic values held by the young French adults were supported (please refer to Table 3.4).

Studies have also highlighted the importance of peers played in emotional support. In Chaplin and John (2010) study, peers were viewed as an important source of emotional support and psychological well-being, which increased self-esteem in adolescents. The results indicated that a higher level of peers' materialism was associated with higher level of adolescent materialism (please refer to Table 3.4).

Santos and Fernandes (2011) study which aimed to investigate the formation of materialistic behaviour among adolescents found that that adolescents' level of contact with their peers indicated higher degree of materialism. The results supported the impact of socialization during adolescence in the formation of materialism and the influence of the interaction with peers (please refer to Table 3.4). In Moschis et al. (2013) study, it was hypothesized that peer communication about consumption during

adolescent years had a positive association with materialistic values tendencies reported as a young adult. The correlation used to test the hypothesis was supported (please refer to Table 3.4). Based on the literature, the following hypothesis statement was developed for the study:

**Hypothesis 9:** Young adult person's communication with their peers during adolescent years is positively associated with their orientation towards materialism in their adulthood.

### **3.2.10 Peer Communication as a Mediating Variable**

Research in consumer socialization context have provided evidence that aside from measuring the direct effect of peer communication on several outcomes variables, peer communication has also been examined as a mediating variable. The mediating role of peer communication has been examined in the context of family environment, particularly in the context of family structure, and media influence.

However, to date, although evidence from relevant literature suggests that peer communication may play a mediating role in the relationship between family communication environment and materialism, and between the relationship between television viewing and materialism, no research have thus far examined the indirect effect of peer communication within these to specific contexts.

One of the purposes of this study is to untap the indirect effect of family communication on materialism, and television viewing on materialism through the mediating effect of peer communication based on relevant literature. Earlier research

by Moschis and Moore (1982) examined the role of peers as mediators of television advertising effects. The researchers have analyzed the influence of television advertising on peer communication. On the role of peers as mediators of advertising effects, the result showed strong positive relationships in the short run between television advertising viewing and materialism, regardless of the level of peer interaction. However, Moschis and Moore (1982) study has been limited in testing the mediating role between the influence of peer communication and television advertising effects on materialism among adolescents only, and has not been extended to young adults studies.

Still in the context of family environment, past studies by Moschis et al. (2009) have tested the mediating role of peer communication during adolescence years between disruptive family events and the strength of materialistic attitudes in early adulthood. However, when the direct effect of disruptive family events on materialism was first tested, the data did not support the hypothesis for peer communication.

Chia (2010) has proposed a theoretical framework by which it can be identified how media influence and social influence interplay and produced joint effects on adolescents' materialistic values. The results showed that an adolescent's exposure to advertising was both directly and indirectly associated with his or her materialistic values. The indirect association was mediated by the adolescent's perception of advertising effect on friends and by the adolescents' interpersonal communication with friends.

Benmoyal-Bouzaglo and Moschis (2010) study sought to explain differences in materialistic values among young French consumers. However, in the study, socialization influences of peers did not mediate the effects of family structure (intact

versus dislocated) on materialistic values. Recently, further evidence in a study by Moschis et al. (2013) supported the importance of the possible mediating role of peer communication. In their study, peer communication has been used as a mediating variable between disruptive family events and materialism. The mediation effect of peer communication was however not supported, as the effect of disruptive family events on materialism was not significant.

The inclusion of peer communication as a mediating variable indicates that peer communication could be a powerful agent of socialization which significantly affects the findings of studies as it may exert more influence and play a greater role in influencing an individual orientation towards materialism. Although the mediating role of peer communication was not significant in these studies, it did provide supporting evidence on the important implications of peer communication as a mediating variable. As such, based on the literature, the following hypotheses statements were developed for the study:

**Hypothesis 10:** Peer communication mediates the relationship between young adults' exposure to a socio-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.

**Hypothesis 11:** Peer communication mediates the relationship between young adults' exposure to a concept-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.

**Hypothesis 12:** Peer communication mediates the relationship between young adults' exposure to a religiously-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.

**Hypothesis 13:** Peer communication mediates the relationship between young adults' exposure to television viewing at home during adolescent years and their orientation towards materialism in their adulthood.

### **3.2.11 The Relationship Between Age and Materialism**

There have been many studies which examined the effect of age on materialism. Studies analyzing consumer behaviour have fundamentally focused on adolescents, and their findings have generally not been transferable to young adults (Ganassali et al., 2009). Table 3.5 provides a summary of major findings of the relationship between age and materialism.

Among the few studies which have examined adulthood in the context of consumer socialization and materialism, none of them examined the influence of family communication, peer communication and television viewing on materialism among young adult consumers simultaneously in a model. This study examined the effect of family communication, peer communication and television viewing on materialism among young adult consumers specifically.

The reason for studying young adult consumers is due to the fact that during the period of transition from adolescence to early adulthood, the young adults seek to establish their own individual personas and form behaviour patterns, attitudes, and values, hence their own consumption patterns.

According to Mokhlis (2009), they also have the tendency to make purchases to define themselves and to create an identity of their own making and many of these patterns are

carried well into individual's lifetimes. In many studies, age has been found to predict materialism well. For instance, Moore and Moschis (1981) surveyed indicated that age was a strong predictor of materialistic values.

**Table 3.5**  
**Studies on Age and Materialism**

Author (s)	Sample	Findings
Moore and Moschis (1981).	Adolescents.	Age was a strong predictor of materialistic values.
Moschis (1981).	Adolescents.	Younger adolescents tended to be more materialistic than the older counterpart.
Belk (1984).	Adults.	The results indicated that two of the three materialism measures were found to be significantly related to the age of the subjects.
Achenriener (1997).	Children and adolescents.	Materialistic attitudes of one age group were not significantly different, from those of other age groups.
Flouri (2001).	Adolescents.	Materialism was inversely related to age. The effects were significant.
Chaplin and John (2007).	Children and adolescents.	Late adolescents were found to be less materialistic than early adolescents.
LaFerle and Chan (2008).	Adolescents.	Materialistic values decreases with age.
Brouskeli and Loumakou (2014).	Young Adults.	Older students (above 21 years old) were less materialistic compared to young students ( $\leq 21$ years old). Older students tended to be less materialistic.

Moschis (1981) surveyed adolescents and their findings pointed out that younger adolescents tended to be more materialistic than the older counterpart (please refer to Table 3.5). A study by Belk (1984) indicated that two of the three materialism measures were found to be significantly related to the age of the subjects.

Achenriener (1997) conducted a study with children and his findings indicated that the materialistic attitudes of one age group were not significantly different from

those of other age groups (please refer to Table 3.5). Elsewhere, other studies have found inverse relationship between age and materialism. For instance, in Flouri (2001) study among adolescents, materialism was inversely related to age and the effects were significant (please refer to Table 3.5).

Chaplin and John (2007) conducted a study to find an explanation for age differences and its effect on materialism. The results of their study revealed that age differences in materialism existed among adolescents. Late adolescents were found to be less materialistic than early adolescents (please refer to Table 3.5).

A study conducted by La Ferle and Chan (2008) examined the influence of marketing communication factors (advertising viewing and responses to marketing promotions) as well as social influence factors (from peers, and media celebrities) on adolescents' endorsement of materialistic values and found that materialistic values decreases with age (please refer to Table 3.5).

Brouskeli and Loumakou (2014) study investigated materialism among future educators and its relationship with stress and a number of health behaviours. Comparing young students ( $\leq 21$  years old) to those above 21 years old with respect to materialism, the results indicated that older students (above 21 years old) were less materialistic compared to young students ( $\leq 21$  years old), meaning that older students tended to be less materialistic.

### **3.3 Chapter Summary**

In summary this chapter begins with an illustration on how the variables for the study have been explored in previous studies. The research framework of this study is

then provided. First, the research framework depicted a hypothesized relationship between socio-oriented family communication and materialism. Past studies suggested that a socio-oriented family communication structure, which encouraged the child to develop respect for others and other social orientations led to the development of materialistic orientations.

In this study, it was hypothesized that young adult person's exposure to a socio-oriented family communication structure at home during adolescent years is positively associated with their orientation towards materialism in their adulthood. Second, the research framework of this study proposed a hypothesized relationship between concept-oriented family communication and materialism. In this study it was hypothesized that young adult person's exposure to a concept-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood.

Next, it was hypothesized that young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood. Next, a hypothesized relationship between television viewing and materialism was proposed. Studies have indicated that materialism was independently predicted by increased amount of television viewing. In this study, it was hypothesized that young adult person's exposure to television viewing at home during adolescent years has a positive effect on their orientation towards materialism in their adulthood.

A hypothesized relationship between family communication and peer communication was proposed. Studies have suggested that family communication

about consumption might lead to communication with peers about such matters. Studies have demonstrated that youth were likely to discuss with his/her peers topics that were discussed at home. In this study, it was hypothesized that young adult person's exposure to a socio-oriented, concept-oriented and religiously-oriented family communication structures at home during adolescent years has a positive effect on peer communication.

Next, a hypothesized positive relationship between young adult person's exposure to television viewing at home during adolescent years and peer communication was proposed based on the literature review. Next, a hypothesized relationship between peer communication and materialism was proposed based on the literature review. Studies across different population have examined the effect of peer communication on materialism. In this study, it was hypothesized that young adult person's communication with their peers during adolescent years is positively associated with their orientation towards materialism in their adulthood.

Last but not least, research in consumer socialization context have provided evidence that aside from measuring the direct effect of peer communication on several outcomes variables, peer communication has also been examined as a mediating variable. It was hypothesized that peer communication mediates the relationship between young adults' exposure to a socio-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.

It was also posited that peer communication mediates the relationship between young adults' exposure to a concept-oriented family communication structure at home

during adolescent years and their orientation towards materialism in their adulthood. It has been proposed that peer communication mediates the relationship between young adults' exposure to a religiously-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood. Finally, this study also proposed that peer communication mediates the relationship between young adults' exposure to television viewing at home during adolescent years and their orientation towards materialism in their adulthood.

## CHAPTER 4

### RESEARCH METHODOLOGY

This chapter deals with the methodological aspects of this study. It begins by introducing the hypotheses of this study. Next, the measurements of all constructs of this study were presented. The scales and measurements for socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, television viewing, peer communication and materialism were introduced. The study then presented the questionnaire design. Next the sampling technique, data collection technique and the data analysis technique for the study were discussed. Finally, this section concluded with a chapter summary.

#### 4.1 Hypotheses of the Study

The survey conducted among young adult consumers was meant to test the hypotheses developed for this study. The formulations of the hypotheses were primarily based on the extensive review of literature on family, television and peer influences and materialism. The hypotheses developed for this study were as follows:

**Hypothesis 1:** Young adult person's exposure to a socio-oriented family communication structure at home during adolescent years is positively associated with their orientation towards materialism in their adulthood.

**Hypothesis 2:** Young adult person's exposure to a concept-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood.

**Hypothesis 3:** Young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood.

**Hypothesis 4:** Young adult person's exposure to television viewing at home during adolescent years has a positive effect on their orientation towards materialism in their adulthood.

**Hypothesis 5:** Young adult person's exposure to a socio-oriented family communication structure during adolescent years has a positive effect on peer communication.

**Hypothesis 6:** Young adult person's exposure to a concept-oriented family communication structure during adolescent years has a positive effect on peer communication.

**Hypothesis 7:** Young adult person's exposure to a religiously-oriented family communication structure during adolescent years has a positive effect on peer communication.

**Hypothesis 8:** Young adult person's exposure to television viewing during adolescent years is positively associated with peer communication.

**Hypothesis 9:** Young adult person's communication with their peers during adolescent years is positively associated with their orientation towards materialism in their adulthood.

**Hypothesis 10:** Peer communication mediates the relationship between young adults' exposure to a socio-oriented family communication at home during adolescent years and their orientation towards materialism in their adulthood.

**Hypothesis 11:** Peer communication mediates the relationship between young adults' exposure to a concept-oriented family communication at home during adolescent years and their orientation towards materialism in their adulthood.

**Hypothesis 12:** Peer communication mediates the relationship between young adults' exposure to a religiously-oriented family communication at home during adolescent years and their orientation towards materialism in their adulthood.

**Hypothesis 13:** Peer communication mediates the relationship between young adults' exposure to television viewing during adolescent years and their orientation towards materialism in their adulthood.

## **4.2 Measurement of Constructs**

In this section, the measurements of all the constructs of this study are presented. Specifically, the scale employed for measuring family-oriented communication, which consisted of two dimensions namely, socio-oriented family communication, and concept-oriented family communication are presented. Also, the scale measuring religiously-oriented family communication, television viewing, peer communication and materialism are presented.

### **4.2.1 Measuring the Socio-oriented Family Communication Construct**

There have been many studies employing different type of scale to measure the concept of socio-oriented family communication. A socio-oriented family communication was operationalized as a type of communication that produced deference and fosters harmonious and pleasant social relationships between parents and the child at home (Moschis and Mitchell, 1986).

Moschis and Churchill (1978) measured family communication about consumption and overt interaction between parent and adolescent about goods and services. In the study, a 5-point Likert-type scale with (1) “Very often” to (5) “Never” was used to measure the socio-oriented family communication dimension. The items measuring socio-oriented family communication included for example “You’ll know better when you grow up.”

In Moschis and Moore (1979b) study, a 5-point Likert-type scale with (1) “Very often” to (5) “Never” was used to measure the socio-oriented family communication dimension among adolescents. For instance, an item statement measuring socio-oriented family communication asked respondents how often: “Parent said the best way to stay out of trouble was to stay away from it.”

In Flouri (1999) study, teenagers had to indicate the degree to which they ‘agree to disagree’ with 6 items (Chaffee et al., 1971) that measure the degree to which their family stresses socio-orientation. The study used six items of family communication structure. However in the study only two examples of the items were provided. Furthermore, the result of the study indicated that the scale for socio-oriented family communication was not reliable. Thus, it was discarded for this study.

Bakir et al. (2005) examined the relationship between family communication and parental control over children’s television viewing among multiple family members (the mother, the father, and the child). In the study, socio-oriented family communication measure was assessed with the original scale from Moschis and Moore (1979b). However, the study only reported one example of the items. On this basis, the scale was discarded for this study.

Chia (2010) study asked the participants to rate the frequency with which they and their parents talked about eight types of consumption issues, modified from the family communication about consumption scale used in Churchill and Moschis's (1979) study. However the study did not report which specific items were employed to measure a particular dimension, making it difficult for researchers to make a distinction among the items employed to measure a specific dimension, and to identify which items were retained and/or omitted from their study.

In a working paper by Vel and Moschis (2008) socio-oriented family communication was measured with six items. However, the study did not provide a description of the statements used to measure the dimension of socio-oriented family communication and did not report the reliability of the scale. It was thus discarded from this study. In Thakor and Goneau-Lessard (2009) study socio-orientation communication style was measured with five items. However, their study did not report the items measuring socio-oriented family communication and was thus discarded from this study.

Recently, in Moschis et al. (2013) study among young adults in Brazil, the socio-oriented family communication scale consisted of five items which asked respondent to answer for instance: "Parents say that you shouldn't argue with adults," or "Parents say that the best way to stay out of trouble is to keep away from it." However, although the alpha was 0.65, it was relatively low for this measure.

In line with the operational definition of socio-oriented family communication, this study adopted the scale to measure socio-oriented family communication from the study of Moschis and Moore (1979b), because in comparison to previous studies, Moschis and Moore (1979b) instrument for measuring socio-oriented family

communication included communication was directly related to consumer matters between the parent and the child. Although many of the scale to measure socio-oriented family communication presented in previous studies appeared to be suitable for this study, careful consideration was given in selecting the scale as other studies only adopted certain items from the original scale while others were omitted without theoretical justification.

Socio-oriented family communication was measured with seven items in which parents sometimes said or did in their family conversations while their children were growing up. The statements were slightly modified in the present study. Respondents were asked to think back to the time when they were younger and tell how frequently their parents said or did these things and indicated the extent to which they agreed or disagreed with the statements. The responses was measured on a 5-point Likert scale ranging from (1) 'Strongly disagree' to (5) 'Strongly agree'.

In this study, the scale was treated as an interval level of measurement. The reason for the modification was to standardize the scale for the various sections of the questionnaire and to encourage consistency in responses. Responses were summed across items in the scale and higher scores indicated higher levels of the orientation. Table 4.1 presents the items adopted for measuring socio-oriented family communication dimension.

The psychometric properties of the original scale across various populations and cultures were reviewed and generally, the original scale was found to perform well. Although not all of the original items from Moschis and Moore (1979b) study have been entirely utilized in previous studies, many subsequent studies have extensively adopted and used several items from their study and reported good inter-item reliability.

**Table 4.1**  
**Items Adopted for Measuring Socio-oriented Family Communication Dimension**

<u>No</u>	<u>Original Items</u> <i>Moschis and Moore (1979b)</i> 5-point Likert-type scale ranging from 1 ' <u>very often</u> ' to 5 ' <u>Never</u> '	<u>No</u>	<u>Adopted Items</u> <i>Moschis and Moore (1979b)</i> 5-Point Likert scale ranging from 1 ' <u>Strongly Disagree</u> ' to 5 ' <u>Strongly Agree</u> '
1.	(Parent) say that the best way to stay out of trouble is to stay away from it.	1.	My parents often use to say that the best way to stay out of trouble is to stay away from it.
2.	(Parent) say his idea are correct and (child) shouldn't question them	2.	My parents often use to say that their ideas are correct and I shouldn't question them.
3.	(Parent) answers (child) arguments with saying something like "You'll know better when you grow up."	3.	My parents often use to answer my arguments with saying something like "You'll know better when you grow up?"
4.	(Parent) says (child) should give in when he argues rather than risk making people angry.	4.	My parents often use to say that I should give in when he/she argues rather than risk making people angry.
5.	(Parent) tells (child) what things he should or shouldn't buy.	5.	My parents often use to tell me what things I should or shouldn't buy.
6.	(Parent) wants to know what (child) does with his money.	6.	My parents often wanted to know what I do with my money.
7.	(Parent) complains when he does not like something (child) bought for himself.	7.	My parents often use to complain when they don't like something I bought for myself.

For instance, Moschis et al. (1983) reported that the alpha coefficient of reliability for socio-oriented family communication scale was .71. Chan and Prendergast (2007) reported inter-item reliability of 0.69 for socio-oriented family communication in a survey in Hong Kong. In Bakir et al. (2005) study, the scale reported a good inter-item reliability when tested among mothers, fathers and children. The Cronbach's alpha value was 0.78, 0.78 and 0.84 respectively.

#### **4.2.2 Measuring the Concept-oriented Family Communication Construct**

There have been many studies employing different type of scale to measure concept-oriented family communication. A concept-oriented family communication

was operationalized as a type of communication that emphasized helping the child to develop his/her own individual views of the world by imposing positive constraints (Moschis and Mitchell, 1986).

Studies have employed multiple items scale to measure the dimension of concept-oriented family communication. In Moschis and Moore (1979b) study, the concept-oriented family communication was measured using seven items and responses to these items were measured on a 5-point Likert-type scale ranging from (1) "Very often" to (5) "Never". For instance, an item statement was: "(Parent) says (child) should make his own decisions on things that affect him." The scale provided a comprehensive number of items which emphasized mostly on helping the child to develop his/her own individual views of the world by imposing positive constraints.

In another study, Moschis et al. (1983) revised items measuring the concept-oriented family communication dimension consisted of six items with responses measured on a 5-point Likert-type scale "very often" (5) to "never" (1). For example, a revised item for the concept-oriented dimension was: "(Parents) ask (child) to help them buy things for the family." Churchill and Moschis (1979) tap the dimensions of family communication measure by summing responses to 12 item statements.

However, in their study only an example of a typical item statement was given, making it difficult for researchers to adopt the scale. In Flouri (1999) study, teenagers were asked to indicate the degree to which they 'agree to disagree' with 5 items that measured concept-orientation communication patterns. However, the study only provided two examples of the item statements to measure the concept-oriented family communication dimension.

On the other hand, in Buijzen (2009) study, concept-oriented family communication was measured by asking parents how often they told their child: “That every member of your family should have some say in family purchase decisions?” The scale was however not adopted for this study, as the instrument was mostly modified and adopted to suit their study which was mostly centered on purchasing products.

In Chia (2010) study, participants were asked to rate the frequency with which they and their parents talked about eight types of consumption issues. The scale was adopted and modified from Churchill and Moschis (1979) study. However, the study did not report which specific items were employed to measure the dimension of concept-oriented family communication.

In Asia, Chan and Prendergast (2007) have measured concept-oriented family communication using five items adopted from Moschis et al. (1983) study. Among all the scales made available from previous studies to measure concept-oriented family communication, this study has adopted items from the original study of Moschis et al. (1983) and Moschis and Moore (1979b).

Table 4.2 presents the items adopted for measuring concept-oriented family communication dimension. This study adopted and utilized five items forming the concept-oriented family communication measure from the original study of Moschis et al. (1983) as it was in line with the operational definition of the construct. Furthermore, the scale has been previously utilized and tested cross-culturally, and it performed well in terms of reliability. However, not all items were adopted from Moschis et al. (1983) study to form the construct. The item with statement: “(Parents) say that buying things (child) likes is important even if others don't like them,” was dropped from this study.

**Table 4.2**  
**Items Adopted for Measuring Concept-oriented Family Communication Dimension**

<b>No.</b>	<b>Original Items</b> <i>Moschis, Moore and Smith (1983) 5-point Likert-type scale ranging from 1 '<u>very often</u>' to 5 '<u>Never</u>'</i>	<b>No.</b>	<b>Adopted Items</b> <i>Moschis, Moore and Smith (1983) 5-Point Likert scale ranging from 1 '<u>Strongly Disagree</u>' to 5 '<u>Strongly Agree</u>'</i>
1.	(Parents) ask (child) to help them buy things for the family.	1.	My parents often use to ask me to help them buy things for the family.
2.	(Parents) ask (child) what (child) thinks about things they buy for themselves.	2.	My parents often use to ask me what I think about things they buy for themselves.
3.	(Parents) say (child) should decide about things (child) should or shouldn't buy.	3.	My parents often use to tell me to decide about things I should or shouldn't buy.
4.	(Parents) say that buying things (child) likes is important even if others don't like them.		
5.	(Parents) say (child) should decide himself how to spend his money.	4.	My parents often use to say that I should decide myself how to spend my money.
6.	(Parents) ask (child) for advice about buying things.	5.	My parents often use to ask me for advice about buying things.
	<b>Original Items</b> <i>Moschis and Moore (1979b) 5-point Likert-type scale ranging from 1 '<u>very often</u>' to 5 '<u>Never</u>'</i>		<b>Adopted Items</b> <i>Moschis and Moore (1979b) 5-Point Likert scale ranging from 1 '<u>Strongly Disagree</u>' to 5 '<u>Strongly Agree</u>'</i>
1.	(Parent) says (child) should make his own decisions on things that affect him.		
2.	(Parent) emphasizes that every member of the family should have some say in family decisions.		
3.	Parent admits that children know more about some things than adults do.		
4.	Parent says that getting (child's) ideas across is important even if others don't like them.	6.	My parents often use to say that getting my ideas across is important even if others don't like them.
5.	Parent asks (child) what he thinks about things (parent) buys for himself.		
6.	Parent tells (child) he should decide about things he should or shouldn't buy.		
7.	Parent tells (child) what he does with his money.		

Based on an examination of the original scale, it appeared that the statement did not entirely reflect communication emphasizing on helping the child to develop his/her own individual views of the world by imposing positive constraints, but rather it emphasized on communication about purchasing products.

This study also examined the original scale from the study of Moschis and Moore (1979b) and adopted an item (please refer to Table 4.2). Only one item was adopted out of seven items, because the six other item statements were very similar to the original items found in the study of Moschis et al. (1983) (please refer to Table 4.2). Eventually, if all the six items were adopted it would have caused an overlapping of statements in the instrument of this study.

For the purpose of this present study, respondents were asked to think back to the time when they were younger and tell how frequently their parents said or did these things and indicated the extent to which they agree or disagree with the statements. In the original scales, response were both recorded on a 5-point Likert scale ranging from (1) 'Very' to (5) 'Never', whereas in this study, we have modified the scale and responses were recorded on a 5-point Likert scale ranging from (1) 'strongly disagree' to (5) 'strongly agree' (please refer to Table 4.2). The reason for modification was to standardize the scale for the various sections of the questionnaire and to encourage consistency in responses.

Responses were summed across items in the scale and higher scores indicated higher levels of the orientation. In terms of psychometric properties, the original scale adopted from Moschis et al. (1983) for this study, has been tested across different populations and has mostly reported a good performance. In Rose et al. (1998) study, the alpha coefficients of reliability for the scale performed well. Specifically, the

reliability levels were assessed in two countries, with  $\alpha = .77$  in United States and  $\alpha = .76$  in Japan.

In Mangleburg and Bristol (1998) study, the items which originated from the study of Moschis et al. (1983) performed well, as the study reported composite reliability of .74. In Bakir et al. (2005) study, when the scale was tested among mothers, fathers and children, it reported a good inter-item reliability. The Cronbach's alpha values were 0.78, 0.85 and 0.78 respectively.

Although not all of the original items on the instrument from Moschis and Moore (1979b) study have been entirely utilized in previous studies, many subsequent studies have adopted and used several items from the scale originating from Moschis and Moore (1979b) study to form the concept-oriented family communication instrument (for e.g., Churchill and Moschis, 1979; Moschis et al., 1983; 1986; Rose et al., 1998). These instruments have proven to perform well in various cultural contexts and across various populations.

#### **4.2.3 Measuring the Religiously-oriented Family Communication Construct**

Religiously-oriented family communication was operationally defined as a type of communication which emphasized on the commitment one has to belief in the divine and the importance one places on religion in life (Heaven, 1990; Putney and Middleton, 1961). For individuals with strong religious values, religion represents one of the most important aspects of their lives and guides their everyday activities (Heaven, 1990). Religion, has been measured in a variety of ways, and appeared to exert significant direct and indirect influence on a range of personal attitudes and behaviours.

Schwartz (2006) provided a shortened version of the 16-item Religious Belief and Commitment (RBC) Scale. Four areas of religious faith were measured by this scale: trust and belief in God, integration of faith with everyday life, spiritual growth and development, and sense of faith community. Although the reliability analysis of the scale revealed a Cronbach alpha of .92, it did not reflect religious communication patterns between parents and the child.

Thayer (2004) developed a 38-item scale to measure of religiousness and spirituality. The main constructs examined in the measure regarded how religiousness and spirituality impacted health outcomes or connected to them. They included measurement on private religious practices, religious/spiritual coping, religious support and religious/spiritual history. However in the study of Thayer (2004), the scale employed to measure religiousness and spirituality mostly documented on measures and was not related to communication patterns.

Tarakeshwar et al. (2003) have developed the Hindu Religious Coping Scale to ascertain the various coping strategies in which Hindus in the United States utilized. The instrument measured key points such as on mental health, religious coping, acculturation and global religious measures. However, the scale was demonination specific, thus not appropriate for the present study. In another study,

Laird et al. (2004) developed the Multidimensional Prayer Inventory to measure both quantitative and qualitative aspects associated with prayer. However, the scale was more associated towards prayer, rather than communication patterns between the parents and child, thus it was also discarded from the present study. Regnerus et al. (2004) considered two distinct measures of religiosity: church or religious service attendance, and the self-reported importance of religion in the respondent's life. The

measure also captured respondent conservative religious identity. However, the scale was denomination specific and more towards the frequency of religious service attendance.

The original scale from Putney and Middleton (1961) study analyzed the dimensions of religious ideology. The instrument consisted of 18 items. Unlike many religiosity indices, the scale consisted of items that were *not* denomination specific. However, not all the item statements were reported in the study and contained elements of communication, thus the scale was discarded from this study.

In Burroughs and Rindfleisch (2002) study, the scale was adapted from Putney and Middleton's (1961) study to form a six-item Religious Importance Scale (RIS). The scale had high reliability ( $\alpha = .91$ ). Unlike many religiosity indices, the RIS consisted of items that were not denomination specific. Although the scale had a very high reliability, the study however did not provide all items statements representing the scale and was thus discarded from this study.

Many studies in the area of religion tended to developed new scales rather than use existing scales which were reliable and valid (Shafranske and Gorsuch, 1984). Most scales developed in various studies on religion have been very lengthy and have measured various aspects of religion. Rindfleisch et al. (2006) study adopted six items from Putney and Middleton's (1961) to measure religiosity.

One of the key advantage of the scale was that it was *not* denomination specific and it has been tested among adults previously and it was reliable ( $\alpha = .94$ ). It represented a good choice to be used in Malaysia context, as the country is multi-ethnic and the population endorsed various belief systems.

In line with the operational definition of the construct, religiously-oriented family communication was measured with six items adopted from Rindfleisch et al. (2006) study. The scale was modified to reflect what parents sometimes say or do in their family conversations while their children were growing up. Respondents were asked to think back to the time when they were younger and tell how frequently their parents said or did these things and indicated the extent to which they agree or disagree with the statements. Table 4.3 presents the items adopted for measuring religiously-oriented family communication dimension.

The original scale response were recorded on a 7-point Likert scale ranging from (1) 'Strongly disagree' to (7) 'Strongly agree,' whereas we modified the scale and responses are recorded on a 5- point Likert scale ranging from (1) 'Strongly disagree' to (5) 'Strongly agree.' The reason for modification was to standardize the scale for the various sections of the questionnaire and to encourage consistency in responses. The scale was treated as an interval level of measurement.

In terms of psychometric properties, in Burroughs and Rindfleisch (2002) study, the scale was adapted from the original study of Putney and Middleton's (1961) had a strong reliability ( $\alpha = .91$ ). Abedin and Brettel (2011) have adopted the religious importance scale by Putney and Middleton (1961) as a measurement instrument of religiosity. The scale had a strong reliability ( $\alpha = .89$ ).

Numerous tests and questionnaires developed in the United States have been translated and adapted by researchers in non-English countries (Butcher and Garcia, 1978). This study adapted the scale for measuring religiously-oriented family communication from the original study of Rindfleisch et al. (2006) which originated in

**Table 4.3**  
**Items Adopted for Measuring Religiously-oriented Family Communication Dimension**

No.	<u>Original Items</u> <i>Religiosity Scale from Rindfleisch et al. (2006) 7-Point Likert scale ranging from 1 'Strongly Disagree' to 7 'Strongly Agree'</i>	No.	<u>Adopted Items</u> <i>Religiosity Scale from Rindfleisch et al. (2006) 5- Point likert scale ranging from 1 'Strongly Disagree' to 5 'Strongly Agree'</i>
1.	My religion is one of the most important part of my philosophy of life.	1.	My parents often tell me that my ideas about religion are one of the most important parts of my philosophy of life.
2..	The importance of religion in my life has a big influence on my views in other areas.	2.	My parents often tell me that my ideas on religion have a considerable influence on my views in other areas.
3.	My religion forms an important basis for the kind of person I want to be.	3.	My parents often say that believing as I do about religion is very important to being the kind of person I want to be.
4.	Were I to be less religious than I currently am, my whole life would be very different.	4.	My parents often say that if my ideas about religion are different, my way of life will be very different.
5.	Religion is a subject that I am very interested in.	5.	My parents often say that religion is a subject in which I am not particularly interested.
6.	Because of the strength of my religious beliefs, I often think about religious matters.	6.	My parents often ask me to think about matters relating to religion.

the United States. When adapting the instrument in the context of Malaysia, careful consideration had to given to the meaning of all the statements, due to different cultural settings and languages.

#### **4.2.4 Measuring the Television Viewing Construct**

Television viewing was operationally defined as young adult's frequency of viewing specific program categories (Churchill and Moschis, 1979). Many studies have developed various instruments to measure television viewing. In Churchill and Moschis (1979) television viewing was measured by asking respondents how frequently they

watched specific programme categories. These programme categories were national and local news, sports events, movies, variety shows, cartoons, police shows, and adventure shows. The responses were measured on a five-point scale (every day =5; never =1), and summed to form the television viewing index. The scale reported good reliability.

In Moschis and Mitchell (1986) study, television advertising viewing was a direct measure of the adolescent's frequency of viewing TV commercials. Respondents were asked to indicate on a four-point scale the extent to which they watched television ads for several reasons. Responses were summed across the seven items to form a 7-to-28 point index, which had a reliability coefficient of .80. Although the scale employed had a good reliability, the scale was however intended to tap television advertising viewing, and not specifically television viewing, and thus was discarded from the study.

In Shrum et al. (2005) study, an experiment was conducted. Participants were told that the programme was a movie edited for television and were randomly assigned to view either a segment of *Wall Street* (high materialism) or *Gorillas in the Mist* (low materialism). Participants listed the thoughts they had during viewing. They then completed scales that measured how much television they generally watch. However, in the experiment the programmes did not significantly differ on interest, excitement, intelligence, or persuasiveness and they were mostly from the same categories, thus it could have yield to smaller viewing effect.

In a study by Carlson and Grossbart (1988) the amount of child's television viewing was measured with a 4-item measure. The study asked respondent about the number of hours they watched television in a week. However the reliability of the scale was not reported in their study. Chan and Fang (2007) examined the use of traditional

media. Respondents' time allocation to the media was measured. However, the scale was discarded for this study as it did not specifically measure television viewing but was designed to tap how young people allocated their time across media and media choice for different needs.

This study adopted and modified the scale developed in the study of Churchill and Moschis (1979), as all the items categories to measure television viewing were clearly specified and was in line with the operational definition for television viewing. In this study, television viewing was measured with the "weekly" method practiced by mass communication scholars (e.g., Perse and Dunn, 1998).

This method focus moved respondents from the almost impossible task of trying to estimate the complex effects of mass media on their lives to the simpler task of merely reporting what they did throughout the week. The original scale consisted of many programme categories, where respondents indicated on a 5-point Likert-type scale ranging from (1) 'Never' to (5) 'Everyday' how frequently they watched specific programme categories.

In the original study, the programme categories were classified as national news, sports events, movies, variety shows, cartoons, police shows, and adventure shows. The main reason for adopting the scale was because the scale has proved to be reliable in many studies of consumer socialization and mass media. Table 4.4 presents the items adopted for measuring television viewing dimension.

Instead of asking respondent to on a 5-point Likert-type scale ranging from (1) 'Never' to (5) 'Everyday' how frequently they watched specific programme category,

this study asked respondents how many hours per week they watched specific programmes categories. The scale was treated as ratio level of measurement.

Researchers have contended that at least some viewers were selective (Rubin et al., 1985) and that a focus on the particular programmes should thus yield larger viewing effects (Hawkins and Pingree, 1981). This study agreed that some types of viewers were indeed selective, which influenced the selection of programme category as the independent variable, as students were one group of viewers that tends to be very selective in their viewing habits (Rubin et al., 1985).

On these bases, the scale for measuring television viewing in this study was modified to ask respondents about the number of hours they watched specific programme categories. The programme categories were classified as news, sports events, movies, soap dramas/dramas shows, documentaries, comedy shows, action and adventure shows.

**Table 4.4**  
**Items Adopted for Measuring Television Viewing Dimension**

No.	<u>Original Items</u>	No.	<u>Adopted Items</u>
	<i>Churchill and Moschis (1979) 5 point Likert-type scale ranging from 1 'Never' to 5 'Everyday'</i>		<i>Churchill and Moschis (1979)</i>
1.	Asking respondents <u>how frequently</u> they watched specific program categories  These program categories were; <ul style="list-style-type: none"> <li>• National and local news</li> <li>• Sports events.</li> <li>• Movies,</li> <li>• Variety shows.</li> <li>• Cartoons.</li> <li>• Police shows, and adventure shows.</li> </ul>	1.	Asking respondents <u>how many hours per week</u> they watched specific program categories  These program categories are; <ul style="list-style-type: none"> <li>• News</li> <li>• Sports events</li> <li>• Movies</li> <li>• Soap dramas/dramas shows</li> <li>• Documentaries</li> <li>• Comedy shows</li> <li>• Action and adventure shows.</li> </ul>

For each programme category, some examples of the most popular programmes aired on both private and public Malaysian television stations, as a guide for respondents to distinguish between the various programme categories were provided. For the programme on news category some examples were provided to respondents (e.g., CNN, BBC, World news, CBS, Bernama TV, CCTV 9 and Al-Jazeera-English), for sports events some examples were: ESPN, PGA Tour, English Premier League, Formula One Grand Prix, and World Wrestling Entertainment.

For movies some examples were: Transformers, Spiderman, Madagascar, Batman Returns, Transporter, Mr and Mrs Smith, and Hancock 2), for soap opera/drama shows (e.g., Malaysian Idol, One in a Million, Akademi Fantasia, The Apprentice, Fear Factor, Who Wants to be a Millionaire, Gossip Girls, One Tree Hills, Gilmore Girls, Lost, Supernatural and the Bachelor).

For documentaries, some examples were: National Geographic Channel, 999, 360, Living in Malaysia, My Roots, Dynamic Malaysia, and Rainforest), for comedy shows (e.g., Scrubs, My name is Earl, Friends, Sex and the City, Sienfield, Everybody loves Raymond, Desperate Housewives, The Simpsons), and action and adventure shows (e.g., 24, Prison Break, Alias, Casino Royale, Quantum of Solace, Bangkok Dangerous, Incredible Hulk, Wanted, Battlestar Galatica, Smallville).

At the time the questionnaire was at its design stage the programmes mentioned above were among the most popular and highly rated in the box office in Malaysia. Respondents were also asked to specify if they watch other programmes in that specific programme category and to indicate the programme. Responses were summed across the items to form a point index.

The original scale developed by Churchill and Moschis (1979) have been employed by other researchers. For instance, O'Guinn and Shrum (1997) adopted and modified the original scale from Churchill and Moschis (1979) in a study which examined consumer social reality via exposure to television in the U.S. In terms of television viewing, the sample results were lower than the national average ( $X = 23$  hours vs. 28 hours) (A.C. Nielsen Co, 1995) and the reliability of the scale was good ( $\alpha = 0.79$ ).

#### **4.2.5 Measuring the Peer Communication Construct**

Peer communication was operationally defined as the overt peer-young adults' interactions about goods and services. In general, there exist many scales which have been developed to measure peer influence. This section specifically examined the various peer communication measurements and identified the selected instrument to measure peer communication for this study.

In Lueg and Finney (2007) study, peer communication was conceptualized as encouragement or approval of certain behaviours and intentions through either spoken (reinforcement) or unspoken (modeling) messages that peers send to each other. However, in the study the coefficient alpha was not specifically mentioned.

Chaplin and John (2010) examined peers' materialism which was measured by asking participants to complete Youth Materialism Scale (YMS) developed by Goldberg et al. (2003) about their friends. However, although the alpha reliability coefficient of the scale was good ( $\alpha = 0.83$ ), the study did not provide the items employed to measure peer communication.

In another study by Moschis and Moore (1980), peer communication about consumption was measured by summing responses to eight items. The study provided an example of the items used: “My friends and I talk about buying things.” However, it did not provide all the items measuring peer communication and the alpha coefficient of reliability for this set of measure was not reported.

In Chan and Zhang (2007) study, peer communication was measured by asking respondents to rate two items: “I discuss with my friends about advertisements”, and “I discuss with my friends about buying things” on five-point scales (1 = never, 5 = nearly every time). Although the inter-item reliability was 0.62, the scale performed rather poorly in comparison to other scales used by other studies to measure peer communication.

In Chan and Prendergast (2007) study, communication with friends about consumption was measured by asking respondents to rate two items: “I discuss with my friends about advertisements”, and “I discuss with my friends about buying things” on 5-point scales (1 = never, 5 = nearly every time). Although the scale represented a good option as it was tested cross-culturally (in China), the inter-item reliability scores for peer communication was rather poor ( $\alpha = 0.57$ ). On these bases, the scale was discarded for this study.

In a study on compulsive consumption by Benmoyal-Bouzaglo and Moschis (2009), peer communication was measured with eight items. Respondents were asked to think back to the time they were younger and indicated the extent to which they communicated with their peer about consumption matters. An example of the statements asked how often did “You and your friends talk about things you saw or

heard advertised.” The instrument was tested in France and was similar to those used in previous studies conducted in the U.S by Moschis and Moore (1979b, 1982), and was back translated.

For the purpose of this study, peer communication was measured with three items adopted from Benmoyal-Bouzaglo and Moschis (2009), which was originally derived from the original study of Moschis and Moore (1979b, 1982). Table 4.5 presents the items adopted for measuring peer communication dimension.

**Table 4.5**  
**Items Adopted for Measuring Peer Communication Dimension**

<b>No</b>	<b><u>Original Items</u></b>	<b>No.</b>	<b><u>Adopted Items</u></b>
	Benmoyal-Bouzaglo and Moschis (2009) <i>5-Point Likert-type scale ranging from 1 'Never' to 5 'Very Often'</i>		Benmoyal-Bouzaglo and Moschis (2009) <i>5-Point Likert scale ranging from 1 'Strongly Disagree' to 5 'Strongly Agree'</i>
1.	You and your friends talk about buying things.	1.	My friend and I talk about buying things.
2.	You ask your friends for advice about buying things.	2.	My friend and I ask for advice from each other about buying things.
3.	Your friends ask you for advice about buying things.	3.	My friend and I talk about things we saw or heard advertised.
4.	You and your friends talk about things you saw or heard advertised.		
5.	You wonder what your friends would think when you were buying things for yourself		
6.	Your friends tell you what things you should or should not buy		
7.	You go shopping with your friends.		
8.	You try to impress your friends.		

This study selected three out of eight items from the original study of Benmoyal-Bouzaglo and Moschis (2009) because some of the items in the original scale were

repetitive statements while others were not totally reflecting clearly an overt peer-young adults' interactions communication. The statements were rephrased to avoid confusion among respondents and also the study was conscious of the number of pages of the questionnaire.

Another four items from the original scale measuring peer communication by Benmoyal-Bouzaglo and Moschis (2009) were discarded. The statements and items were: "You wonder what your friends would think when you were buying things for yourself," "Your friends tell you what things you should or should not buy," "You go shopping with your friends," "You try to impress your friends." The items were not included in the present study, as the statements did not reflect clearly an overt peer-interactions communication.

The original scale response were recorded on a 5- point Likert-type scale ranging from 1 'Very' to 5 'Never,' whereas we have modified the scale and responses were recorded on a 5- point Likert scale ranging from 1 'Strongly disagree' to 5 'Strongly agree.' The reason for the modification was to standardize the scale for the various sections of the questionnaire and to encourage consistency in responses.

In line with how respondents were asked to answer in the previous sections, respondents were asked to indicate the extent to which they interacted with their peers with regards to their buying habits and were asked to think back to the time they were younger and to show the extent they agree or disagree with the three statements.

The scale adopted from the original study of Moschis and Moore (1979b, 1982) by Benmoyal-Bouzaglo and Moschis (2009), represented the best option to use for the

present study for several reasons. Firstly, the scales developed in the U.S by Moschis and Moore (1979b, 1982) had a high reliability when originally tested with respondents from within the United States.

When the same instrument was adopted by Benmoyal-Bouzaglo and Moschis (2009) across different populations and cross-culturally (in France), the scale reported a good alpha reliability coefficient ( $\alpha = 0.76$ ). Also, the scale from the study of Benmoyal-Bouzaglo and Moschis (2009) has been tested in a sample of young adults in the average age of 21 years old. As this study was conducted among young adults the instrument measuring peer communication was considered as appropriate to adopt.

#### **4.2.6 Measuring the Materialism Construct**

Materialism was operationally defined as the orientations emphasizing possessions and money for personal happiness and social progress (Churchill and Moschis, 1979). Many scales have been developed to measure materialism. To date, among the two most influential of them are Belk's scale (1984) and Richins and Dawson's scale (1992).

These two Likert scales have been widely adopted and tested cross-culturally. Belk (1984, 1985) approached materialism by measuring three traits associated with it: envy, non-generosity, and possessiveness. Nine items measured possessiveness, which was defined as "the inclination and tendency to retain control or ownership of one's possessions" (Belk, 1983, p. 514).

Later, after careful revision of the scale, only seven items were kept in the scale (Ger and Belk, 1990): "I get very upset if something is stolen from me, even if it has

little monetary value,” “I don’t like to have anyone in my home when I’m not there,” “Renting or leasing a place to live is more appealing to me than owning one,” “I don’t get particularly upset when I lose things,” “I never discard old pictures or snapshots,” “I am less likely than most people to lock things up,” “I would rather buy something I need than borrow it from someone else.”

Originally, seven items measured non-generosity, which was regarded as “an unwillingness to give possessions to or share possessions with others” (Belk, 1984, p. 291). Later, six statements were retained (Ger and Belk, 1990). At first, there were eight items to measure envy, which was defined as “displeasure and ill will at the superiority of another person in happiness, success, reputation, or the possession of anything desirable” (Schoeck, 1966, p. 5). Later, the subscale was downsized to five items (Ger and Belk, 1990).

At the same time, a new five-item subscale of tangibilization was created to tap the fourth dimension of materialism and it was defined as the conversion of experience in material form. Belk’s measures have been borrowed by advertising scholars such as Wallendorf and Arnould (1988), O’Guinn and Faber (1989), and Wong (1997). Moreover, Belk’s scale has been tested in the United States, Turkey, and France (Ger and Belk, 1990), Denmark and Romania (Ger and Belk, 1999) and other countries or cultures, such as Niger (Wallendorf and Arnould, 1988) and Brazil (Evrard and Boff, 1998).

However, the problem with Belk’s scale is that most studies failed to achieve high reliability in terms of Cronbach’s coefficient. A liberal minimum requirement for scale reliability is 0.50 (Churchill, 1979). Belk’s scale seemed to be particularly unreliable in a different cultural context. In France, although the overall reliability was 0.67, the

coefficient alphas of three major subscales of possessiveness, non-generosity, and envy were poor: 0.52, 0.53, and 0.42 (Ger and Belk, 1990).

In Brazil, Belk's scale was so unreliable that Evrard and Boff (1988) failed to confirm the three-factor structure of materialism and then dismissed it from further analyses. Sirgy et al. (1998) applied both Belk's scale and Richins and Dawson's scale to a U.S, Canadian, Australian, Turkish, and Chinese samples from 1989 to 1991. Their Cronbach reliability analyses showed inadequate internal consistency in relation to Belk's three subconstructs: possessiveness, non-generosity, and envy (alpha coefficients ranged from 0.02 to 0.71).

Richins and Dawson's scale has been adopted by Wong (1997), Mick (1997), Evrard and Boff (1998), Burroughs and Rindfleisch (2002), and Shrum et al. (2003). Richins and Dawson's scale of materialism has been applied and tested in different countries and cultures, including New Zealand (Watson, 1998), Brazil (Evard and Boff, 1998), Thailand (Webster and Beatty, 1997), China (Eastman et al., 1997; Sirgy et al., 1998; Zhou et al., 2002), Mexico (Eastman et al., 1997), Turkey, Canada, and Australia (Sirgy et al., 1998).

Richins and Dawson's materialism scale performed fairly well in a different culture, even in mainland China. In Thailand, Webster and Beatty (1997) found after their factor analysis, that although the factor loadings of materialism items were not identical, the items generally loaded in the same factors as they did in Richins and Dawson's (1992) study; the high overall reliability of 0.83 was reported.

In New Zealand, Watson (1998) obtained the overall reliability of 0.83 while the coefficient alphas for the subscales of "centrality," "success," and "happiness" were

respectively 0.68, 0.79, and 0.70. In Turkey, Canada, and Australia, Sirgy et al. (1998) tested seven items of Richins' (1987) materialism scale, and it yielded a moderate overall reliability: 0.52 for Canada, 0.57 for Turkey, and 0.62 for Australia.

In Mexico, two subscales met the liberal minimum requirement for scale reliability: the alpha for possession-defined success was 0.62 and for possession as route to happiness, 0.60 (Eastman et al., 1997). In mainland China, the first test of Richins and Dawson's materialism scale produced moderate reliability: 0.56 for possession defined success, 0.52 for possessions as route to happiness, but 0.31 for centrality for acquisition (Eastman et al., 1997).

The seven-item Richins' (1987) scale displayed a low reliability ( $\alpha = 0.30$ ) in mainland China partly because it was still an immature scale (Sirgy et al., 1998). However, the most recent use of Richins and Dawson's (1992) scale in mainland China achieved an acceptable reliability with a coefficient alpha of 0.68 (Zhou et al., 2002). The shortened versions of Richins (2004) materialism scale in Singapore achieved inter-item reliability of 0.80 (La Ferle and Chan, 2008).

Later on, Wong et al. (2003) developed a scale to measure materialism. The scale contained a mixture of positive worded items and reverse worded items which was adapted from Richins and Dawson (1992). The scale has attempted to measure the extent to which an individual believed that acquiring possessions was central to their lives as an important route to happiness and as necessary to live a successful life.

Wong and its associates have enhanced the cross cultural applicability of Richins and Dawson's scale by replacing items posed as statement with items framed as questions. By replacing the likert scale statements with a set of questions, the validity

of mixed worded scales in cross cultural application was enhanced. It was more reliable and valid abroad as compared to Belk's scale. By changing the materialism value scale's (MVS) mixed-worded statements into a series of non-directional questions, the danger created when promaterialism and antimaterialism statements were not at opposite ends of a single conceptual continuum were avoided.

According to Wong et al. (2003), by being more inquisitive and using response options customized for each question, this format focused respondent attention more intently on the content of each question. By inquiring about a respondent's position on an issue (as opposed to telling the respondent they are a particular way, to which they are then forced to agree or disagree) would minimize agreement for the sake of being polite. The interrogative format allowed researchers to retain the essence and richness of the MVS's complex Likert statements. Table 4.6 presents the items adopted for measuring materialism dimension.

In this study, the key construct, materialism, were assessed using previously published, multi-item measures using a five-point Likert format adopted from Wong et al. (2003) study. Rather than forcing respondents to agree or disagree with statements (e.g., I admire people who own expensive cars, homes, and clothes), respondents are asked to react to questions using a set of specific response options. The scale was treated as an interval level of measurement.

Before adopting the scale from Wong and its associates, an examination of the Material Values Scale from both Belk and Richins and Dawson studies suggested that its psychometric properties suffered when applied in East Asian settings due to its use of several reverse-worded items (Wong et al., 2003). To avoid this complication, this

**Table 4.6**  
**Items Adopted for Measuring Materialism Dimension**

<b>No.</b>	<u><b>Adopted Items</b></u> <i>Wong, Rindfleisch and Burroughs (2003)</i> <i>5- point Likert scale in interrogative format</i>
1.	How do you feel about people who own expensive homes, car, and clothes? [Do not admire . . . Greatly admire].
2.	How do you shop? [Buy anything I might want . . . Buy only what I need].
3.	How do you feel about owning things that impress people? [Makes me uncomfortable. . . Makes me feel great]
4.	How do you feel about acquiring material possessions as an achievement in life? [Not important . . . Very important].
5.	How do you approach your life in terms of your possessions (i.e., buying and owning things)? [More is better . . . Simple is better].
6.	Would your life be any better if you owned certain things that you don't have? [Not any better . . . Much better].
7.	Do you think the amount of material objects people own shows how successful they are? [Very much . . . Not at all].
8.	How would you feel if you could afford to buy more things? [Not any happier . . . Much happier].
9.	How would you feel if you owned nicer things? [Much happier . . . Not any happier].
10.	What do the things you own say about how well you are doing in life? [Very little . . . A great deal].
11.	How do you feel about spending money on things that aren't practical? [Do not enjoy . . . Really enjoy].
12.	Do you feel that you have all the things you really need to enjoy life? [Need more . . . Have all I need].
13.	How much pleasure do you get from buying things? [Very little . . . A great deal].
14.	How do you feel about the things you own? [Very important . . . Not all that important].
15.	How do you feel about having a lot of luxury in your life? [Do not enjoy . . . Really enjoy].

study assessed materialism among Malaysian respondents using the interrogative format of the MVS developed as suggested by Wong et al. (2003).

Although Wong et al. (2003) developed a reliable scale to measure materialism, it has not been extensively utilized by researchers. Very few studies have tested the scale across different populations. In a study by Moschis et al. (2009) the scale developed by

Wong and its associates have been tested in Malaysia. Nine of the fifteen items of the original scale was used in their study, as these items corresponded particularly well to young adults (18 to 22 years old). The alpha reliability of the scale was 0.70 which was within an acceptable range (Nunnally, 1978).

In Moschis et al. (2013) study among young adults in Brazil, six of the 15 items proposed by Wong and colleagues were not included in the materialism scale, as they were not particularly relevant to younger people (e.g., those that referred to their professional accomplishments) and the alpha reliability of the scale was 0.79.

Rindfleisch et al. (2006) tested the Material Value Scale developed by Wong et al. (2003) in an East Asian setting, namely Singapore. The study adopted nine items from Wong and its associates and displayed good alpha reliability .71. It is worth noting that the demographic composition of Singapore, in terms of ethnicity has some similarities with Malaysia. The composition of the ethnic groups in both countries consists of Malays, Chinese and Indians, though there are differences in terms of percentage of ethnic majority between both countries.

### **4.3 Questionnaire Design**

Using these scales, a draft questionnaire was prepared. The questionnaire was pre-tested for clarity and accuracy by personally interviewing 56 young adults undertaking both undergraduate and postgraduate study from various faculties and departments at the University of Malaya. The questionnaire was in English language and it was divided into seven sections (section A to G) and each section was described. Appendix A, provides a sample of the full questionnaire distributed to participants for this study.

The cover page of the questionnaire contained information about the title of this study. It also described the purpose and objectives of this study to the participants. It was highlighted that the information contained in the questionnaire was straightforward and easy to answer.

Participants were assured that their responses and participation in the study would remain confidential and that only the aggregated data would be used for analysis. Participants were asked to spend about 20 minutes in completing the questionnaire and to answer every question as accurately as possible. The researcher's contact details were provided on the cover page in case participants would have further inquiries.

Section A of the questionnaire consisted of the items measuring materialism. Altogether, there were 15 items measuring the construct, and they were set in an interrogative format. The respondents were asked questions regarding their attitude toward material possessions.

Section B of the questionnaire consisted of the items measuring socio-oriented family communication construct. Altogether, there were seven items measuring the construct. Respondents were given a list of things that parents sometimes said or did in their family conversations while they were growing up. Respondents were asked to think back to the time when they were younger and tell if whether their parents often used to say or did these things.

Section C of the questionnaire consisted of the items measuring concept-oriented family communication construct. Altogether, there were six items measuring the construct. Respondents were given a list of things that parents sometimes said or did in

their family conversations while they were growing up. Respondents were asked to think back to the time when they were younger and tell if whether their parents often used to say or did these things. Respondents were asked to circle one number for each statement to indicate the extent to which they agree or disagree with each statement.

Section D of the questionnaire consisted of the items measuring religiously-oriented family communication construct. Based on the respective scale developed for the study, altogether, there were six items measuring the construct. Respondents were given a list of things that parents sometimes said or did in their family conversations while they were growing up.

Respondents were asked to think back to the time when they were younger and tell if whether their parents often use to say or did these things. Respondents were asked to circle one number for each statement to indicate the extent to which they agree or disagree with each statement.

Section E of the questionnaire consisted of the items measuring peer communication construct. Altogether, there were three items measuring the construct. Respondents were told that the items and statements given in the list were related to the extent to which they interacted with their peers with regards to their buying habits. Respondents were asked to think back to the time they were younger and to show the extent to which they agree or disagree with each statement.

Section F of the questionnaire consisted of the items measuring television viewing construct. Altogether, there were seven categories of television programme with examples of the popular programmes aired on television for each category given.

Respondents were asked to indicate the amount of hours a week they spent watching any of the different types of programme. For example, in the category of News, respondents were given choices (for instance, CNN, BBC News, etc) and they were asked to indicate which programme they tended to watch.

Section G of the questionnaire consisted of demographic measures. There were seven items indicating the demographics of respondents. Respondents were asked to provide their gender, race, year in school, and birth year, marital status, highest education level, and gross personal monthly income. The demographic measures were treated as nominal level of measurement. The demographic measure also included a dichotomous measure of the respondent's religious affiliation.

Those affiliations were classified as Islam, Buddhist, Hinduism, and Christian. The measure represented the main religion in Malaysia and it captured something of the embeddedness of the respondent within a theologically religious identity. Respondents were asked to state their race and religious affiliation in the questionnaire by circling appropriately.

#### **4.4 Sampling Technique**

This study has employed non-probability sampling technique, as it allowed for good estimates of the population characteristics. The method of non-probability sampling technique chosen for the study was based on convenience sampling method, as respondent for the study were at the right place and at the right time. Respondents consisted of young adults mostly college students attending public and private

institution of higher learning in the Klang Valley, in Malaysia, and the data were collected from respondents for a duration of four consecutive months.

Malaysia is a federal constitutional monarchy in Southeast Asia. It consisted of thirteen states and three federal territories and has a total landmass of 329,847 square kilometres (127,350 sq mi) separated by the South China Sea into two similarly sized regions, Peninsular Malaysia and Malaysian Borneo.

Land borders were shared with Thailand, Indonesia, and Brunei, and maritime borders existed with Singapore, Vietnam, and the Philippines. The capital city was Kuala Lumpur. According to the Department of Statistics in Malaysia (2013), in 2010 the population was 28.33 million, with 22.6 million living on the Peninsula. The country was multi-ethnic and multi-cultural.

This study took place in the Klang Valley, an area in Malaysia comprising of Kuala Lumpur and its suburbs, and adjoining cities and towns in the state of Selangor. It was geographically delineated by Titiwangsa Mountains to the north and east and the Strait of Malacca to the west. The conurbation was the heartland of Malaysia's industry and commerce (World Gazetteer, 2013).

As of 2012, the Klang Valley was home to roughly 7.5 million people. There was no official designation of the boundaries that make up Klang Valley but it was assumed to comprise the following areas: Federal Territory of Kuala Lumpur, Selangor district of Petaling, Shah Alam, Petaling Jaya, Subang Jaya, Selangor district of Klang, Selangor district of Gombak and Selangor district of Hulu Langat (World Gazetteer, 2013).

The target population of this study were young adults. A young adult, according to Erikson's (1973) stages of human development, is generally a person in the age range of 20 to 40, whereas an adolescent is a person aging from 13 to 19, although definitions and opinions vary. The young adult stage in human development precedes middle adulthood. A person in the middle adulthood stage ages from 40 to 64. In maturity, a person is 65 years old or older.

According to a report released by the Canadian Council on Learning Health and Learning Knowledge Centre Young Adults Work Group (2006) young adults were between the age of 18 and 34. However a review of the literature indicates that there was no one definition of young adults as target age groups range from 15 to 24 years, 18 to 24 years and 25 to 34 years of age. The Statistics Canada reports and releases seemed to use 15 to 24 years of age when reporting on young adults. However, a definition of the term "young adults" on the Statistics Canada website was not found.

The Statistics Canada Youth in Transition Survey (YITS) was a longitudinal study which to date has reported on two cycles, the first for young adults from 18 to 20 years of age, and the second from 20 to 22 years of age. The Canadian Community Health Survey (CCHS) provided data on Canadians' self-rated health however the age ranged which encompassed young adults were as follows: 12 to 19 years of age and 20 to 34 years of age. Although was no single definition for young adults, this study followed Erikson's (1973) stages of human development to define a young adult as a person in the age group of 18 years to 40 years of age.

The survey was targeted at college students enrolled in varied courses at both undergraduate and postgraduate programmes. Student samples were widely used in the

social and behavioural science as well as marketing and advertising research. There were some critics of using college students as research subjects (e.g., Potter et al., 1993; Rotfeld, 2003).

For example, Sears (1986) identified three problematic characteristics of college student samples most relevant for communication: college students (a) may have a less strongly formulated sense of self (and a stronger need for peer approval), (b) have higher than average cognitive skills, and (c) may have a higher level of compliance to authority.

Other researchers have made a difference between students and adult consumers. Scholars argued that the differences between undergraduate and adult consumers were negligible. For example, Sheth (1970) found that there was a remarkable degree of similarity between students and housewives in their post-decision dissonance.

Shuptrine (1975) examined the self-report of female graduate students and housewives about their perceptions, consumption, and purchase patterns of 61 new products. After comparing their responses, he found that only six out of 61 differences were significant at 0.01 level, although student responses tended to have smaller variance than those of housewives.

Brown and Brown (1993) compared the lottery use of general population with that of marketing students and found that there was no difference of overall favourable responses to lottery gambling between students and the general sample. Brown and Brown (1993) also identified a similar pattern of playing lottery games and preference rankings between two groups. Brown and Brown suggested that student samples might

be sufficiently representative of the general population to provide valid information, especially if qualitative rather than quantitative issues were the concern.

Deshpande and Joseph (1994) conducted two meta-analyses to evaluate the equivalence of student samples and non-student samples with respect to the effectiveness of cross-cultural training. They did not report any significant difference of observed mean correlations and true mean correlation, even though student samples might underestimate the effectiveness of the cross-cultural training.

While college students may not have formed their stable purchase patterns at this stage of their lives, they still have general purchase knowledge and shopping experience because they make shopping (Cole and Sherrell, 1995). Sometimes they may engage in excessive shopping behaviours, for example, in terms of credit card use (Roberts, 1998).

College students' compulsive buying phenomenon was roughly equivalent to that of general consumers. For example, Roberts and Jones (2001) concluded that 9% of their student sample was made of compulsive buyers, which was very close to the 8.1% of their general adults sample reported by Faber and O'Guinn (1992).

In addition, many of the major scales used in this study were developed from student samples and then applied to general population. Basil (1996) pointed out that whenever a study was examining a phenomenon, unless the phenomenon was different for different groups of the population, the findings for students held for the general public and the conclusions were valid. He also argued that college students were usually an appropriate sample when looking at a hypothesized relationship between two variables and when no inferences about the general population needed to be drawn.

This study examined the enduring attitudes of college students, namely, family-oriented communication patterns, television viewing, peer communication and materialism. College students were chosen for this study as they were the future of a country and with a good education, most of them will become middle-class professionals.

On the other hand, most well-educated college students in the future will become relatively high-income professionals and spend much more money on products or services. Understanding their values and inclinations was useful for predicting the purchase patterns of young Malaysian working professionals. To calculate the sample size, the sample size calculator service of creative research systems survey software was utilized.

The software was used to determine how many people were needed to participate in the study in order to get results that reflect the target population as precisely as needed. In order to utilize the software few key information were needed. The information included: the confidence interval, confidence level, percentage and population size.

The confidence interval (also called margin of error) was the plus-or-minus figure usually reported just like in newspaper or television opinion poll results. The confidence level was expressed as a percentage and represented how often the true percentage of the population who would pick an answer lies within the confidence interval. The 95% confidence level meant the research could be 95% certain; the 99% confidence level meant the research could be 99% certain.

As most researchers use the 95% confidence level, this study adopted a 95% confidence level. When determining the sample size needed for a given level of accuracy this research used the worst case percentage, that is, 50%. This percentage was used as this research wanted to determine a general level of accuracy for the sample.

Using the key indicators, and to calculate the sample size of this study, first the creative research systems survey software was used to determine the confidence interval for this study. The confidence level was set at 95%. The student population size studying in institutions of higher learning in both private and public institutions of higher learning was estimated to be at 500,000.

The population estimation for this study was based on a study by Ng (2007) in a review paper on transportation issues in the Klang Valley among students in tertiary students. The percentage was set at 50%. The computed data reported a confidence interval of 2.83%. Next, the confidence interval percentage, together with the confidence level percentage, and population size figure were keyed in the calculator.

The calculator computed the data, and in terms of sample size, 1,196 respondents were needed to take part in the study to represent the whole student population studying in institutions of higher learning in the Klang Valley. In this study, non-probability sampling technique was employed based on the judgement of the researcher. Convenience sampling was used and a survey was conducted among young adults enrolled in institutions of higher learning in the Klang Valley.

Covenience sampling method was chosen in this study for several reasons. Firstly, convenience sampling has been a common approach used by researchers in social science. Convenience sampling was selected as the relative cost and time required to carry out the convenience sample was small. This has enabled the researcher to

achieve the sample size needed by taking into account the time constraints and the cost implications involved in collecting the data.

The convenience sample has helped the researcher to gather useful data and information that would not have been possible using probability sampling techniques, which required more formal access to the lists of populations. For example, in this research, the objectives were to gather information about materialism and its antecedents in many institutions of higher learning in the Klang Valley among college and university students. The researcher collected the data using a survey.

The Head of Academic Affairs and coordinators of the various institutions were approached to get their permission to collect the data. Although they have kindly given the researcher access to conduct the research at the various institutions, they were unable to get permission to get the list of all students in their respective institutions, which the researcher would need to use in a probability sampling technique such as simple random.

However, they managed to secure permission for the researcher to spend the time needed in the institutions to collect as many survey responses as possible. On these bases, the researcher decided to spend the time allocated at the entrance of the institutions, libraries, and lectures hall, where students have to pass through to get to their desks.

The researcher was present on the sites during morning hours and in the afternoon in an attempt to maximize the response rate. Whilst a probability sampling technique would have been preferred, the convenience sample was the only sampling technique that the researcher could use to collect data.

Irrespective of the limitations of convenience sampling, without the use of this sampling technique, the researcher would not have been able to get access to any data on students at the various institutions of higher learning in the Klang Valley. There exist many limitations in the use of convenience sampling. For instance, some of the most common limitations of convenience sampling include the fact that sometimes the convenience sample often suffers from biases.

Also, since the sampling frame is not known, and the sample is not chosen at random, the inherent bias in convenience sampling means that the sample is unlikely to be representative of the population being studied. This undermines the ability to make generalisations from the sample to the population studied. In this study, given that the universities and colleges were chosen out of convenience, generalizing the findings to all similar large public universities and colleges in Malaysia had to be considered with caution.

#### **4.5 Data Collection Technique**

Over the past decade, Malaysia has invested heavily in post-secondary and higher education. Currently, the nation has established 20 public universities and 26 private universities, as well as 405 public skills training institutes and 584 private skills training institutes. In 2009, higher education institutions across Malaysia produced more than 181,000 graduates, including more than 81,000 graduates from private higher education institutions. Similarly, in 2009, skills training institutes produced more than 120,000 graduates, including more than 30,000 graduating from private skills training institutes (Tenth Malaysia Plan, 2010).

Although technical and vocational education pathway is equally as important as the academic pathway of tertiary education, and the fact that the average enrolment rate for OECD countries is 44%. This study did not survey students enrol in upper secondary technical and vocational education, as only 10% of students were enrolled in upper secondary technical and vocational education (Tenth Malaysia Plan, 2010). In the Klang Valley alone, a study by Ng (2007) indicated that there was an estimate of 500,000 students enrolled in institutions of higher learning from both private and public institutions combined.

Altogether, 1,200 questionnaires were distributed to the respondents. The data were collected through self-administered questionnaire. The researcher personally travelled across the Klang Valley region in private and public institutions of higher learning to distribute and collect back the questionnaires from the respondents using the public transport system available. These included train, bus, LRT (Light Rail Transit) and taxis to places where cheaper mode of public transport were unavailable.

Prior to the multiple visits at the various institutions, the researcher seek consent in both verbal and written form from the various Head of Academic Affairs and coordinators of the target institutions. When the researcher could not meet with the target respondents, the questionnaires were given to the various Heads of Academics Affairs and coordinators at those institutions and were later collected back from the researcher.

Telephone interviews with respondents were not considered due to the length of the questionnaire and the cost involved. As a token of appreciation, a small gift was humbly offered to the Heads of Academics Affairs and coordinators who granted the researcher permission to approach the respondents.

Table 4.7 provides the list of institutions selected for the survey in terms of categories. As of 2011, the Ministry of Higher Education (2011) reported that Malaysia had 414 private colleges, 37 private universities, 20 private university-colleges, 1 public university-college, 7 foreign branch campuses, and 20 public universities. This formed a total of 499 institutions of higher learning in Malaysia. Out of 499 institutions of higher learning in Malaysia, approximately an estimation of 150 institutions of higher learning (all categories combined) were located in the Klang Valley alone.

**Table 4.7**  
**List of Selected Institutions of Higher Learning in Klang Valley for Survey**

<p><i>Private Colleges:</i></p> <ul style="list-style-type: none"> <li>• FTMS College.</li> <li>• Informatics College.</li> <li>• Institut FMM.</li> <li>• Kasturi College International.</li> <li>• Kolej ATC.</li> <li>• Malaysian Institute of Art (MIA).</li> <li>• Multimedia College.</li> <li>• Olympia College Kuala Lumpur.</li> <li>• SEGi College, Kuala Lumpur.</li> <li>• Stamford Management Centre.</li> <li>• Institut Megatech.</li> <li>• Institut Mentari.</li> <li>• Institut Nirwana.</li> <li>• Kolej Brickfields Asia.</li> <li>• Kolej Metro Prima.</li> <li>• Kolej Teknologi Antarabangsa Cybernetics (KTAC).</li> <li>• Mantissa Institute.</li> <li>• Orange International College.</li> <li>• Raffles Design Institute.</li> <li>• Reliance College.</li> <li>• RIMA College Kuala Lumpur.</li> <li>• Tunku Abdul Rahman College.</li> <li>• Victoria International College (Kuala Lumpur).</li> </ul> <p>(Total: 300 questionnaires distributed)</p>	<p><i>Private Universities:</i></p> <ul style="list-style-type: none"> <li>• Universiti Kuala Lumpur (UniKL).</li> <li>• Universiti Pertahanan Nasional Malaysia.</li> <li>• Universiti Tun Abdul Razak (UNITAR).</li> <li>• International Islamic University Malaysia (IIUM).</li> <li>• Malaysia-France University Centre (MFUC).</li> <li>• Open University Malaysia (OUM).</li> <li>• UCSI University.</li> <li>• Taylors University.</li> </ul> <p>(Total: 350 questionnaires distributed)</p>
<p><i>Private University-Colleges:</i></p> <ul style="list-style-type: none"> <li>• HELP University College.</li> <li>• Kuala Lumpur Metropolitan University College (KLMU).</li> <li>• MAHSA University College.</li> </ul> <p>(Total: 200 questionnaires distributed)</p>	<p><i>Public Universities:</i></p> <ul style="list-style-type: none"> <li>• University Malaya.</li> <li>• National Univeristy of Malaysia (Branch Campus).</li> <li>• Univeristi Teknologi Malaysia (Kuala Lumpur Campus).</li> </ul> <p>(Total: 350 questionnaires distributed)</p>

The researcher drafted a list of institutions of higher learning based on the index of listing of universities and colleges in Malaysia and which was available from Malaysia University Portal (2012) to conduct the survey. In the questionnaire distribution stage, it was important to mention that the questionnaire dispersed in the field were not proportionate in all the institutions as the size and enrolment capacity of the various institutions varied.

More questionnaires were distributed in public and private universities as their enrolment capacity were larger than private colleges and private-university colleges. The survey questionnaires were given to 1,200 randomly selected university and college students, and were returned back to the researcher after fulfilling the relevant sections.

#### **4.6 Data Analysis Technique**

The coding was done on the spreadsheets of the SPSS programme. Reverse coding was used wherever a statement for the materialism scale was negatively worded and AMOS 16.0 version were used for statistical analyses. Data were coded for 956 usable questionnaires on 51 statements into the SPSS programme.

In the first phase of the data analysis process, the data were cleaned for correction and removal of all errors. Following this, simple descriptive statistics were used to analyse the respondent's profile, and characteristics of the main constructs. Next, exploratory factor analyses were run to tap the underlying dimensions of each construct for this study. The reliability alphas were calculated for all the multi-item scales and their Cronbach Alphas were reported. Confirmatory factor analyses were conducted to test these scales against the survey data.

This study then tested the assumptions of multivariate analysis. The tests conducted were normality, homoscedasticity, linearity and multicollinearity. Relevant descriptive statistics were calculated using SPSS version 18.0. An alpha level of 0.05 was used for all statistical tests. The proportional mean scores for each construct were computed by summing the items and dividing by its respective number of items.

Next, Pearson correlation was employed to examine the associations between the main constructs of the model for this study. An examination of all constructs of the study revealed that television viewing variable in particular, had to be discarded from subsequent analysis. Following rigorous preliminary testing, the television viewing variable was discarded from subsequent analysis using structural equation modelling (SEM) because based on preliminary statistical results, the variable was found to be an *outlier* in the study.

In addition to that, with the exception of peer communication, further analysis using Pearson correlation revealed no significant association between the majority of the study constructs (i.e., socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, materialism) and television viewing.

Preliminary statistical procedures were then employed to examine possible significant group differences in all the constructs based on demographics measures. Independent sample t-tests were used for examining the gender differences in all constructs. Next, one-way analysis of variance was utilised to determine the significant differences in terms of demographics measures with respect to their responses on the various measures.

In the second phase of the data analysis, structural equation modelling (SEM) technique was used to examine the overall hypothesised model and specific hypotheses testing. The measurement scales of all major constructs were subjected to validation through confirmatory factor analysis (CFA) using AMOS 16.0. During this phase, identification issues, model specification, and comparison between the disaggregated multi-component to a traditional unidimensional measure were addressed.

The results of alternative model testing indicated that two exogenous constructs were best represented through disaggregated multi-component model. Having met all the measurement issues such as unidimensionality of construct, convergent and discriminant validity, a structural model was then analysed to determine the structural relationships between exogenous and endogenous variables within the revised model.

Based on CFA results, a second-order factor structure which contains two layers of latent constructs were drawn for this study. Variables socio-oriented family communication and concept-oriented family communication contained two layers of latent constructs. This study tested the proposed model fit to observed data using SEM technique. The proposed model consisted of three exogenous constructs and two endogenous constructs. Research model testing and analyses were conducted through three general approaches. First, the proposed model analyses were conducted using covariances and the most widely used maximum-likelihood estimation method with AMOS 16.0 (Anderson and Gerbing, 1982).

The model development strategy was followed using model re-specification procedure which aims to identify the source of misfit and then generate a model that achieve better fit of data (Byrne, 2001). Third, following the competing model strategy,

three models with different hypothetical structural relationships were compared and tested against each other in order to determine the mediating role of peer communication between independent variables and materialism, the ultimate dependent variable (Cooper and Schindler, 2003).

The hypotheses of this study were then tested. The effects of socio-oriented family communication, concept-oriented family communication, and religiously-oriented family communication on materialism were tested. The effects of socio-oriented family communication, concept-oriented family communication, and religiously-oriented family communication on peer communication were tested.

The effect of peer communication on materialism was tested. The mediating effect of peer communication on the relationship between socio-oriented family communication, concept-oriented family communication, and religiously-oriented family communication on materialism were tested. The decomposition of direct, indirect and total effects of the hypothesized model was analysed. Following the hypotheses testing an evaluation of the final hypothesized structural model was made.

#### **4.7 Chapter Summary**

In summary, the survey conducted among young adult consumers was meant to test the hypotheses developed for this study. The formulations of the hypotheses were primarily based on the extensive review of literature. The scale employed for measuring socio-oriented family communication was adopted and modified from the study of Moschis and Moore (1979b). Socio-oriented communication was measured with seven items. To measure concept-oriented family communication, this study has adopted 5

items from the original study of Moschis et al. (1983) and one item from Moschis and Moore (1979b) study to form the measurement instrument.

Religiously-oriented family communication was measured with six items adopted from Rindfleisch et al. (2006) study. The scales were modified to reflect what parents sometimes say or do in their family conversations while their children were growing up. The scales were treated as an interval level of measurement. In terms of psychometric properties, all family communication measures reported good reliabilities across cultures.

Television viewing was measured by asking respondents how many hours per week they watched seven specific programmes categories. The scale was treated as ratio level of measurement. Several programme categories were given to respondents to choose from. Peer communication was measured with three items adopted from Benmoyal-Bouzaglo and Moschis (2009).

The key construct, materialism, was assessed using previously published, multi-item measures using a five-point Likert format adopted from Wong et al. (2003) study. The scale was treated as an interval level of measurement. In terms of psychometric properties, prior studies reported strong reliabilities for the television viewing, peer communication and materialism measures.

Using these measures, a draft questionnaire was prepared. The questionnaire was in English language and it was divided into seven sections (section A to G). This study has employed non-probability sampling technique based on the convenience sampling method, and the data were collected for a duration of four consecutive months. This

study took place in the Klang Valley in Malaysia and the target population were young adults enrolled in varied courses at both undergraduate and postgraduate programmes.

The data were collected through self-administered questionnaire. The researcher drafted a list of institutions of higher learning and personally collected the data. Out of the 1,200 questionnaires, 956 completed questionnaires were usable for the data analyses. The Statistical Package for Social Sciences (SPSS) 18 version and AMOS 16.0 version were used for statistical analyses. Data were coded for 956 usable questionnaires on 51 statements into the SPSS programme.

Simple descriptive statistics were used to analyse the respondent's profile and exploratory factor analyses were run to tap the underlying dimensions of each construct. The reliability alphas were calculated for all the multi-item scales and their Cronbach Alphas were reported. This study then tested the assumptions of multivariate analysis. Pearson correlation was employed to examine the associations between the main constructs of the model for this study.

Preliminary statistical procedures were then employed to examine possible significant group differences in all the constructs based on demographics measures. Independent sample t-tests were used for examining the gender differences in all constructs. Next, one-way analysis of variance was utilised to determine the significant differences in terms of demographics measures with respect to their responses on the various measures.

In the second phase of the data analysis, structural equation modelling (SEM) technique was used to examine the overall hypothesised model and specific hypotheses testing. The measurement scales of all major constructs were subjected to validation

through confirmatory factor analysis (CFA) using AMOS 16.0. During this phase, identification issues, model specification, and comparison between the disaggregated multi-components to a traditional unidimensional measure were addressed.

The results of alternative model testing indicated that two exogenous constructs were best represented through disaggregated multi-component model. Having met all the measurement issues such as unidimensionality of construct, convergent and discriminant validity, a structural model was then analysed to determine the structural relationships between exogenous and endogenous variables within the revised model.

Based on CFA results, a second-order factor structure which contains two layers of latent constructs were drawn for this study. Variables socio-oriented family communication and concept-oriented family communication contained two layers of latent constructs. This study tested the proposed model fit to observed data using SEM technique. The hypotheses of this study were then tested.

The effects of socio-oriented, concept-oriented, and religiously-oriented family communications on materialism were tested. The effects of socio-oriented family communication, concept-oriented family communication, and religiously-oriented family communications on peer communication were tested. The effect of peer communication on materialism was tested.

The mediating effects of peer communication on the relationship between socio-oriented, concept-oriented, and religiously-oriented family communications on materialism were tested. The decomposition of direct, indirect and total effects of the hypothesized model was analysed. Following the hypotheses testing an evaluation of the final hypothesized structural model was made.

## CHAPTER 5

### RESEARCH RESULTS I: PRELIMINARY ANALYSIS

This chapter presents the results of the preliminary statistical analyses for this study. First, the descriptive statistical data and the characteristics of the constructs studied are presented. Second, exploratory measurement assessments are covered. Next, this study performed assumption testing and the proportional mean scores for each construct are presented. Next, Pearson correlation is employed to examine the associations between the main constructs of the proposed model. Additional statistical analyses using independent sample t-tests are used to examine the variable gender with all constructs of this study. One-way ANOVA is used to examine the demographic variables with respect to all the constructs of this study and lastly, a chapter summary is provided.

#### 5.1 Introduction

In the marketing field, researchers typically adopted multi-item approach and measurement errors were often unavoidable. In this instance, Fornell and Larcker (1981) advocated the use of SEM for theory evaluation in marketing. This chapter focused on preliminary data analysis using the Statistical Package for the Social Sciences (SPSS 18.0). The hypothesised model testing using Analysis of Moment Structures (AMOS) version 16.0 will be discussed in the Chapter 6. A total of 51 items were keyed in into SPSS. Data scanning process using frequency distribution did not detect any missing data with extreme values, although the data entry process was double

checked beforehand. Simple descriptive statistics were used to analyse the respondent's profile, item analysis, and characteristics of the main constructs. Relevant descriptive statistics were calculated using SPSS version 18.0. An alpha level of 0.05 was used for all statistical tests.

## **5.2 Results of Data Collection**

The following section discussed on the results of the data collection over a period of four consecutive months. In the first step of the data analysis process, responses from the usable questionnaires were categorized to facilitate analysis. The coding of the data was an important step in the preparation of data for computer processing with SPSS software. In the design stage, the questionnaire was pre-coded and structured, whereby codes were assigned to the expected answers.

Next, data which were in Excel format were converted into SPSS for further analysis. The data was cleaned for correction and removal of all errors. Errors were values of each item in the questionnaire, which fell outside the range. A total of 51 items were identified and the frequency was first run to identify the errors. Errors were counted as missing system, after which frequency was run again. The result of frequency indicated that the values for each item which formed the questionnaire were within the range, which was an indication that the data was clean for further analysis.

### **5.2.1 Response Rate for the Survey**

Of the 1,200 questionnaires distributed, 1002 responses were returned for a response rate of 83.5%. Of these returns, only 956 completed questionnaires were

usable for the data analyses. There were 46 unacceptable questionnaires due to several reasons. Table 5.1 presents the response rate for the survey.

The questionnaires with unsatisfactory responses were discarded. Among the reasons the questionnaires were rejected was due to the fact that some questionnaires were not completed by respondents, respondents were not qualify to participate in the survey, and some of the patterns of responses showed that respondents did not understand the content and/ or instructions of the questionnaire.

**Table 5.1  
Response Rate for the Survey**

Descriptions	Total
Total no. of questionnaires distributed	1,200
Total no. of questionnaires returned	1,002
Response Rate	83.5%
Unacceptable Questionnaires	46
Total no. of Questionnaire Usable	956

### **5.3 Respondent Characteristics**

In this section, a general profile of the respondents is discussed. Table 5.2 presents the demographic characteristics of the respondents. Basically, of the 956 respondents who completed the questionnaire, 39.9% were males and 60.1% were females.

This could be explained in terms of percentage of intake in public and private institution of higher learning where the percentage of female enrolment has the tendency to be higher in comparison to male. This was proven by the fact that 65% or

**Table 5.2**  
**Respondent Characteristics**

Items		Frequency	Percentage (%)
<b>Gender</b>	• Male	381	39.9
	• Female	575	60.1
	Total	956	100%
<b>Age</b>	• below 19	243	25.4
	• 20-29	608	63.6
	• 30-40	105	11.0
	Total	956	100%
<b>Ethnicity</b>	• Malay	495	51.8
	• Chinese	270	28.2
	• Indians	102	10.7
	• Others	89	9.3
	Total	956	100%
<b>Religion</b>	• Islam	556	58.2
	• Buddhism	195	20.4
	• Hinduism	90	9.4
	• Christianity	96	10.0
	• Others	19	2.0
	Total	956	100%
<b>Marital Status</b>	• Single	839	87.8
	• Married with Children	66	6.9
	• Married Without Children	42	4.4
	• Widow/Widower/Divorcee	9	0.9
	Total	956	100%
<b>Education<sup>a</sup></b>	• Primary School or Less	1	0.1
	• PMR/SRP/LCE	3	0.2
	• SPM/SPVM/MCE	101	10.6
	• College Diploma	307	32.2
	• Professional qualification/ University degree.	544	56.9
	Total	956	100%
<b>Monthly Gross Personal Income<sup>b</sup></b>	• Less than RM1,000	629	65.8
	• RM1,000 to RM1,999	129	13.5
	• RM2,000 to RM3,999	135	14.1
	• RM4,000 to RM9,999	63	6.6
	Total	956	100%

Note: <sup>a</sup> PMR/SRP/LCE is equivalent to nine years of formal elementary and middle school education. <sup>b</sup> Currency conversion 1USD=3.00RM (approx.) as at May 2013.

26,200 of the 40,366 candidates offered places for a first degree at public institutions of higher learning for the 2009/2010 academic sessions were women (Ministry of Higher Education in Malaysia, 2010). In terms of age distribution, 63.6% of the samples were

between the aged of 20-29 years old, followed by age range of 19 years old and below (25.4%) and the remaining of the respondents 11% were aged 30-40 years old.

In terms of ethnic group, the majority of the sample consisted of Malay respondents (51.8%), followed by Chinese respondents (28.2%) and Indians (10.7%) and other ethnic groups formed (9.3%) of the sample. The respondent characteristic in terms of ethnicity was generally consistent with the Malaysian Population Census (Department of Statistics and Economic Planning Unit, 2008).

Consistent with the race composition of Malaysia, in terms of religious faith, the majority of the respondents endorsed Islam (58.2%), followed by Buddhism, (20.4%), Christianity (10.2%), Hinduism (9.4%) and others (2.0%). It was observed that more than two third of the responding sample were single (87.8%), while (6.9%) were married with children and (4.4%) were married without children. It was noted that there were 7 divorcees involved in the sample group. The sample consisted young adults who were married with children and without children as although respondents were college students they could be married and could have children.

In terms of education, the majority of the respondents in the sample group possessed a professional qualification/university degree (56.9%) and (32.2%) possessed a college diploma while 10.6% have obtained their SPM certificate. The main reason for the high proportion of university degree holders in the sample was probably due to the characteristics of the urban population.

In addition to that, it was also observed from the sample that 65.8% of respondents were earning an income range of less than RM1000 which formed the largest category, followed by those earning between RM2000 to RM3999 formed

14.1% of the respondents. 13.5% of the sample group were earning an income in the range of between RM1 000 to RM1999. One possible reason for such findings was due to the predominantly younger aged respondents who were still in the early stage of their career path.

#### **5.4 Exploratory Measurement Factor Analysis of all the Study Constructs**

The exploratory measurement assessment included exploratory factor analyses, item analysis, and coefficient alpha and reliability. Each of the measurement assessment result was presented in the following sub-sections.

##### **5.4.1 Factor Analysis of all the Study Constructs**

In order to determine the underlying dimensions of the multi-item measurement scale, exploratory factor analysis was performed separately on the 37 statements. The purpose of performing factor analysis was to determine whether the data could be condensed or summarised into smaller set of factors (Malhotra, 2004). The scale for television viewing was not subjected to principal component analysis in this study as it was a ratio scale.

The dimensions of the scales for socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, peer communication and materialism were examined by factor analysing the items using the principal components analysis with Varimax rotation. Minimum eigenvalues of 1.0 helped determined the number of factors or dimensions for each scale (Hair et al., 2006). Although factor loadings of 0.30 to 0.40 were considered acceptable, however,

factor loadings greater than 0.50 was generally necessary for practical significance (Hair et al., 2006). Hence, the items for a factor were retained only when the absolute size of their factor loading was above 0.50.

It was appropriate to have a decent of variables taken as illustrating a particular factor. According to Meyers et al. (2006) this was true for at least two reasons: (1) The researchers want to be clear that the factor is, and more variables loading on the factor provides more information on which to base the interpretation and (b) if there are subscales based on the factor structure enough variables that are highly correlated would be needed to achieve an acceptable level of reliability.

Although in research at large it was difficult to provide an exact number of variables that would always meet these criteria, generally Meyers et al. (2006) have suggested that four or five items per factor was usually as small a count researchers would want to have for subsequent analysis.

Other researchers have suggested that a solution was less satisfactory if a given component was measured by less than three variables. A factor with fewer than three items was generally weak and unstable (Costello and Osborne, 2005). On these bases, this study only retained factors with three or more items following the results of principal component analysis for subsequent analysis.

Prior to confirmatory factor analysis, all the study constructs were factor analysed to identify the dimensionality. Socio-oriented family communication consisted of 7 items, concept-oriented family communication consisted of 6 items, religiously oriented family communication consisted of 6 items, peer communication consisted of 3 items, and materialism factor consisted of 15 items in which 6 items were reversed item coded.

Table 5.3 presents the results of the Kaiser-Meyer-Olkin (KMO), Bartlett's test of sphericity and total variance explained. The Bartlett's test of sphericity was significant ( $\chi^2 = 8149.833$ ,  $p = 0.000$ ) and the KMO value of 0.807 indicated that factor analysis was appropriate to be used for analysing the socio-oriented, concept-oriented, religiously-oriented family communication, peer communication and materialism factors (Hair et al., 2006). The principal components analysis performed extracted nine factors having eigenvalues greater than 1.0. These factors (F1 to F9), represented 37 items and accounted for 52.5% of the total variance. Table 5.4 presents the rotated factor matrix for all the study constructs.

**Table 5.3**  
**Kaiser-Meyer-Olkin (KMO), Bartlett's Test and Total Variance Explained**  
**for Socio-Oriented Family Communication Construct**

<b>Bartlett's Test of Sphericity</b>			
Approx. Chi-Square= 8149.833, d.f.=666 p=0.000			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy=0.807			
<b>EXTRACTION SUMS OF SQUARED LOADINGS</b>			
Factor	Eigenvalue	Percentage of Variance	Cumulative Percentage of Variance
1	4.862	13.140	13.140
2	3.287	8.883	22.024
3	2.357	6.369	28.393
4	2.036	5.503	33.896
5	1.700	4.594	38.490
6	1.603	4.332	42.821
7	1.299	3.512	46.333
8	1.225	3.311	49.644
9	1.073	2.899	52.543

It was common to consider a solution of about 60% as satisfactory in social sciences research (Hair et al., 2006). However, researchers have the desire to work with factor solutions that captured enough of the variance to provide confidence that they did not lose too much information in the data crunching process. Tabachnick and Fidell (2001b) have proposed that a solution should account for at least 50% of the variance.

**Table 5.4**  
**Rotated Factor Matrix for all the Study Constructs**

Items	Factors								
	F1	F2	F3	F4	F5	F6	F7	F8	F9
REL01	<b>.846</b>	.013	.003	.095	.071	.122	.069	.009	-.046
REL02	<b>.818</b>	.032	.027	.053	.084	.049	.094	.041	-.053
REL03	<b>.817</b>	.057	.016	.105	.064	.167	.052	.010	-.048
REL06	<b>.702</b>	.063	.076	.064	.052	-.120	-.035	.107	-.056
REL04	<b>.684</b>	.019	.097	-.059	.119	-.037	.051	.070	.000
MAT15	-.030	<b>.667</b>	-.021	.158	.069	.057	-.004	-.039	.140
MAT04	.072	<b>.640</b>	-.010	-.057	.058	-.017	.025	.192	.130
MAT08	-.039	<b>.637</b>	.059	.075	.054	.257	-.041	.037	-.095
MAT01	.064	<b>.594</b>	-.002	.050	.088	.060	-.047	.062	.164
MAT03	-.012	<b>.591</b>	.014	-.034	.054	-.111	.042	.004	.221
MAT10	.124	<b>.552</b>	.001	.030	.041	-.139	.031	.055	-.258
MAT06	.050	<b>.532</b>	.159	.075	-.049	.225	-.020	-.098	-.083
MAT13*	-.004	.489	.030	.241	.075	-.027	.215	-.162	.046
SOCIO6	.131	.051	<b>.792</b>	.069	.062	.034	-.002	.073	-.055
SOCIO7	.040	.034	<b>.735</b>	.028	.199	-.109	.006	-.009	.060
SOCIO5	.030	.035	<b>.733</b>	.065	.203	.070	.017	.011	-.044
PCOM2	.109	.114	.080	<b>.799</b>	.091	.044	.057	.083	-.042
PCOM3	.071	.106	-.010	<b>.759</b>	.080	-.019	.047	.119	-.027
PCOM1	.050	.108	.107	<b>.751</b>	-.014	.123	.070	.043	.231
SOCIO2	.018	.100	.150	.047	<b>.697</b>	-.192	-.205	-.012	-.015
SOCIO3	.086	.049	.176	.038	<b>.632</b>	.129	.103	.024	.045
SOCIO4	.150	.033	.160	.036	<b>.616</b>	-.021	.018	.082	-.037
SOCIO1	.142	.180	-.008	.072	<b>.588</b>	.175	.163	-.101	-.066
MAT14R*	.055	.116	.049	.071	.069	<b>.623</b>	.105	.020	-.028
MAT09R*	.036	.305	-.030	.067	.044	<b>.610</b>	-.001	-.005	.170
MAT11*	.000	.264	.074	.031	-.049	-.582	.005	-.033	.235
MAT12R*	-.113	.068	.066	-.117	.017	.440	-.311	.183	.313
REL05	-.220	-.006	.000	-.099	.222	-.387	-.018	.233	.071
CON05	.072	.015	.034	.079	.140	-.063	<b>.667</b>	.175	.051
CON06	.076	.054	-.045	.051	-.045	.119	<b>.648</b>	.079	-.102
CON04	.018	.015	.521	-.006	.020	.025	<b>.527</b>	.197	-.058
CON02	.082	-.036	.095	.064	-.006	-.014	.290	<b>.698</b>	.115
CON01	.121	.096	.027	.180	.025	.028	.009	<b>.646</b>	-.267
CON03	.091	.032	.084	.089	-.020	-.008	.446	<b>.557</b>	.021
MAT05R*	-.046	.213	-.022	-.021	-.041	.012	-.062	.068	<b>.676</b>
MAT02R*	-.146	.035	-.029	.209	-.027	-.110	.026	-.233	<b>.668</b>
MAT07R*	.048	.315	-.166	.033	.058	.078	-.266	.290	.333
Eigenvalue	4.862	3.287	2.357	2.036	1.700	1.603	1.299	1.225	1.073
Total Variance Explained (%)	13.14	8.883	6.369	5.503	4.594	4.332	3.512	3.311	2.899
Cumulative Variance Explained (%)	13.14	22.024	28.393	33.896	38.490	42.821	46.333	49.644	52.543

Note: \*Items were dropped from the factor in subsequent analysis

a) Factor Analysis of Socio-oriented Family Communication Statements

Socio-oriented family communication consisted of 7 items measured on a Likert scale format and was a unidimensional construct. The results of the rotated factor matrix indicated that 3 significant items loaded on Factor 3 (i.e. SOCIO5, SOCIO6 and SOCIO7), while Factor 5 (i.e., SOCIO1, SOCIO2, SOCIO3 and SOCIO4) consisted of 4 significant items.

The two factors representing the socio-oriented family communication construct accounted for 10.9% of the total variance. The factor loading on Factor 3 ranged from 0.733 to 0.792 while the factor loading on Factor 5 ranged from 0.588 to 0.697. Both subscales representing socio-oriented family communication construct were retained for subsequent analysis as factor loading on each dimension had a higher value than 0.5 and contained more than two items on each factors, which was of importance for subsequent analysis. The subscales reflected the typologies of family communication pattern.

The present factor analysis results was compared with past research and it was found that most studies which examined socio-oriented family communication either did not conduct or report exploratory factor analysis although in many cases, socio-oriented family communication construct was measured with five items or more (for e.g., Moschis and Churchill, 1978; Churchill and Moschis, 1979; Moore and Moschis, 1978a; Moore and Moschis, 1981; Chan and Prendergast, 2007; Moschis et al., 2009).

For instance, in Moore and Moschis (1978a) study, nine items were used to determine the extent to which the adolescent interacted with their parents about consumption matters. Two dimensions for the interaction were revealed by factor

analysis. Five items measured communication from the adolescent to the parent. The remaining four items focused on interpersonal communication from the parent to the adolescent.

However, the study did not elaborate on the results of factor analysis. Moschis et al. (2009) adopted the family communication structure developed originally by Chaffee and McLeod (1971) explaining that the items adopted were the same items as in the original study of Chaffee and McLeod and were part of the same factors. Their study did not report any exploratory analysis to confirm on how the factor loadings would be performed on the socio-oriented family communication dimension.

(b) Factor Analysis of Concept-oriented Family Communication Statements

Concept-oriented family communication consisted of 6 items measured on a Likert scale format and was a unidimensional construct. The results of the rotated factor matrix indicated that 3 significant items loaded on Factor 7 (i.e., CON4, CON5 and CON6), while another 3 significant items loaded on Factor 8 (i.e., CON1, CON2, and CON3). Altogether, the two factors representing the concept-oriented family communication construct accounted for 6.8% of the total variance.

The factor loading on Factor 7 ranged from 0.527 to 0.667 while the factor loading on Factor 8 ranged from 0.557 to 0.698. Both subscales representing concept-oriented family communication construct were retained for subsequent analysis as factor loading on each dimension had a higher value than 0.5 and each factor contained more than two items which was of importance for subsequent analysis. The present factor analysis results could not be compared with past research as most studies which

examined concept-oriented family communication either did not conduct or report exploratory factor analysis (for e.g., Moschis and Churchill, 1978; Churchill and Moschis, 1979; Fujioka and Austin, 2002; Chan and Prendergast, 2007). For instance, in Chan and Prendergast (2007) study, concept-oriented family communication was measured with five items and the construct was unidimensional.

In the typology of parent-child communication structures and patterns developed by McLeod and Chaffee (1972), a useful vehicle for analyzing the quality of family interaction and its effects on consumer learning has been provided (Moschis et al., 1986). The family communication patterns typology utilized Newcomb's (1953) co-orientation model.

It has been established by prior studies that family communication structures (socio-oriented family communication and concept-oriented family communication) are two relatively uncorrelated dimensions (Moschis et al., 1986). The socio-oriented family communication dimension produces deference and foster harmonious and pleasant social relationships. On the other hand, the concept-oriented emphasizes helping the child to develop his/her own individual views of the world by imposing positive constraints (Moschis et al., 1986).

Together, these two dimensions of family communication structure have produced a four-fold typology of family communication patterns: laissez-faire, protective, pluralistic, and consensual (McLeod and Chaffee, 1972). According to Bakir (2005), pluralistic parents emphasized low socio-orientation and high concept-orientation and encouraged their children to engage in overt communication and discussions. This communication pattern results in children that possessed independent perspectives and become skilled consumers.

Consensual parents emphasized high socio-orientation and high concept-orientation, and encourage children to formulate independent ideas, but maintain a hierarchy of power within the family and control and monitor their children's consumption environment. Laissez-faire parents emphasized low socio-orientation and low concept-orientation and can be characterized as having low levels of parent-child communication in general.

Children in this type of environment are more influenced by external socialization agents such as the media and peers. Finally, protective parents emphasized high socio-orientation and low concept-orientation and emphasize obedience. They promote vertical relationships with their children, focus less on issue-oriented communication, and tightly control and monitor their children's consumption (Moschis, 1987).

Based on the results of factor analysis for socio-oriented family communication construct, two typologies emerged. Factor 3 which consisted of the following item statements was labelled as "Protective family communication pattern":

- SOCIO05: My parents often use to tell me what things I should or shouldn't buy.
- SOCIO06: My parents often wanted to know what I did with my money.
- SOCIO07: My parents often use to complain when they didn't like something I bought for myself.

Factor 5 which consisted of the following item statements was labelled as "Consensual family communication pattern":

- SOCIO01: My parents often use to say that the best way to stay out of trouble is to stay away from it.

- SOCIO02: My parents often use to say that their ideas are correct and I shouldn't question them.
- SOCIO03: My parents often use to answer my arguments with saying something like "You'll know better when you grow up?"
- SOCIO04: My parents often use to say that I should give in when he/she argues rather than risk making people angry.

For concept-oriented family communication construct, the results of factor analysis produced two other typologies. Based on the results of factor analysis, and the description regarding the components of concept-orientation construct, Factor 7 (i.e., CON4, CON5 and CON6) which consisted of the following item statements was labelled as "Laissez-faire family communication pattern":

- CON04: My parents often use to tell me to decide about things I should or shouldn't buy.
- CON05: My parents often use to say that getting my ideas across is important even if others don't like them.
- CON06: My parents often use to say that I should decide myself how to spend my money.

Factor 8 (i.e., CON1, CON2, and CON3) which consisted of the following significant item statements was labelled as "Pluralistic family communication pattern":

- CON01: My parents often use to ask me to help them buy things for our family.
- CON02: My parents often use to ask me what I think about things they buy for themselves.
- CON03: My parents often use to ask me for advice about buying things.

It was important to note that in this study both socio and concept-oriented family communication scales were assessed using Likert-scale construction. Both scales were originally unidimensional. Based on the result of the principal component analysis (PCA) both socio-oriented family communication and concept-oriented family communication dimensions have produced a four-category typology: laissez-faire, protective, pluralistic, and consensual.

According to Whitley and Kite (2012), multi-item scales had several advantages over single items as measures of hypothetical construct. First, the subscale scores could be either analysed separately or combined into an overall score for analysis. A second advantage of multi-item scales over single item scale was that the scale has increased reliability and validity than does any one of the items of which it was composed. This increased reliability and validity was derived from the use of multiple items. Each item assessed both true score on the construct being assessed and error. When multiple-item was used, aspects of the true score that were missed by one item could be assessed by another

(c) Factor Analysis of Religiously-oriented Family Communication Statements

For religiously-oriented family communication construct, the results of rotated factor matrix indicated factor loadings of 5 significant item statements (i.e., REL01, REL02, REL03, REL04 and REL06) on the underlying construct with factor loading more than 0.5. The 5 items were retained for subsequent analysis. The factor loading of one item (i.e., REL05) on other construct (i.e., cross-loading) was below 0.5, and was eventually discarded from subsequent analysis. The factor loading ranged from 0.684 to 0.846. The finding of this study supported the unidimensionality of religiously-oriented family communication construct (Anderson and Gerbing, 1982).

Factor 1 (religiously-oriented family communication) comprised of 5 significant items (factor loading more than 0.5) and explained 13.1% of the total variance. The present factor analysis results could not be compared with past research as most studies which examined religiously-oriented family communication have not adopted the religiosity scale from Rindfleisch et al. (2006) study.

(d) Factor Analysis of Peer Communication Statements

For peer communication construct, the results of rotated factor matrix indicated that the factor loadings contained three significant item statements, with factor loading more than 0.5. None of the items cross-loaded on other constructs. The findings of this study supported the unidimensionality of peer communication construct. Factor 4 (i.e., PCOM1, PCOM2, and PCOM3) explained 5.5% of the total variance. All three items loading on Factor 4 were retained for subsequent analysis. The factor loading for peer communication construct ranged from 0.751 to 0.799.

The present factor analysis results could not be compared with past research as most studies which examined peer communication either did not conduct or report exploratory factor analysis (for e.g., Kamaruddin and Mokhlis, 2003; Moschis et al., 2009; Benmoyal-Bouzaglo and Moschis, 2009). In other studies, peer communication was only measured with one or two items only, hence, factor analysis was not conducted (for e.g., Chan and Zhang, 2007; Chan and Prendergast, 2007).

One study by Lueg and Finney (2007) reported factor analysis using an interpersonal communication scale which included eight scales reflecting interpersonal communication, five of which represented peer communication. From the results of

principal component analysis four factors emerged. Two interpersonal communication scales of peer internet communication and peer mall communication were revealed. Each factor loaded on one dimension. For peer internet communication the factor loading ranged from 0.732 to 0.808, and for peer mall communication the factor loading ranged from 0.712 to 0.752. None of the items cross-loaded on other factors.

(e) Factor Analysis of Materialism Statements

Materialism construct consisted of 15 items and was a unidimensional construct with a Likert-type scale response format. The results of the rotated factor matrix indicated that 7 significant items (factor loading more than 0.5) loaded on Factor 2 (i.e., MAT15, MAT04, MAT08, MAT01, MAT03, MAT10, and MAT06), while 2 significant items (factor loading more than 0.5) loaded on Factor 6 (i.e., MAT14R, and MAT9R), and Factor 9 (i.e., MAT05 and MAT02) respectively.

Taken together, Factor 2, 6 and 9 representing the materialism construct accounted for 16.1% of the total variance. The factor loadings on Factor 2 ranged from 0.532 to 0.667, and the factor loadings on Factor 6 ranged from 0.610 to 0.623, while the factor loadings on Factor 9 ranged from 0.668 to 0.676. Four items (i.e., MAT13, MAT11, MAT12R, and MAT7R) with factor loading below 0.5 were discarded from further analysis as factor loadings greater than 0.50 was generally necessary for practical significance (Hair et al., 2006).

Insignificant items with a value below 0.5 and which loaded on Factor 2, 6 and 9 were compared with previous studies to determine if those items were originally

problematic. For Factor 2, item MAT13 with statement “How much pleasure do you get from buying things?” had a factor loading of 0.48 and was below the recommended cut-off point value of 0.5.

In Richin’s (1987) study which examined the relationship between media exposure, materialism and life satisfaction factor, the item with statement “The things I own give me a great deal of pleasure” had a relatively high loading, but it was however the only variable loaded on a third factor and the researcher discarded the variable from subsequent analysis (Richins, 1987) .

For Factor 6, item MAT11 with statement “How do you feel about spending money on things that aren’t practical?” had a negative factor loading of -.582 respectively. These values were below the recommended cut off point of 0.5. The low value for MAT11 was compared with a study by Richins (2004) in which four short forms of the MVS was developed.

In Richins (2004) study, the same item with statement “I enjoy spending money on the things that aren’t practical” was problematic at the individual item analysis stage using external criteria, and was among one of the worst performing items. The item was among those which had an average correlation of less than .12 and was rarely among the top predictors of the criterion (outcome) variables.

For Factor 6, MAT12R with statement “Do you feel that you have all the things you really need to enjoy life?” had a low factor loading of .44 and was also below the recommended cuff off point value of 0.5. A study by Watson (1998) to relate tattoo location and symbol choice, to gender, materialism and public/private meanings of these

symbols, found that the same item statement “I have all the things I really need to enjoy life” had a low factor loading, 0.47 and the item was removed from further analysis.

For Factor 9, item MAT7R with statement “Do you think the amount of material objects people own shows how successful they are?” had a factor loading of 0.33 and was also below the recommended cutoff point value of 0.5. In Richins (2004) study, it was found that the same item with statement “I don’t pay much attention to the material objects other people own” was problematic at the individual item analysis stage using external criteria, and was among one of the worst performing items.

The item was among those which had an average correlation of less than .12 and was rarely among the top predictors of the criterion (outcome) variables. The same item was also problematic in Richins and Dawson’s (1992) original research as it had low factor loadings.

Published literature on the dimensions of materialism proposed by Richins and Dawson provided only limited information about dimensionality (Richins, 2004). Exploratory factor analyses that appeared in the literature also suggested some problems with the scale. Of the 10 studies that reported exploratory factor analysis, two indicated that they obtained results similar to those obtained by Richins and Dawson, but the remainder reported problems of varying magnitude (e.g., Watson, 1998).

Following the recommendations of Costello and Osborne (2005) that a factor with fewer than three items was generally weak and unstable for use in Structural Equation Modelling (SEM), item statements loading on Factor 6 and Factor 9 were discarded from subsequent analysis, as both factors only contained two significant items with factor loading more than 0.5.

The deletion of both factors containing only two significant items was further justified based on prior studies on psychometric assessment of the Material Value Scale (MVS). In a study by Richins (2004) which described the development of four short forms of the MVS, it was found that in terms of psychometric assessment, all four versions of MVS performed well in terms of internal structure and dimensional characteristics, but the scales showed mixed results in other areas.

It was emphasized that three-item scale performed noticeably worse than the longer scales in the validity assessments (Richins, 2004). Taking the study of Richins (2004) into consideration, Factor 6 and 9 which contained even less than 3 items, was discarded in subsequent analysis.

Table 5.5 presents the factor analysis results comparison between the current study and another two studies which examined the materialism scale. In Richins (1987) study, seven Likert-format items were generated to measure materialism construct. Initial principal components analysis with oblique rotation revealed that three factors emerged using either a scree test of “eigenvalues greater than one” criterion. Because the third factor had high loadings for only one variable (item 7), the analysis was again performed with this item removed.

The first factor reflected the extent to which respondents believed more material possessions would increase their personal happiness, while factor 2 reflected a general belief that money could brought happiness. These two factors captured 60.5% of the variance among the items; correlation between the two factors was .32. All subsequent analyses employed summed scores, with personal material values consisting of four significant items ( $\alpha=.73$ ) and general material values consisted of two significant

**Table 5.5**  
**Factor Analysis Results Comparison**

<b>Particulars</b>	<b>Present Study</b>	<b>Richins (1987)</b>	<b>Richins and Dawson (1992)</b>
<b>No. of Factors extracted</b>	3	2	3
<b>Cumulative Variance Explained</b>	16.1%	60.5%	Not Available
<b>Rotation Procedure</b>	Varimax	Oblique	Oblique
<b>Loadings:</b>			
<b>Success</b>	0.53-0.66	-	0.37-0.70
<b>Centrality</b>	0.66-0.67	-	0.52-0.60
<b>Happiness</b>	0.61-0.62	-	0.55-0.65
<b>Personal material</b>	-	0.69-0.83	-
<b>General material</b>	-	0.77-0.81	-
<b>Loadings assessment benchmark</b>	± .50	± .50	± .35
<b>Samples</b>	Malaysian	American	American

items ( $\alpha=.61$ ). In comparison with Richins (1987) study, the result of exploratory factor analysis of this study have identified three factors representing materialism construct with more than one item loadings on each factor.

In the original study of Richins and Dawson (1992), materialism was viewed as a consumer value in that it involved beliefs and attitudes centrally held that they guide the conduct of one's life. A five-point Likert scale response format was used. From a pool of 48 items, a final scale consisting of 18 items were retained based on exploratory factor analysis. These were success, centrality and happiness.

In comparison to Richins and Dawson (1992) original study, this study has employed a more stringent loading assessment benchmark and the factor loadings for each factor were relatively higher compared to Richins and Dawson (1992) study in assessing the materialism construct (please refer to Table 5.5).

## 5.5 Item Analysis and Scale Reliabilities

The internal consistency reliabilities of the scale were next assessed after the factor analyses. Cronbach's alpha coefficient which was the most popular indicator of internal consistency was employed in the present study to assess the reliabilities of measurement scales adopted (Malhotra, 2004). By convention, an acceptable level of coefficient alpha to retain an item in a scale was at least 0.50 (Churchill, 1979).

Table 5.6 presents the descriptive statistics and reliability analysis of the study constructs. The present study was based on Churchill (1979) recommendation when assessing the reliability of each scale. Based on the results of the Principal Component Analysis (PCA), the reliability analysis and descriptive statistics for individual items of the socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, peer communication and materialism constructs displayed an acceptable degree of reliability with a Cronbach's alpha coefficient ranging from 0.544 to 0.848.

Referring to Table 5.6, the mean scores of peer communication (M=3.46 to 3.80), was proven to be higher than the items of **religiously-oriented family communication** (M=3.37 to 3.91), pluralistic family communication pattern (M=3.16 to 3.32), laissez-faire family communication pattern (3.28 to 3.80), consensual family communication pattern (M=2.78 to 3.63), protective family communication pattern (M=3.15 to 3.44) **and materialism** (M=3.41 to 3.91).

Asides from an examination of Cronbach's alpha coefficient, this study also found that generally, subjects had higher degree of agreement with the religiously-oriented family communication statements, pluralistic family communication pattern statements, laissez-faire family communication pattern statements, peer communication statements,

**Table 5.6**  
**Descriptive Statistics and Reliability Analysis of the Study Constructs**

Scale Items	Mean	St. Dev.	Cronbach's Alpha
<p><b>Socio-Oriented Family Communication:</b></p> <p><b>Consensual Family Communication Pattern:</b></p> <p><b>SOCIO01/ S1<sup>a</sup>/ S1<sup>b</sup></b> : My parents often use to say that the best way to stay out of trouble is to stay away from it.</p> <p><b>SOCIO02/ S2:</b> My parents often use to say that their ideas are correct and I shouldn't question them.</p> <p><b>SOCIO03/ S3:</b> My parents often use to answer my arguments with saying something like "You'll know better when you grow up?"</p> <p><b>SOCIO04/ S4:</b> My parents often use to say that I should give in when he/she argues rather than risk making people angry</p> <p><b>Protective Family Communication Pattern:</b></p> <p><b>SOCIO05/ S5:</b> My parents often use to tell me what things I should or shouldn't buy.</p> <p><b>SOCIO06/ S6:</b> My parents often wanted to know what I did with my money.</p> <p><b>SOCIO07/ S7:</b> My parents often use to complain when they didn't like something I bought for myself.</p>	<p>3.63</p> <p>2.78</p> <p>3.56</p> <p>3.25</p> <p>3.44</p> <p>3.30</p> <p>3.15</p>	<p>1.19</p> <p>1.16</p> <p>1.15</p> <p>1.00</p> <p>1.16</p> <p>1.21</p> <p>1.17</p>	<p><b>0.596</b></p> <p><b>0.717</b></p>
<p><b>Concept-Oriented Family Communication:</b></p> <p><b>Pluralistic Family Communication Pattern:</b></p> <p><b>CON01/ C1:</b> My parents often use to ask me to help them buy things for our family.</p> <p><b>CON02/ C2:</b> My parents often use to ask me what I think about things they buy for themselves.</p> <p><b>CON03/ C3:</b> My parents often use to ask me for advice about buying things.</p> <p><b>Laissez-faire Family Communication Pattern:</b></p> <p><b>CON04/ C4:</b> My parents often use to tell me to decide about things I should or shouldn't buy.</p> <p><b>CON05 /C5:</b> My parents often use to say that getting my ideas across is important even if others don't like them.</p> <p><b>CON06/ C6:</b> My parents often use to say that I should decide myself how to spend my money.</p>	<p>3.32</p> <p>3.16</p> <p>3.27</p> <p>3.47</p> <p>3.28</p> <p>3.80</p>	<p>1.18</p> <p>1.12</p> <p>1.14</p> <p>1.04</p> <p>0.99</p> <p>1.03</p>	<p><b>0.612</b></p> <p><b>0.544</b></p>
<p><b>Religiously-Oriented Family Communication:</b></p> <p><b>REL01/ R1:</b> My parents often tell me that my ideas about religion are one of the most important parts of my philosophy of life.</p> <p><b>REL02/ R2:</b> My parents often tell me that my ideas on religion have a considerable influence on my views in other areas.</p> <p><b>REL03/ R3:</b> My parents often say that believing as I do about religion is very important to being the kind of person I want to be.</p> <p><b>REL04/ R4:</b> My parents often say that if my ideas about religion are different, my way of life will be different.</p> <p><b>REL06/ R6:</b> My parents often ask me to think about Matters relating to religion.</p>	<p>3.78</p> <p>3.64</p> <p>3.91</p> <p>3.37</p> <p>3.42</p>	<p>1.21</p> <p>1.10</p> <p>1.13</p> <p>1.23</p> <p>1.22</p>	<p><b>0.848</b></p>

**Table 5.6 Cont'd**  
**Descriptive Statistics and Reliability Analysis of the Study Construct**

Scale Items	Mean	St. Dev.	Cronbach's Alpha
<b>Peer Communication:</b>			<b>0.737</b>
<b>PCOM0/ P1:</b> My friend and I talk about buying things.	3.66	1.05	
<b>PCOM02/ P2:</b> My friend and I learn from each other about buying things.	3.80	0.95	
<b>PCOM03/ P3:</b> My friend and I trust each other about buying things.	3.46	1.00	
<b>Materialism:</b>			<b>0.738</b>
<b>MAT01/ M1:</b> How do you feel about people who own expensive homes, car, and clothes?	3.52	1.036	
<b>MAT03/ M3:</b> How do you feel about owning things that impress people?	3.41	.997	
<b>MAT04/ M4:</b> How do you feel about acquiring material possessions as an achievement in life?	3.56	.939	
<b>MAT06 /M6:</b> Would your life be any better if you owned certain things that you don't have?	3.51	1.018	
<b>MAT08/ M8:</b> How would you feel if you could afford to buy more things?	3.91	.925	
<b>MAT10/ M10:</b> What do the things you own say about how well you are doing in life?	3.41	.905	
<b>MAT15/ M15:</b> How do you feel about having a lot of luxury in your life?	3.65	1.003	

Notes: Item scale ranging from 1 (strongly disagree) to 5 (strongly agree); \*reverse coded item; <sup>a</sup> represents codings into SPSS software; <sup>b</sup> represents codings into AMOS software in subsequent analysis.

and materialism statements in comparison with consensual family communication pattern statements and protective family communication pattern statements.

Overall, all the scales displayed an acceptable degree of reliability with a Cronbach's alpha coefficient of 0.84 for religiously-oriented family communication. Consensual family communication pattern scale and protective family communication pattern scale displayed a Cronbach's alpha coefficient of 0.59 and 0.71 respectively. Pluralistic family communication pattern scale and laissez-faire family communication pattern scale displayed a Cronbach's alpha coefficient of 0.61 and 0.54 respectively.

While both scales for peer communication and materialism displayed a Cronbach's alpha coefficient of 0.73. Generally speaking, the reliability of the socio-

oriented family communication scale, has performed better in comparison to other studies which have adopted similar scale. For instance, in the U.S, a study by Churchill and Moschis (1979) using the original items from Moschis and Moore (1979b) study reported that the reliability coefficient alpha of socio-oriented family communication scale was .67.

In Carlson et al. (1992) study, the scale originated from Moschis and Moore (1979b) research was tested across different population, and the scale only attained an alpha of .50. In Japan, Rose et al. (1998) reported an overall reliability of 0.68 for socio-oriented family communication dimension. The items adopted in their study were originally from Moschis and Moore (1979b).

In Hong Kong, Chan and Prendergast (2007) reported inter- item reliability of 0.69 for socio-oriented family communication. The items used to form the socio-oriented family communication scale were adopted from the study of Moschis et al. (1983), but originated from the study of Moschis and Moore (1979b).

In comparison, the socio-oriented family communication scale in this study has performed better, as a closer examination of the protective communication pattern scale reported a Cronbach's alphas of .71. The reliability of the concept-oriented family communication scale varied in different studies. In some studies the scale had performed rather poorly, while in others it demonstrated good reliability.

In Moschis et al. (1983) study which adapted the original items from the study of Moschis and Moore (1979b) to form the concept-oriented family communication dimension, reported that the alpha coefficients of reliability for concept-oriented family communication scale was .54. In comparison to the concept-oriented family

communication scale employed in Moschis et al. (1983) study, the pluralistic family communication pattern scale derived from concept-oriented family communication dimension has performed better in this study.

An examination of the pluralistic family communication scale reported a Cronbach's alpha of .61. However, studies showed that when the concept-oriented family communication scale was tested within the U.S context using the original items from Moschis and Moore (1979b) study, the scale had slightly performed better. For instance, Moschis and Mitchell (1986) reported Cronbach's alphas of .72 for concept-orientation of family communication structure in the U.S.

In Carlson et al. (1992) study, the concept-oriented family communication scale which was originated from the study of Moschis and Moore (1979b) had alpha reliability of .70. These studies reported higher Cronbach's alphas in comparison to the present study. The reliability of the religiously-oriented family communication scale in the present study was strong as the scale reported a Cronbach's alpha of .84.

This was similar to another study conducted by Abedin and Brettel (2011) in Germany which adopted the religious importance scale by Putney and Middleton (1961) as a measurement instrument of religiosity. In their study the scale also reported a strong reliability ( $\alpha=.89$ ).

In another study by Burroughs and Rindfleisch (2002) the scale adopted from Putney and Middleton (1961), even performed better than the present study ( $\alpha=.91$ ). In this study, the internal consistency score for peer communication was acceptable ( $\alpha = 0.73$ ). When the same instrument was adopted by Benmoyal-Bouzaglo and Moschis

(2009) across different populations and cross-culturally (in France), the scale has also reported a good alpha reliability coefficient ( $\alpha = 0.76$ ). When compared to other studies which have adopted similar items to form the peer communication scale, it can be concluded that the scale measuring peer communication in this study has performed better.

For instance, in Chan and Prendergast (2007) study in Hong-Kong among young adults, some of the items were adopted from the original study of Moschis and Moore (1982) to form peer communication measure, but the scale did not performed well although it was found to be reliable ( $\alpha = 0.57$ ).

In China, a study by Chan and Zhang (2007) adopted two items from the original study of Moschis and Moore (1982) to measure peer communication, and the scale reported an alpha reliability coefficient of 0.62. In contrast with these studies, this study reported an alpha reliability coefficient of 0.73 for peer communication and it proved to be better and more reliable.

The scale measuring materialism in this study has performed well. The scale reported a reported a good alpha reliability coefficient ( $\alpha = 0.76$ ). Although Wong et al. (2003) developed a reliable scale to measure materialism, it has not been extensively utilized by researchers. Very few studies have tested the scale across different populations.

In a study by Moschis et al. (2009) the scale developed by Wong and its associates have been tested in Malaysia. Nine of the fifteen items of the original scale was used in their study, as these items corresponded particularly well to young adults (18 to 22 years old). The alpha reliability of the scale was 0.70. In Moschis et al.

(2013), study among young adults in Brazil, six of the 15 items proposed by Wong and colleagues were not included in the materialism scale and the alpha reliability of the scale was 0.79. Rindfleisch et al. (2006) tested the Material Value Scale developed by Wong et al. (2003) in an East Asian setting, namely Singapore. The study adopted nine items from Wong and its associates and displayed good alpha reliability .71.

In conclusion, the result of this study has demonstrated a moderate to high internal consistency reliability (alpha range from 0.54 to 0.84) for the five constructs of this study. Among the measures, religiously-oriented family communication ( $\alpha=0.848$ ) tended to score the highest Cronbach's alpha value.

All measures of alpha coefficients for the scale used were above 0.50, ranging from 0.544 (laissez-faire family communication pattern) to 0.848 (religiously-oriented family communication scale). This indicated satisfactory reliability for the all measures used. Subsequently, summated mean scores of multiple indicators were created for the research constructs and used in further analyses.

In comparison to other studies, the protective family communication pattern scale in this study has performed better and reported a Cronbach's alphas of .71. Similarly, the pluralistic family communication pattern scale performed better than in other studies. A closer examination of the subscale mutuality of interest reported a Cronbach's alpha of .61. The reliability of the religiously-oriented family communication scale in this study was good and it was mostly similar to another study conducted by Abedin and Brettel (2011).

The scale measuring peer communication in this study also performed better when compared to other studies which have adopted similar items to measure peer

communication. As for the materialism instrument, the scale reported a reported a good alpha reliability coefficient ( $\alpha = 0.76$ ) and was similar to other studies which adopted the same instrument in different cultural context.

Nevertheless, there were several limitations associated with the use of Cronbach's alpha, including the fact that the alpha value was inflated as the larger number of items included in a scale (Sekaran, 2000). Additionally, satisfactory Cronbach's alpha value did not indicate unidimensionality of a particular scale (Gerbing and Anderson, 1987). Hence, confirmatory factor analysis was employed for the assessment of unidimensionality of the scales adopted in this study (to be discussed in Chapter 6).

## **5.6 Testing the Assumptions of Multivariate Analysis**

The test of assumptions was necessary as the violations of the assumptions affected subsequent use of multivariate statistical techniques (Hair et al., 2006). There were many assumptions and requirements associated with univariate and multivariate analysis. This study performed assumption testing based on four commonly applied requirements: normality, homoscedasticity, linearity, and multicollinearity.

### **5.6.1 Test of Normality**

Normality refers to the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution (Hair et al., 2006). Normality can occur at two levels: (1) univariate normality concerns the distribution of individual observed variables; and (2) multivariate normality refers to the joint distribution of observed variables (Kline, 2005). Normality can be tested examining the univariate

distribution as the assessment of multivariate normality is often difficult (Kline, 2005). Normality is required to use the F and t statistics. Hence, sufficiently large variation from the normal distribution will result in invalid statistical tests (Hair et al., 2006).

Two approaches were adopted to assess univariate assumptions. First, the distribution of data was examined using kurtosis and skewness. According to Hair et al. (2006), if the calculated z value for either skewness or kurtosis exceeds the critical values of  $\pm 2.58$  (.01 significance level) or  $\pm 1.96$  (.05 significance level), the distribution of data is considered nonnormal.

Table 5.7 presents the distributional statistics of all constructs of the study. Based on the univariate estimation of skewness and kurtosis, no serious violations of univariate normality were found. Specifically, the kurtosis values for socio-oriented family communication and religiously-oriented family communication were reported to be negative.

This suggested that the distribution of data for these variables was platykurtic (i.e., flatter than a normal distribution) whilst the remaining variables with positive kurtosis value were leptokurtic (i.e., more peaked than a normal distribution). As for skewness of data, it was found that all variables (with the exception of television viewing) were negatively skewed.

The kurtosis value and skewness value for television viewing variable fell outside the recommended range because television viewing variable was an *outlier*. Outliers were extreme values as compared to the rest of the data. Because television viewing variable was an outlier it rendered the variable non-normal. On this basis, television viewing variable was discarded from the test of normality.

**Table 5.7**  
**Summary of Distributional Statistics**

<b>Constructs</b>	<b>Kurtosis</b>	<b>Skewness</b>
Socio-Oriented Family Communication	-.026	-.128
Concept-Oriented Family Communication	.277	-.281
Religiously-Oriented Family Communication	-.075	-.591
Television Viewing	10.122	2.604
Peer Communication	.163	-.504
Materialism	.681	-.249

### **5.6.2 Test of Homoscedasticity**

Homoscedasticity refers to the assumptions that dependent variable(s) exhibit equal levels of variance across the range of independent variable(s) (Hair et al., 2006). The test of homoscedasticity was needed because the variance of the dependent variable being explained in the dependence relationship should not be concentrated in only a limited range of the independent values (Hair et al., 2006).

The present study tested the homoscedasticity for the metric variables using scatterplot (see Appendix B). The assumption on randomness of residuals would not be violated if scatterplot showed no definite patterns in the scatter of the data points. It was shown from the scatterplot that the pattern of data points did not have any definite patterns and thus had not violated the assumptions.

### **5.6.3 Test of Linearity**

The present study assessed linearity by running series of simple linear regression analysis and to examine the residuals using Normal Probability P-P Plot (Hair et al., 2006). The results for linearity assumptions are presented (Appendix C). It was expected that the points to be almost a straight line around the diagonal axis so as not to

violate the assumptions on the randomness of the residuals. In this case, the normal p-p plots seemed to conform to the expectation and thus had not resulted in the violation of the assumptions.

#### **5.6.4 Test of Multicollinearity**

Multicollinearity refers to a situation where two or more of the independent variables are highly correlated (Cooper and Schindler, 2003). Multicollinearity problems caused the ability to define any variable's effect to diminish, owing to their interrelationships (Hair et al., 2006). As multicollinearity increased, the estimated regression coefficients could fluctuate from sample to sample; this complicates the interpretation of the coefficients as an indicator of the relative importance of predicting variables (Cooper and Schindler, 2003).

The presence of high correlations (i.e., 0.90 or greater) indicated problem of collinearity (Kline, 2005). When the correlation matrix for the independent variables was examined, no evidence of collinearity was found. The highest correlation coefficient between predictors for the study was reported for the link between religiously-oriented family communication (TOTREL) and socio-oriented family communication (TOTSOCIO) at  $r=0.248$  (please refer to the correlation analysis shown in Table 5.10).

Another two common measures for assessing collinearity were tolerance and variance inflation factor (VIF). According to Kline (2005), smaller VIF value, usually less than 10.0, and tolerance value of greater than 0.10 but less than 1.0 would suggest absence of multicollinearity. Table 5.8 presents the multicollinearity assessment using tolerance and VIF. The tolerance values and VIF of this study indicated absence of

**Table 5.8**  
**Multicollinearity Test – Tolerance and VIF**

<b>Constructs</b>	<b>Tolerance</b>	<b>VIF</b>
Socio-Oriented Family Communication	0.898	1.114
Concept-Oriented Family Communication	0.885	1.130
Religiously-Oriented Family Communication	0.877	1.140
Peer Communication	0.905	1.105

multicollinearity problem. In summary, it was concluded that the data met the normality, homoscedasticity, linearity, and multicollinearity assumptions.

### 5.7 A Summary Statistics for All Main Constructs

The proportional mean scores for each construct were computed by summing the items and dividing by its respective number of items. The mean scale scores and distributional statistics are presented in Table 5.9.

**Table 5.9**  
**Summary Descriptive and Distributional Statistics of Main Constructs**

<b>Constructs</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>Kurtosis</b>	<b>Skewness</b>
Socio-Oriented Family Communication	19.47 (3.24)	4.35522	-.026	-.128
Concept-Oriented Family Communication	20.30 (3.38)	4.02412	.277	-.281
Religiously-Oriented Family Communication	18.12 (3.62)	4.67232	-.075	-.591
Peer Communication	10.91 (3.64)	2.43551	.163	-.504
Materialism	24.98 (3.56)	4.25617	.681	-.249

Notes: Figures in parenthesis are proportional means; based on item score that range from 1 (strongly disagree) to 5 (strongly agree).

The summary statistics for socio-oriented family communication construct included seven items, concept-oriented family communication consisted of six items, religiously-oriented family communication construct consisted of five items, and for

materialism construct it included seven items, from the exploratory measurement assessment using principal component analysis. Among all the constructs, the mean score was highest for materialism ( $M = 24.98$ ,  $SD = 4.25$ ) and lowest for peer communication ( $M = 10.91$ ,  $SD = 2.43$ ). Indeed, the dependent variable materialism scored the highest mean value.

Respondents felt medium to moderately high for socio-oriented family communication, concept-oriented family communication and religiously-oriented family communication, and peer communication. Overall, the respondents had the highest score on materialism ( $M = 21.57$ ,  $SD = 3.87$ ), followed by concept-oriented family communication ( $M = 20.30$ ,  $SD = 4.02$ ) with slightly lower mean score. The mean score for peer communication was the lowest ( $M = 10.91$ ,  $SD = 2.43$ ).

## **5.8 Correlations Between the Study Constructs**

Pearson correlation was employed to examine the associations between the main constructs of the proposed model. Table 5.10 presents the matrix of the estimated correlations for all the study constructs. The nature of the directional hypotheses of this study called for a one-tailed test.

According to Cohen (1992), a correlation coefficient between 0.10 and 0.29 indicated a weak correlation, a correlation coefficient between 0.30 and 0.49 indicated a medium correlation, and a correlation coefficient between 0.50 and 1.0 indicated a strong correlation. This study was based on Cohen's (1992) benchmark in interpreting the findings.

**Table 5.10**  
**Correlations Among Variables**

	TOTSOCIO	TOTCON	TOTREL	TOTPCOM	TOTTV	TOTMAT
TOTSOCIO	1					
TOTCON	.212**	1				
TOTREL	.248**	.229**	1			
TOTPCOM	.195**	.248**	.182**	1		
TOTTV	.009	-.005	.143**	.065*	1	
TOTMAT	.203**	.097**	.113**	.235**	.043	1

Note: TOTSOCIO = Socio-oriented family communication; TOTCON= Concept-oriented family communication; TOTREL= Religiously-oriented family communication; TOTPCOM = Peer communication; TOTTV = Television Viewing; TOTMAT = Materialism.

\*Correlation is significant at the 0.05 level (1-tailed).

\*\*Correlation is significant at the 0.01 level (1-tailed).

Referring to Table 5.10, overall significant positive correlations were reported for all the hypothesized relationships at .01 level and .05 level of confidence in the expected direction. With the exception of television viewing, the correlation between socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, peer communication and materialism were significant with a p value of  $\leq 0.01$ .

The correlation coefficient between **socio-oriented family communication** and **materialism** was positive ( $r=.203$ ) and significant at  $p=0.000$  (one-tailed). These findings were consistent with Moschis and Moore (1979a) which found socio-oriented family communication construct to be significantly correlated with materialism. The correlation coefficient between **concept-oriented family communication** and **materialism** was also positive ( $r= .097$ ) and significant at  $p=0.001$  (one-tailed).

The correlation coefficient between **religiously-oriented family communication** and **materialism** was positive ( $r= .113$ ) and significant at  $p= 0.000$  (one-tailed). Although there were no prior studies which have specifically looked at the correlation

between religiously-oriented family communication and materialism, there exist studies, which have looked into the relationship between religiosity and materialism. These studies have reported significant association between the two constructs.

For instance, Belk (1985) studied subjects across a variety of occupations and students at a religious institute. The expectation that religious institute groups would have the lowest materialism scores was supported. LaBarbera and Gürhan (1997) studied subjects across a variety of ages, education and income. Significant correlation was found between materialistic attitudes and religious service attendance. Burroughs and Rindfleisch (2002) conducted a study among adults American across a variety of age, education, race and income. In their study, materialism was negatively correlated with collective oriented values, such as religious values.

The correlation coefficient between **television viewing** and **materialism** was positive ( $r = .043$ ) but not significant at  $p = 0.090$  (one-tailed). This finding was in contradiction with previous studies. A study by Churchill and Moschis (1979) among adolescents indicated that the amount of television viewing was positively and significantly correlated with materialistic values. Reimer and Rosengren (1990) have also found evidence to support the close relationship between media use and values. Materialism was strongly related to watching television news and entertainment programs.

Shrum et al. (2003) conducted a study with adults in the U.S. The results provided empirical evidence that the increased in television viewing led to increase in material values. The correlation between daily television viewing and materialism and that of weekend television viewing and materialism were found to be significantly positive. Although in this study, a positive correlation was found between television

viewing and materialism, the relationship was however not significant and is in contrast with other studies.

The correlation coefficient ( $r$ ) between **peer communication** and **materialism** was positive ( $r = .235$ ) and significant at  $p = 0.000$  (one-tailed). The finding was consistent with a study conducted by Moore and Moschis (1978a) among adolescents in which their findings indicated that consumption plans may be discussed with peers.

Another study conducted by Moschis and Churchill (1978) among adolescents indicated that peer communication about consumption variable was related positively to the adolescent's materialism. Moore and Moschis (1981) conducted a study among respondents from sixth through twelve grade students and their result indicated that the frequency of peer seems to lead to the development of materialistic orientations.

The correlation coefficient between **socio-oriented family communication** and **peer communication** was positive ( $r = .195$ ) and significant at  $p = 0.000$  (one-tailed), and **concept-oriented family communication** and **peer communication** was positive ( $r = .248$ ) and significant at  $p = 0.000$  (one-tailed). These findings were consistent with the work Churchill and Moschis (1979) among adolescents.

One of the major findings of their study found that family communication about consumption matters increased with the amount of peer communication. Peer communication about consumption did increase with age and with the amount of family communication about consumption.

When the correlation between the predictors and peer communication were examined, significant correlation were found between **religiously-oriented family**

**communication** and **peer communication** ( $r=.182$ ) and significant at  $p=0.000$  (one-tailed). Very few studies have provided support for the link between religiously-oriented family communication at home and its relationship with peer communication. For instance, Kamaruddin and Mokhlis (2003) reported that religious group affiliations were found to correlate with the influence of peers.

Significant correlation were also found between **television viewing** and **peer communication** ( $r=.065$ ) and significant at  $p= 0.023$  (one-tailed). The result was consistent with a study conducted by Moschis and Churchill (1978), in which their findings indicated that peer communication about consumption was significantly related to social utility reasons for viewing television programs and commercials.

The research objectives of the present study were established to analyze not just the associations between constructs, but also to predict values of the dependent variables from values of the independent variables as well as examining the role of peer communication as a potential mediating variable. Obviously, these objectives could not be accomplished with merely the use of Pearson correlation analysis. Therefore, analytical statistical tool such as the SEM technique was employed subsequently for hypotheses testing.

## **5.9 Demographic Differences Between All the Constructs of the Study**

This section reports an investigation of demographic differences in socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, television viewing, peer communication and materialism constructs. Preliminary statistical procedures were employed to examine possible significant group differences in all the constructs based on gender, age, ethnicity,

religion, marital status, education, and income. Independent sample t-tests were used for examining the gender differences in all constructs. Next, one-way analysis of variance was utilised to determine the significant differences in terms of age, ethnicity, religion, marital status, education, and income with respect to their responses on the various measures. When there were significant differences, Post Hoc Tests (Scheffe) were used to determine the particular groups which differed significantly within a significant overall one-way analysis of variance.

### **5.9.1 Gender Differences Between All the Constructs of the Study**

The relationships between gender, socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, television viewing, peer communication and the materialism constructs were investigated by testing the significance of the mean differences between male and female.

The results in Table 5.11, showed that the mean differences between male and female were significant for the majority of measures with the exception of socio-oriented family communication and religiously-oriented family communication.

Referring to Table 5.11, for **socio-oriented family communication**, this study reported no significant gender difference in relation to young adults which stressed a socio-oriented family communication at home during their adolescent years. In terms of **concept-oriented family communication**, it appeared that male and female considerably stressed a different level of concept-oriented family communication at home. Specifically, young female adults were found to have higher concept-oriented family communication structure at home during their adolescent years as compared to their male counterparts.

**Table 5.11**  
**Gender Differences Between All the Constructs of the Study**

Constructs	Mean <sup>a</sup>		t-value	Significance <sup>b</sup>
	Male	Female		
Socio-Oriented Family Communication	19.46 (3.24)	19.48 (3.24)	-0.075	0.321
Concept-Oriented Family Communication	19.78 (3.29)	20.64 (3.44)	-3.256	0.01*
Religiously-Oriented Family communication	17.91 (3.58)	18.26 (3.65)	-1.137	0.853
Television Viewing <sup>c</sup>	23.76 (4.75)	19.76 (3.95)	3.494	0.000*
Peer Communication	10.40 (3.46)	11.25 (3.75)	-3.346	0.000*
Materialism	24.81 (3.51)	25.09 (3.55)	-0.984	0.012*

Note: a Higher score represented greater agreement with the attributes; b Level of significance using t-tests; c open scale ranged from 0 to 48.

\* The mean difference was significant at  $p < .05$

No empirical studies have so far examined gender differences with concept-oriented communication in the existing literature. Hence, comparison could not be made with regards to concept-oriented communication, and its association with gender.

For **religiously-oriented family communication**, the present study reported no significant gender difference in relation to young adults which stressed a religiously-oriented family communication at home during their adolescent years. However, prior studies on gender and religiosity have found significant differences between males and females. For instance, a study by Argue et al. (1999) found that males had lower levels of religiosity than females. The present study found significant association between gender and **peer communication**.

Specifically, it was found that female had more interaction and discussed more with their peers with regards to consumption matters in comparison to their males counterpart. This finding converged with a study by Taylor (1998) to examine the relationship between prosocial peer interaction and academic outcomes in a normative

sample of African-American adolescents. The results indicated that adolescent females reported higher mean level of peer communication and support in comparison to males.

In terms of **television viewing**, it appeared that male and female considerably stressed a different level of television viewing at home. Specifically, young male adults were found to spend more time watching television at home as compared to their female counterparts. The result somewhat converged with other studies which found that males tended to spend more time watching television compared to females. For instance,

Anderson et al. (2008) examined the prevalence of adolescents having a television in their bedrooms. Gender was associated with the presence of a bedroom television. Compared with boys without a bedroom television, boys with a bedroom television reported more time spent watching television (22.2 vs 18.2 hours/week).

Referring to Table 5.11, in terms of **materialism**, it appeared that male and female had considerably different evaluations about the level of materialistic values. Specifically, young female adults were found to have a slightly more positive attitude towards materialistic values than their male counterpart.

This was consistent with a study by Cherrier and Munoz (2008) among mall patrons in Dubai which aimed to appreciate the differences and similarities between Arab and non-Arab consumers evolving together in a globalizing landscape. Their findings indicated that female had higher level of materialism in comparison to their male counterpart. Similarly, in Workman and Lee (2011) and Kongsompong et al. (2010) studies, it was found that females tended to score higher on materialism than males.

### 5.9.2 Age Differences Between all the Constructs of the Study

A one-way ANOVA was computed to compare the mean differences among three age groups with all the constructs of this study. Table 5.12 presents a summary of the ANOVA results. Overall, there were no significant associations between age and socio-oriented family communication, concept-oriented family communication and peer communication.

The one-way ANOVA results showed significant association between age and religiously-oriented family communication, television viewing and materialism. Comparisons of findings between the present findings and the past research will be discussed in the following paragraphs.

Referring to Table 5.12, the present study found that age had no influence on the subjects' **socio-oriented family communication**. From the existing literature, no research has looked into the association between age and socio-oriented family communication. Hence, comparison could not be made with regards to socio-oriented family communication and its association with age.

The present study found that age had no significant influence on subjects' **concept-oriented family communication**. Prior studies have not examined and reported the association between age and concept-oriented family communication. Hence, comparison could not be made with regards to concept-oriented family communication and its association with age. One study by Moschis and Mitchell (1986) presented the results of the effects of television advertising and interpersonal communication on teenager's consumer behaviour and found that age was negatively associated with family communications.

**Table 5.12**  
**Age Differences Between All the Constructs of the Study**

Constructs	Age Group (Mean) <sup>a</sup>			F	Sig <sup>b</sup>	Group Comparison (Scheffe)
	<19 G1	20-29 G2	30-40 G3			
Socio-Oriented Family Communication	3.32	3.27	3.41	1.935	0.145	Not significant
Concept-Oriented Family Communication	3.39	3.41	3.18	5.211	0.06	Not significant
Religiously-Oriented Family Communication	3.37	3.69	3.81	12.768	0.00	G3>G1 G2>G1
Television Viewing <sup>c</sup>	2.65	3.17	3.25	4.140	0.01	G3>G1 G2>G1
Peer Communication	3.64	3.66	3.46	2.686	0.06	Not significant
Materialism	3.63	3.53	3.63	3.171	0.04	G1>G2 G3>G2

Note: a Higher score represented greater agreement with the attributes; b Level of significance using one-way ANOVA; c open scale ranged from 0 to 48.

\* The mean difference was significant at  $p < .05$

The present results found that age had an influence on the subjects' **religiously-oriented family** communication. It was found that subjects in the age group of "30 to 40 years" were significantly scoring higher on religiously-oriented family communication during their adolescent years compared to those in the age group of "less than 19". Subjects in the age group of "20-29 years old" were significantly scoring higher on religiously-oriented family communication compared to those in the age group of "less than 19 years".

No research has specifically examined the association between age and religiously-oriented family communication. However, research on age and religiosity has previously found significant differences between various age group and religiosity. For instance, Argue et al. (1999) used pooled time series with random and fixed effects

regression models, to examine the effect of age on a measure of religious influence on daily life in a panel of 1,339 adults interviewed three times between 1980 and 1992. The results showed a significant, non-linear increase in religiosity with age, with the greatest increase occurring between ages 18 and 30. Their results converged with the findings of this study in the sense that religiosity tended to be higher at the age of 30 years old.

The present study found that age had no significant influence on subjects' **peer communication**. Hence, comparison could not be made for the relationship between age and peer communication. However, past research has found significant association between age and peer communication.

In a study among adolescents in the U.S, Moschis and Moore (1982) examined the effects of television advertising on the development of specific consumption-related orientations (materialistic values) among adolescents indicated that “youngsters” tended to discuss consumption matters among themselves or with their peers. The results of the post-hoc Scheffe test reported three age groups to be significantly different with respect to **television viewing**.

Specifically, subjects from the oldest age group (i.e., “30 to 40 years old”) were found to be significantly scoring higher on television viewing compared to the youngest age group (i.e., “19 years old and below”). This study was consistent with the findings of Parker (2003) who examined the relationship of mass media, religion, and secularization theory with regard to civic participation.

Specifically, it was found that older individuals watch television more. Lastly, the present study found significant age difference in the **materialism** construct. It was

found that subjects in the age group of “19 years old and below” were significantly scoring higher on materialism construct compared to those in the older age group of “20 to 29 years old”. However, subjects in the age group of “30 to 40 years old” were also significantly scoring higher on materialism construct compared to those in the age group of “20 to 29 years old”.

There results were somehow contradicting, but was however consistent with previous studies. For instance, Moore and Moschis (1981) conducted a study among respondents (N=784) from sixth through twelve grade students in the U.S, and found that age was a strong predictor of materialistic values ( $b=.14$ ,  $p<.001$ ).

Specifically, it was found that younger adolescents tended to be more materialistic than their older counterparts. In contrast, Chan et al. (2006) have examined the attitudes of Chinese adolescents to materialism, including the effect of age on materialism and the influence of family and peers. Their results indicated that older adolescents were more materialistic than younger ones.

### **5.9.3 Ethnicity Differences Between All the Constructs of the Study**

Prior to an examination of ethnic group differences among all the constructs of the study, the sample was re-examined. The sample consisting of “Others” group was discarded from the analysis as the sample size ( $n=89$ ) was too small for comparison purposes, and the sample group was too diverse. Table 5.13 presents the results of ethnicity differences between all the constructs of the study.

With the exception of materialism, an examination of the various ethnic group differences among the constructs revealed that ethnicity differences was found in socio-

**Table 5.13**  
**Ethnicity Differences Between All the Constructs of the Study**

Constructs	Ethnicity Group (Mean) <sup>a</sup>			F	Sig <sup>b</sup>	Group Comparison (Scheffe)
	Malay	Chinese	Indian			
Socio-Oriented Family Communication	2.82	2.68	2.85	5.052	.007*	Indian>Chinese Malay>Chinese
Concept-Oriented Family Communication	3.32	3.34	3.60	7.357	.001*	Indian>Malay Chinese>Malay
Religiously-Oriented Family Communication	3.99	2.92	3.60	148.159	.000*	Malay>Chinese Indian>Chinese
Television Viewing <sup>c</sup>	3.36	2.60	2.58	10.477	.000*	Malay>Indian Chinese>Indian
Peer Communication	3.70	3.52	3.49	6.360	.002*	Malay>Indian Chinese>Indian
Materialism	3.59	3.51	3.64	2.224	.084	Not Significant

Note: a Higher score represented greater agreement with the attributes; b Level of significance using one-way ANOVA; c open scale ranged from 0 to 48.

\* The mean difference was significant at  $p < .05$

oriented family communication, concept-oriented family communication, religiously-oriented family communication, peer communication and television viewing measures.

Referring to Table 5.13, in terms of socio-oriented family communication construct, the present study found that Indian had higher mean score on socio-oriented family communication construct in comparison to Chinese.

Malays also tended to have a higher score on the socio-oriented family communication in comparison to Chinese. In other words, based on the findings on this study, it meant that Indian and Malays tended to emphasize more on a socio-oriented family communication at home during their adolescent years, in comparison to Chinese.

For concept-oriented family communication construct, this study also found that Indian sample had a higher mean score on concept-oriented family communication construct in comparison to Malay sample. Chinese sample also had a higher score on concept-oriented family communication in comparison to Malays. In other words, based on the findings on this study, it meant that Indian and Chinese samples tended to emphasize more on a concept-oriented family communication at home during their adolescent years, in comparison to Malay sample.

This is in contrast with other studies. For instance, Chan and McNeal (2003) have conducted a study with parents (N=1,665) of children aged 6 to 14 in China and found that Chinese parents reported a higher level of socio-oriented family communication. No prior studies were found in the existing literature that examined the ethnicity differences across socio-oriented family communication, and concept-oriented family communication constructs in Malaysia. There were however studies which have looked at specific cultural context such as in China.

This study also found that Malay sample had a higher mean score on religiously-oriented family communication during their adolescent years in comparison to Indian sample. Indian sample had a higher mean score on the religiously-oriented family communication during their adolescent years scale in comparison to Chinese sample. No prior studies were found in the existing literature that examined ethnicity and the construct of religiously-oriented family communication.

Studies have however been conducted across international samples for comparison purposes. For instance, Speck and Roy (2008) conducted a study with college students (N=1211) undergoing undergraduate studies across the U.S., New Zealand, New Europe, Latin America, the middle east, the far and southeast. The result

revealed that the Far South East region (China and India) had the lowest score on religiosity, while Latin America (Argentina, Chile, and Mexico) had the highest score for religiosity.

This study found significant differences across ethnic groups and television viewing. Malay sample had a higher mean score for television in comparison with Indian sample. Indian sample had a higher mean score for television in comparison with Chinese sample. The findings of this study indicated that Chinese ethnic group tended to watch less television in comparison to Malays and Indian groups. A study by Idris (2011) which examined the most preferable media by consumers in Malaysia indicated that in comparison to Chinese, Malays tended to watch more television and television was there preferred media.

For peer communication constructs, Malay sample had a higher mean score in comparison to Indian sample. Chinese sample had a higher mean score in comparison to Indian sample. A study by Dzu hailmi et al. (2011) which examined socio demographic factors that influenced the social bonding youths in Malaysia found that social bonding of Malay youths were better than non-Malay youths in terms quality of communication with peer groups.

This results was consistent with the recent study conducted by Kamaruddin and Mokhlis (2003) using adolescents high school students (N=934) between the ages of 16 and 19 years in Malaysia, to investigate how the process of consumer socialization determine adolescents' decision-making styles. From the perspective of ethnicity, Chinese youngsters, compared with Malays, were less likely to interact with their peers. The present study found no significant differences between ethnicity and materialism. In previous study conducted by Wong et al. (2003) the materialism value scale were

found to be strongly correlated for Americans but weakly correlated (at the factor levels) among East Asians. This could explain why no significant differences were found between ethnicity and materialism in Malaysia in this study.

#### **5.9.4 Religion Differences Between All the Constructs of the Study**

The relationships between religion variable and all main constructs of this study were investigated by testing the significance of the mean differences between the four different religious groups. Due to a low sample size (n=19) and diversity of the sample group, the “Other” group for religion was dropped in the analysis. Table 5.14 presents the results of religion differences between all the constructs of the study.

The results in Table 5.14 showed that the mean differences between religious groups were significant for all the measures with the exception for socio-oriented family communication and materialism. Referring to Table 5.14, with regards to the study constructs where the mean differences were significant, subjects who practiced “Hinduism” tended to score higher on the concept-oriented family communication during their adolescent years at home than subjects who practiced “Buddhism.”

Subjects who practiced “Christianity” tended to score higher on the concept-oriented family communication during their adolescent years at home than subjects who practiced “Buddhism.” Subjects who practiced “Islam” tended to score higher on the concept-oriented family communication during their adolescent years at home than subjects who practiced “Buddhism.” No empirical studies have thus far examined religious differences with concept-oriented family communication constructs. Hence, comparison of the present findings to past research could not be made.

**Table 5.14**  
**Religion Differences Between All the Constructs of the Study**

Constructs	Religious Group (Mean) <sup>a</sup>				F	Sig b	Group Comparison (Scheffe)
	G1	G2	G3	G4			
Socio-Oriented Family Communication	3.28	3.18	3.28	3.18	1.321	.266	Not Significant
Concept-Oriented Family Communication	3.35	3.34	3.63	3.40	4.699	.003*	G3>G2 G4>G2 G1>G2
Religiously-Oriented Family Communication	3.96	2.77	3.57	3.45	107.942	.000*	G1>G2 G3>G2 G4>G2
Television Viewing <sup>c</sup>	4.61	3.77	3.56	3.84	4.836	.002*	G1>G3 G4>G3 G2>G3
Peer Communication	3.69	3.57	3.50	3.59	2.416	.065	G1>G3 G4>G3 G2>G3
Materialism	3.57	3.52	3.66	3.52	1.354	.255	Not Significant

Note1: a Higher score represented greater agreement with the attributes; b Level of significance using one-way ANOVA; c open scale ranges from 0 to 48.

Note2: the “other” group was excluded due to too small the sample size (N=19) for one-way ANOVA analysis

Note3: Islam (G1); Buddhism (G2); Hinduism (G3); Christianity (G4)

\* The mean difference was significant at  $p < .05$

An examination of the findings of the study indicated that subjects who practiced “Islam” tended to emphasize more frequently on a religiously-oriented family communication during their adolescent years at home compared to subjects who practiced “Buddhism”. It has also been found that subjects who practiced “Hinduism” tended to practice and emphasize more frequently on a religiously-oriented family communication during their adolescent years at home compared to subjects who practiced “Buddhism.”

Subjects who practiced “Christianity” tended to emphasize more frequently on a religiously-oriented family communication during their adolescent years at home compared to subjects who practiced “Buddhism.” There were no empirical studies which has thus far examined religious group differences and religiously-oriented family

communication measures in the existing literature. Hence, comparison of the present findings to past research could not be done.

This study also found that subjects who practiced “Islam” tended to watch television more frequently in comparison with subjects who practiced “Hinduism.” Subjects who practiced “Christianity” tended to watch television more frequently in comparison with subjects who practiced “Hinduism.” Subjects who practiced “Buddhism” tended to watch television more frequently in comparison with subjects who practiced “Hinduism.”

A possible explanation for the high tendency for subject who practiced “Islam” to watch television frequently could be that subjects were tolerant of advertising that does not go too far in confronting Islamic values and were more positive about its benefits (Al-Makaty et al., 1996).

A study conducted by Al-Makaty et al. (1996) in Saudi Arabia with male respondents aged between 17 to 55 years old to measure attitudes towards media usage identified three groups, Type 1, Type 2 and Type 3. In Type 1, men associated with this type saw television advertising, and perhaps television as a whole, as a threat. They felt more strongly than others that men should remove television set from their home when they caused family member to question values. They strongly felt that the promotion of a consumer culture was at odds with Islamic principles. They tended to feel that television advertising was more offensive to Islamic life than is print advertising.

In Type 2, men of this type wished to protect Islamic values but were tolerant of advertising that does not go too far in confronting those values. Type 2 men

acknowledged that the introduction of Western ideas through advertising had the potential to undermine Islamic values.

They felt advertising encouraged people to be more interested in themselves than in others. Men associated with Type 3 tended to reject the idea that television advertising threatened traditional values, and they were more positive about its benefits.

The findings of this study also found that the mean differences between religious groups were significant with peer communication. Subjects who practiced “Islam” as their religious beliefs tended to score higher means on peer communication than subjects who practiced “Hinduism.” Subjects who practiced “Islam” as their religious beliefs tended to score higher means on peer communication than subjects who practiced “Hinduism.”

Subjects who practiced “Christianity” as their religious beliefs tended to score higher means on peer communication than subjects who practiced “Hinduism.” Subjects who practiced “Buddhism” as their religious beliefs tended to score higher means on peer communication than subjects who practiced “Hinduism.”

There were no empirical studies which has thus far examined religious group differences and peer communication measures in the existing literature. However a study by Putnam (2000) pointed out that people who belong to religious group tended to have more social commitment and contacts in their lives; this increase social interaction may allow for greater peer influence. The study also pointed out that there has been no investigations of possible peer influence on religiousness into adulthood beyond friendship network.

The mean differences between religious groups and materialism was not significant in this study. However, there were studies which have found significant differences between religion group and materialism. For instance, Kau et al. (2000) conducted a study to measure the effect of materialistic inclination on the degree of life satisfaction.

Their results revealed that the level of materialistic inclination differed significantly between respondents with different religious affiliation. With regards to religion, respondents from different religious affiliation, namely, Buddhism, Taoism, Islam, Hinduism, Christianity and no religion were represented. It was noted that people with no religious affiliation appeared to be more materialistic in their outlook.

#### **5.9.5 Marital Status Differences Between All the Constructs of the Study**

The associations between marital status and all the constructs of the study were investigated by testing the significance of the mean differences between three different groups in terms of their marital status. Table 5.15 presents the results of marital status differences between all the constructs of the study.

The results in Table 5.15, indicated that the mean scores between subjects who were single, married with children, and married without children were mostly not significantly different with regards to all the main constructs, except for the religiously-oriented family communication measures. Subjects who were “married with children” tended to score higher on the religiously-oriented family communication during their adolescent years at home than subjects who were “married without children.” Subjects who were “single” tended to score higher on the religiously-oriented family communication during adolescent years than subjects who were married with no child.

**Table 5.15**  
**Marital Status Differences Between All the Constructs of the Study**

Constructs	Marital Status (Mean) <sup>a</sup>			F	Sig <sup>b</sup>	Group Comparison (Scheffe)
	Single G1	Married With Children G2	Married Without Children G3			
Socio-oriented family communication	3.29	3.39	3.33	0.803	.448	Not Significant
Concept-oriented family communication	3.40	3.22	3.32	2.333	0.09	Not Significant
Religiously-oriented family communication	3.00	3.29	2.91	4.744	0.00*	G2>G3 G1>G3
Television Viewing <sup>c</sup>	2.83	3.03	3.54	1.095	.335	Not Significant
Peer communication	1.82	1.78	1.82	.364	.695	Not Significant
Materialism	4.15	4.28	4.13	1.134	.322	Not Significant

Note1: a Higher score represented greater agreement with the attributes; b Level of significance using one-way ANOVA; the “divorced/widowed” group was excluded due to too small the sample size (N=7) for one-way ANOVA analysis; c open scale ranges from 0 to 48.

Note2: Single (G1); Married with Children(G2); Married without Children (G3)

Note3: ºmarginally significant; \* The mean difference was significant at  $p < .05$

Comparison of the present findings to past research could not be done for all the measures of this study, as in most cases no empirical study has thus far examined marital status differences in relation to socio-oriented family communication, concept-oriented family communication, religiously-oriented family and peer communication constructs.

A study on the correlates of materialism among Singaporean Chinese by Metha and Kau (1985) found that individuals with no children had lower money orientation than those with children. Individuals with small children (below 5 years old) and with grown up children (above 18 years old) showed greater money orientation than those having children between 5 and 18 years old.

### 5.9.6 Education Level Differences Between All the Constructs of the Study

The same statistical tool was used to examine the association between all the constructs of the study and education level. Table 5.16 presents the results of education group differences between all constructs of the study.

The result of this study showed that “education level” did not exert any influence on the majority of the main constructs, with the exception of religiously-oriented family communication. Referring to Table 5.16, in contrast with this study finding, which did

**Table 5.16**  
**Education Group Differences Between All Constructs of the Study**

Constructs	Education Level Group (Mean) <sup>a</sup>			F	Sig <sup>b</sup>	Group Comparison (Scheffe)
	G1	G2	G3			
Socio-Oriented Family Communication	3.34	3.28	3.20	2.242	.107	Not Significant
Concept-Oriented Family Communication	3.34	3.41	3.37	.492	.612	Not Significant
Religiously-Oriented Family Communication	3.62	3.49	3.69	4.733	.009*	G3>G2 G1>G2
Television Viewing <sup>c</sup>	4.04	4.41	4.23	.525	.592	Not Significant
Peer Communication	3.63	3.60	3.66	.510	.601	Not Significant
Materialism	3.54	3.62	3.54	1.896	.151	Not significant

Note1: a Higher score represented greater agreement with the attributes; b Level of significance using one-way ANOVA; c open scale ranges from 0 to 48.

Note2: the “Primary School or less” group and “PMR/SR/LCE” group has been combined with “SPM/SPVM/MCE/O-level” due to small sample size problem, “Primary School or less” group (N=1) and “PMR/SR/LCE” group (N=3).

Note3: SPM/SPVM/MCE/O-level and below (G1); College Diploma (G2); University or Professional Degree (G3)

\* The mean difference was significant at  $p < .05$ .

not found any significant association between education level and socio-oriented family communication communication as well as concept-oriented family communication,

Chan and McNeal (2003) found significant differences across the education level and concept-oriented family communication.

Referring to Table 5.16, based on the one-way ANOVA analysis, the results showed that subjects “education level” exerted an influence on religiously-oriented family communication. The Scheffe’s post-hoc group comparison found the mean scores between subjects different education level was significantly related to the religiously-oriented family communication measures. Subjects with higher education “university degree or professional degree” tended to score higher means on religiously-oriented family communication during their adolescent years in comparison to subjects with lower education level “College Diploma” and “SPM/ ‘O’ Level/ and Below.”

The findings of this study somehow converged with a study by Gruber (2005) which examined the implications of religiosity for economic outcomes which found that a higher market density leads to a significantly increased level of religious participation, and as well to better outcomes according to several key economic indicators which included higher levels of education.

Albrecht (1998) presented a study that demonstrated the consequences of religion in the lives of Latter-day Saints. The study on Latter-day Saint samples demonstrated a strong positive relationship between level of education and religiosity. For men in the sample, weekly attendance at Sunday services went from a low of 34 percent for those with only a grade school education to 80 percent for those with postgraduate experience. For women, the results were the same except for the modest drop-off in attendance for women with post-baccalaureate experience.

In contrast with the findings of this study, which did not find any significant association between education level and television viewing, other studies have however found significant differences across the education level and television viewing. For instance, Easterlin and Crimmins (1991) conducted two national sample surveys of American youth; college freshmen and high school students and found that compared to teenagers, college students who were better educated could not resist some materialistic influences of television and commercials.

A study conducted by Kang et al. (1996) among American junior and senior high school students have also found that among young students, those with less educated parents, tended to be heavy viewers of television. In contrast with the findings of this study, which did not find any significant association between education level and materialism, other studies have found significant association between education level and materialism.

In other studies which examined the relationship between materialism and educational level, Metha and Kau (1985) have examined the extent of materialism among Chinese in Singapore and provided insight into the relationships between materialism and education level. Materialism in the study was measured on the basis of four different constructs, namely money orientation, possessiveness, non-generosity and envy. In the study, money orientation negatively varied with education.

#### **5.9.7 Income Differences Between All the Constructs of the Study**

The mean differences of four income groups with regards to all the constructs of the study were compared using one-way ANOVA analysis. Table 5.17 presents the results of income differences between all the constructs of the study. This study found

significant income group differences only for concept-oriented family communication and television viewing measures.

While this study reported significant association between concept-oriented family communication, television viewing and income level; socio-oriented family communication, religiously-oriented family communication, peer communication and materialism, were found to have no significant relationship with income level. This study found that income level was significantly related to concept-oriented family communication measures. Subjects in the income category “Below RM1000” tended to have a higher mean score on the concept-oriented family communication during their adolescent years in comparison to subject in the income category “RM4000 to RM5999.”

**Table 5.17**  
**Income Group Differences Between All Constructs of the Study**

Constructs	Income Group (Mean) <sup>a</sup>				F	Sig <sup>b</sup>	Group Comparison (Scheffe)
	G1	G2	G3	G4			
Socio-Oriented Family Communication	3.26	3.23	3.16	3.31	.844	.470	Not Significant
Concept-Oriented Family Communication	3.44	3.29	3.28	3.17	5.564	.001*	G1>G4 G2>G4 G3>G4
Religiously-Oriented Family Communication	3.56	3.74	3.70	3.72	1.996	.113	Not Significant
Television Viewing <sup>c</sup>	4.13	5.18	3.91	4.75	4.144	.006*	G2>G3 G1>G3
Peer Communication	3.66	3.67	3.57	3.46	1.385	.246	Not Significant
Materialism	3.56	3.51	3.58	3.64	.696	.555	Not Significant

Note1: a Higher score represented greater agreement with the attributes; b Level of significance using one-way ANOVA; c open scale ranged from 0 to 48.

Note2: the “RM6000 to RM7999, “RM8000 to RM9999 was excluded due to too small the sample size (N=13) for one-way ANOVA analysis.

Note3: Below RM1000 (G1); RM1000 to RM1999 (G2); RM2000 to RM3999 (G3); RM4000 to RM5999 (G4)

\* The mean difference was significant at  $p < .05$ .

Subjects in the income category “RM1000 to RM1999” tended to have a higher mean score on the concept-oriented family communication during their adolescent years in comparison to subject in the income category “RM4000 to RM5999.” Subjects in the income category “RM2000 to RM3999” tended to have a higher mean score on the concept-oriented family during their adolescent years in comparison to subject in the income category “RM4000 to RM5999.” This study is contrast with a study by Chan and McNeal (2003) in which families with a higher household income engaged more frequently and directly in concept-oriented family communication (please refer to Table 5.17).

This study found that income level was significantly related to television viewing. Subjects in the income category “RM1000 to RM1999” tended to have a higher mean score on the television viewing construct in comparison to subject in the income category “RM2000 to RM3999.” Subjects in the income category “below RM1000” tended to have a higher mean score on the television viewing construct in comparison to subject in the income category “RM2000 to RM3999.”

The findings of this study also converged with a study by Kang et al. (1996) among American junior and senior high school students. In their study on the various demographic variables considered, Pearson correlations revealed highly significant relationships between television viewing and income level. Specifically, younger students, those with low incomes tended to be heavy viewers of television. On the other hand, older students, those with high income, tended to view less television.

This study found that income level was not significantly related to materialism construct. This was consistent with other studies whereby no association were found between materialism and income (for e.g., Richins and Dawson, 1992; Burroughs and

Rindfleisch, 2002). However, in contrast, previous studies have also found significant association between income level and materialism. For instance, in Richins (1987) study, materialism had a positive relationship with satisfaction with income level and materialism moderated the relationship between income satisfaction and global life satisfaction.

## **5.10 Chapter Summary**

In summary, this chapter has presented the results of the preliminary statistical analyses for this study. Of the 1,200 questionnaires distributed, 956 completed questionnaires were usable for the data analyses. Of the 956 respondents who completed the questionnaire, 39.9% were males and 60.1% were females. Generally, the majority of the sample consisted of Malay respondents (52.2%), followed by Chinese respondents (28.2%) and Indians (10.7%) and other ethnic groups formed (9.0%) of the sample. It was observed that more than two third of the responding sample were single (87.8%), while (11.3 %) were married.

Principal component analysis was performed separately on 37 statements representing all the constructs to identify their dimensionality. The Bartlett's test of sphericity indicated that factor analysis was appropriate to be used for analysing the factors. The principal components analysis performed extracted nine factors. These factors accounted for 52.5% of the total variance.

The results of principal component analysis revealed that socio-oriented produced two typologies, namely consensual family communication pattern and protective family communication pattern. The two factors accounted for 10.9% of the total variance. Concept-oriented family communication produced two typologies, namely, pluralistic

family communication pattern and laissez-faire family communication pattern. For religiously-oriented family communication construct, the results of rotated factor matrix indicated factor loadings of five significant item statements. Peer communication construct contained three significant item statements. For materialism, seven significant items loading on one factor were retained for subsequent analysis and the construct accounted for 16.1% of the total variance.

The internal consistency reliabilities of the scale were next assessed. Overall, the scales displayed an acceptable degree of reliability with a Cronbach's alpha coefficient ranging from 0.54 to 0.84 for all the study constructs. Two approaches were adopted to assess univariate assumptions. Based on the univariate estimation of skewness and kurtosis, no serious violations of univariate normality were found. As for skewness of data, it was found that all variables (with the exception of television viewing) were negatively skewed. The kurtosis value and skewness value for television viewing variable fell outside the recommended range because television viewing variable was an outlier.

Because television viewing variable was an outlier it rendered the variable non-normal. On this basis, television viewing variable was discarded from the test of normality and from subsequent analysis in the final structural model. Pearson correlation was employed to examine the associations between the main constructs of the proposed model.

Overall, significant positive correlations were reported for all the hypothesized relationships at .01 level and .05 level of confidence in the expected direction. With the exception of television viewing, the correlation between socio-oriented family communication, concept-oriented family communication, religiously-oriented family

communication, peer communication and materialism were significant with a p value of  $\leq 0.01$ . The correlation coefficient between television viewing and materialism was positive ( $r = .043$ ) but not significant at  $p = 0.090$  (one-tailed).

The correlation coefficient between socio-oriented family communication and peer communication was positive ( $r = .195$ ) and significant at  $p = 0.000$  (one-tailed), and concept-oriented family communication and peer communication was positive ( $r = .248$ ) and significant at  $p = 0.000$  (one-tailed). When the correlation between the predictors and peer communication were examined, significant correlation were found between religiously-oriented family communication and peer communication ( $r = .182$ ) and significant at  $p = 0.000$  (one-tailed). Significant correlation were also found between television viewing and peer communication ( $r = .065$ ) and significant at  $p = 0.023$  (one-tailed).

Preliminary statistical procedures were employed to examine possible significant group differences in all the constructs based on gender, age, ethnicity, religion, marital status, education, and income. In terms of gender differences between all the constructs of the study, the results showed that the mean differences between male and female were significant for the majority of measures with the exception of socio-oriented family communication and religiously-oriented family communication.

In addition to that, a one-way ANOVA was computed to compare the mean differences among three age groups with all the constructs of this study. Generally, subjects in the age group of "30 to 40 years old" were significantly scoring higher on religiously-oriented family communication during their adolescent years compared to those in the age group of "less than 19". Subjects from the oldest age group (i.e., "30 to 40 years old") were found to be significantly scoring higher on television viewing

compared to the youngest age group (i.e., “19 years old and below”). Subjects in the age group of “19 years old and below” were significantly scoring higher on materialism construct compared to those in the older age group of “20 to 29 years old”.

With the exception of materialism, an examination of the various ethnic group differences among the constructs revealed that ethnicity differences were found in all the constructs of the study. The relationships between religion variable and all main constructs of this study were investigated by testing the significance of the mean differences between the four different religious groups. The mean differences between religious groups were significant for all the measures with the exception for socio-oriented family communication and materialism.

The associations between marital status and all the constructs of the study were investigated by testing the significance of the mean differences between three different groups in terms of their marital status. The findings showed that the mean scores between subjects who were single, married with children, and married without children were mostly not significantly different with regards to all the main constructs of the present study, with the exception of the religiously-oriented family communication measures.

The result of this study showed that “education level” did not exert any influence on the majority of the main constructs, with the exception of religiously-oriented family communication. This study has found significant income group differences only for concept-oriented family communication and television viewing measures.

## CHAPTER 6

### RESEARCH RESULT II: HYPOTHESIS TESTING USING SEM ANALYSIS

This chapter begins with an explanation on structural equation modelling. The measurement scale is then tested for reliability and validity. Next, confirmatory factor analysis is employed to assess the theoretical model. The convergent validity, discriminant validity, and composite reliability of the data are then assessed. The hypothesized structural model is then assessed through four main steps, namely through fit indexes, alternative model comparison using chi-square differences test. Three models with different hypothetical structural relationships are then compared against each other. The hypotheses testing are then conducted. Following this, the proportion of variance explained by the proposed model is examined and the final model is presented. The chapter ends with a summary on the findings of hypotheses testing, and a chapter summary.

#### 6.1 Structural Equation Modelling (SEM)

The validity of measurement is one of the most important issues in conducting research (Patterson, 2000). Traditionally, measurement validity has been evaluated using several analyses such as coefficient alpha, item-total correlations, inter-item correlations and exploratory factor analysis (Fornell and Larcker, 1981). The recent development of the confirmatory factor analysis has gained popularity due to its advantages over other scale measurement evaluation methods.

For instance, confirmatory factor analysis can be used to test the unidimensionality according to the definition in equation, which the aforementioned four traditional methods could not (Anderson and Gerbing, 1988). In this study SEM technique was used largely to examine the overall hypothesised model and specific hypotheses testing.

The SEM technique was used to specify, estimate and test the hypothesised model effectively (Bentler and Chou, 1987). While exploratory factor analysis can be used to reduce and summarise data (Malhotra, 2004), it was necessary to conduct confirmatory factor analyses in order to assess, develop, and modify the present proposed framework (Anderson and Gerbing, 1988). Therefore, following a two-step approach proposed by Anderson and Gerbing (1988), measurement model was first tested using confirmatory factor analysis. This was followed by determining the structural model that best fit the data.

According to Byrne (2001), there were several limitations associated with the traditional multivariate analysis: (1) most of these analyses (e.g., factor analyses) were descriptive by nature and hence making hypothesis testing difficult; (2) the research findings may be inaccurate and biased by measurement error when the traditional multivariate procedures were used; (3) regression analyses were based on observed measurement only, not both unobserved and observed variables as in the case of SEM; (4) regression analyses were ineffective in the sense that they did not allowed for model estimation and analyses of several equations simultaneously.

To overcome the limitations in the traditional multivariate procedure as discussed above, this study adopted the SEM technique for the analysis of the integrated model of materialism. The use of SEM was deemed to be appropriate and it had several

advantages over other multivariate analyses: (1) it took a confirmatory, rather than an exploratory approach to data analyses (Byrne, 2001); (2) the estimates were based on information from the full covariance matrix; (3) it was an easily applied method for estimating the direct and indirect effects (Davison et al., 2006); (4) SEM provided explicit estimates of the measurement error (Byrne, 2001); (5) SEM made it possible to analyse multiple structural relationships simultaneously while maintaining statistical efficiency (Hair et al., 2006); (6) SEM technique was considered a combination of both interdependence and dependence techniques, such that exploratory factor analysis and regression analysis could be conducted more comprehensively in one step (Hair et al., 2006); (7) SEM could incorporate both unobserved and observed variables into a model (Byrne, 2001).

The sample size for the use of SEM had to be large enough to minimise identification and other research problems. Barrett (2007, p.820) advocated that except in special circumstances, “SEM analyses based upon samples of less than 200 should simply be rejected outright for publication.”

### **6.1.1 Justification for the Use of SEM in the Present Study**

Despite the aforementioned criticisms and limitations associated with SEM, there was little doubt on the superiority of SEM over the conventional multivariate analyses. Generally, it was the advantages and popularity of SEM that led to the adoption of this technique in analysing data.

Specifically, the main reason for using SEM in this study was that it allowed the analyses of multiple structural relationships simultaneously while maintaining statistical

efficiency (Hair et al., 2006). The assessment of the goodness of fit of the theoretical model could be conducted to determine whether the theoretical model fit the data well.

In addition to model fit testing, alternative model testing could be achieved with the use of SEM. Furthermore, the direct and indirect effects of all the predictors in the study could be estimated easily at once, as opposed to having to conduct a series of regression equations (Baron and Kenny, 1986).

The present study included the examination of potential mediating role of peer communication. Although mediation effect could be tested through a series of regression models, the use of two-stage approach and the ability to incorporate both unobserved and observed variables into a SEM model was considered to be a more superior approach (Hair et al., 2006).

In addition, the use of multiple regression analysis to estimate mediation effect required absence of measurement error in the mediator (Baron and Kenny, 1986). This problem was minimised with the use of SEM approach as it provided explicit estimates of the measurement error (Byrne, 2001). An exploratory factor analysis was initially employed to purify the multi-item scale (As discussed in Chapter 5).

Only indicators exhibiting satisfactory loadings on the intended factor and indicators with no cross-loadings were retained. Based on the theoretical and empirical justifications, the constructs of socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, peer communication, and materialism were subjected to confirmatory factor analyses using AMOS 16.0. Having met all the measurement issues such as unidimensionality of constructs, convergent and discriminant validity, a structural model was then analysed

to determine the structural relationships between exogenous and endogenous variables within the revised model.

In addition to that, other major tests were conducted using SEM. Following the confirmatory analysis, the current study tested the proposed model fit to observed data using SEM technique. The proposed model consisted of three exogenous constructs and two endogenous constructs. Research model testing and analyses were conducted through three general approaches. First, the proposed model analyses were conducted using covariances and the most widely used maximum-likelihood estimation method with AMOS 16.0 (Anderson and Gerbing, 1982).

Second, the model development strategy was followed using model re-specification procedure which aimed to identify the source of misfit and then generated a model that achieved better fit of data (Byrne, 2001). Third, following the competing model strategy, three models with different hypothetical structural relationships were compared and tested against each other in order to determine the mediating role of peer communication between independent variables and materialism, the ultimate dependent variable (Cooper and Schindler, 2003). In addition, the competing model strategy was employed to compare the disaggregated multi-components measures to a traditional unidimensional structure.

Based on Bollen's (1990) recommendation, this study examined multiple indices of model fit because a model may achieve good fit on a particular fit index but inadequate on others. The selection of indices for this study was based on the recommendations of Hu and Bentler (1999) and Hair et al. (2006). To achieve goodness of fit for the empirical data, both the measurement and structural model had to meet the requirements of selected indices. Following the suggestion of McIntosh (2007), the first

overall test of model fit selected was the chi-square test. A significant chi-square statistics indicated a poor model fit. As the chi-square test was extremely sensitive to sample size (Bentler and Chou, 1987), the chi-square normalised by degrees of freedom ( $\chi^2/df$ ) was also used. An acceptable ratio for  $\chi^2/df$  value should be less than 3.0 (Hair et al., 2006).

According to Hair et al. (2006), researchers should report at least one incremental index and one absolute index, in addition to the chi-square value; at least one of the indices should be badness-of-fit index. For the badness-of-fit index, RMSEA was chosen as it often provides consistent results across different estimation approach (Sugawara and MacCallum, 1993).

Following this guideline, other than chi-square and normed  $\chi^2/df$  value, model fit for this study was examined using multiple indices which included Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and a badness-of-fit index, Root Mean Square Error of Approximation (RMSEA) (Hu and Bentler, 1999). Following common practice, acceptable model fit was indicated by value greater than .90 for GFI, CFI, TLI and a value of less than 0.08 for RMSEA. Table 6.1, presents a summary of the recommended benchmark for model fit indices adopted in this study.

## **6.2 Measurement Scale Validation**

Researchers have reached a consensus that “validity is the most important concept in measurement” (Patterson, 2000). The measurement scale was first tested for reliability and validity following which the path model was assessed using SEM for hypotheses testing. To test the validity of measurement used, other than exploratory

**Table 6.1**  
**Recommended Benchmark for Model Fit Indices**

Fix Index	Recommended Value
<b><u>Absolute Fit Measures</u></b>	
$\chi^2$	The lower the better
$\chi^2/df$	$\leq 3$
GFI	$\geq 0.90$
RMSEA	$\leq 0.08$
<b><u>Incremental Fit Measures</u></b>	
TLI	$\geq 0.95$ or 0.90
CFI	$\geq 0.95$ or 0.90

factor analyses (which have been discussed in Chapter 5), confirmatory factor analysis (CFA) was employed to assess, develop, and modify the proposed theoretical model.

### 6.2.1 Measure Validation Procedures

Anderson and Gerbing (1982, p. 453) claimed that “good measurement of the latent variables is a prerequisite to the analysis of the causal relations among the latent variables”. Hence, the present study adopted a two-step approach proposed by Anderson and Gerbing (1988).

This approach was strongly preferred because structural analyses were often unreliable if the measurement model was of low reliability and validity (Hair et al., 2006). Based on data collected from 956 samples, the measurement model was first revised and confirmed using confirmatory factor analysis.

All latent constructs and its reflective indicators were depicted in a measurement model in which all latent constructs were allowed to correlate with each other. Generally, the validation process for ensuring construct validity included deriving measurement model with good fit for data with the presence of both convergent and discriminant validity (Lu et al., 2007). Hence, convergent validity, discriminant validity

as well as construct reliability (e.g., composite reliability and average variance extracted) were tested to ensure data validity and reliability. Then, the structural model that best fitted the data was identified. This was followed by hypotheses testing.

### **6.2.2 Confirmatory Factor Analysis**

Gerbing and Anderson (1987) highlighted the importance of unidimensionality in the scale development process. Confirmatory factor analysis (CFA) was employed for the assessment of measurement model fit and unidimensionality. This section covered important discussion relating to CFA which included identification issues, model specification and the testing of one-dimensional versus multi-component measures employed for the study.

#### **(a) Identification Issues**

In SEM, identification was about whether there were enough pieces of information to identify a solution for a set of structural equations (Hair et al., 2006). It was important to determine the identification status of a hypothesised model by checking the number of degrees of freedom associated with the model (Byrne, 2001).

From the parameter summary in AMOS output, the sample covariance matrix comprised a total of 406 pieces of information. In the hypothesised model, 70 parameters were free to be estimated; the remaining parameters were fixed in the model. The hypothesised model was over-identified with 336 (406 – 70) degrees of freedom. As the sample size of the present study was sufficiently large (n=956), it was believed

that the hypothesised model would converge and produce reliable results (Hair et al. 2006).

(b) Model Specification

For specification of the latent constructs, the loading for one of the indicator of each construct was fixed to 1.0 in the model to create a scale for the latent construct. This process was done automatically with the features in AMOS 16.0 software. The key constructs in this study were assessed using previously published, multi-item measures using a five-point Likert format.

Strictly speaking, and based on the result of the exploratory factor analysis, the socio-oriented family communication construct was measured using seven indicators, the concept-oriented family communication construct was measured using six indicators, the religiously-oriented family communication construct was measured using five indicators, peer communication construct was measured using three indicators and the materialism construct was measured using seven indicators. Multiple indicators were more desirable because reliability estimation could be conducted for multiple indicators (Rhodes et al., 2006).

(c) Comparing the Disaggregated Multi-component Structure to a Traditional Unidimensional Measure

There were no detailed debates regarding the conceptualization of religiously-oriented family communication and materialism, on whether each of these predictors should be modeled as a one-dimensional concept or a disaggregated multi-components structure. However, in the conceptualization of socio-oriented family communication

and concept-oriented family communication, it has been found that socio-oriented family communication structure produced two typologies namely consensual and protective family communication patterns, while concept-oriented family communication produced two other typologies namely pluralistic and laissez-faire family communication pattern (e.g., Bakir et al., 2005; Moschis et al., 1986; Chan and McNeal, 2003).

In order to determine whether socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, and materialism, were best represented as single concept or multi-component constructs, both exploratory factor analysis and confirmatory factor analysis were conducted.

The exploratory factor analysis results (discussed in Chapter 5) indicated that socio-oriented family communication and concept-oriented family communication produced two distinct components each; whilst religiously-oriented family communication, peer communication and materialism were found to be better modeled as a one-dimensional concept.

Subsequently, CFAs were employed to test and confirmed these findings as reported in the exploratory factor analyses. It was acknowledged that the hypothesized alternative models could not be compared using chi-square difference test if these models were not nested (Kelloway, 1995). However, comparison could still be made by looking at the normed  $\chi^2/df$  value and other fit indices.

Following the exploratory factor analysis results, a disaggregated two-factor socio-oriented family communication measure was tested against a one-dimensional

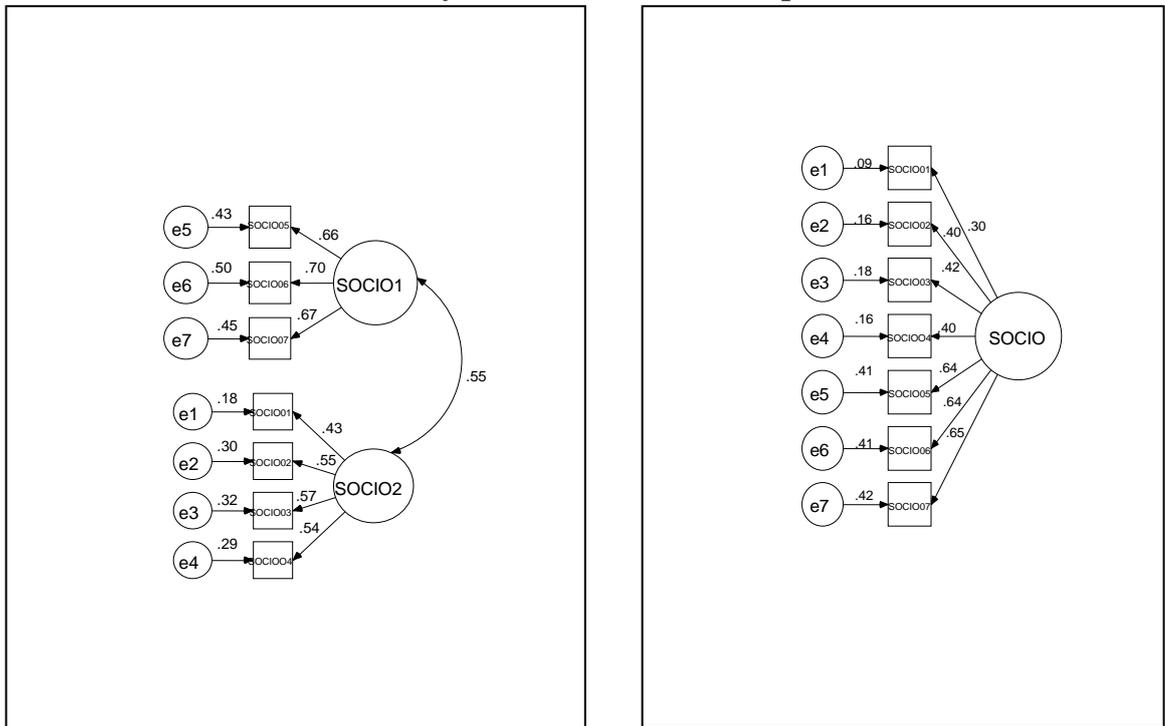
socio-oriented family communication concept to reflect the global socio-oriented family communication construct (see Figure 6.1). Similar approach was used to test the concept-oriented family communication structure (see Figure 6.2).

Consequently, if these tests indicated a significantly better  $\chi^2$  and model fit indices when modelled as two disaggregated concepts would suggest discriminant validity. Based on empirical findings from factor analysis, the religiously-oriented family communication, peer communication, and materialism constructs were retained as a one-dimensional concept.

Whereas socio-oriented family communication structure and concept-oriented family communication structure were best represented through a disaggregated multi-component concepts. SOCIO1 component represented a “protective family communication pattern” and SOCIO2 component represented a “consensual family communication pattern”. CON1 component represented a “pluralistic family communication pattern” and CON2 component represented a “laissez-faire family communication pattern.”

Firstly,  $\chi^2$  goodness-of-fit (GOF) for the one-dimensional socio-oriented family communication was compared to  $\chi^2$  GOF for the disaggregated multi-components socio-oriented family communication model. It would offer support for the hypothesised disaggregated multi-components socio-oriented family communication structure if its  $\chi^2$  value was significantly lower than the single socio-oriented family communication concept. Results presented in Table 6.2 showed the disaggregated multi-components socio-oriented family communication model ( $\chi^2=33.801$ ) achieved better fit compared to the one-dimensional socio-oriented family communication concept ( $\chi^2 = 198.337$ ).

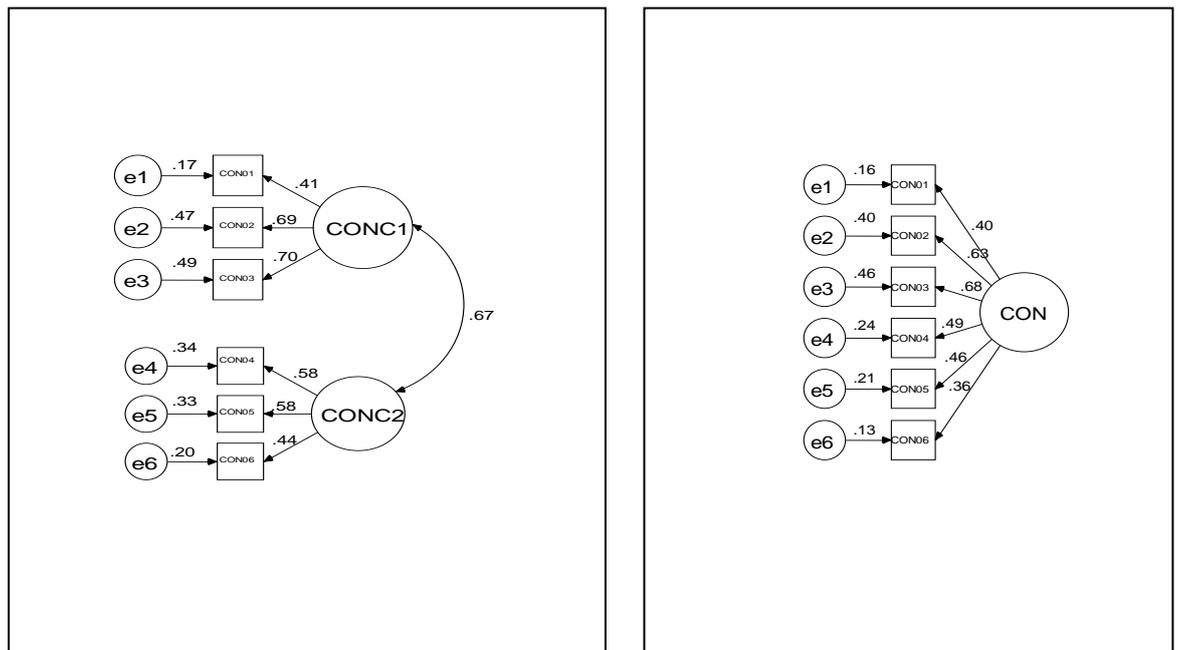
**Figure 6.1**  
**Disaggregated Multi-components versus One-dimensional Socio-oriented Family Communication Concept**



Note: SOCIO1=protective family communication pattern, SOCIO2= consensual family communication pattern.

Source: AMOS Graphic Output

**Figure 6.2**  
**Disaggregated Multi-components versus One-dimensional Concept-oriented Family Communication Concept**



Note: CON1=pluralistic family communication pattern, CON2= laissez-faire family communication pattern. Source: AMOS Graphic Output

**Table 6.2**  
**Alternative Model Testing Results**

<b>Alternative Model</b>	$\chi^2$	df	P	Ratio	GFI	TLI	CFI	RMSEA
<b>Socio-oriented family communication</b>								
Single concept	198.337	14	.000	.667	.933	.735	.823	.117
Two concept	33.801	13	.001	.619	.990	.968	.980	.041
<b>Concept-oriented family Communication</b>								
Single Concept	92.662	9	.000	.600	.966	.816	.890	.099
Two concept	28.665	8	.000	.533	.990	.949	.973	.052

Further, the overall fit indices also indicated better model fit for the hypothesised multi-components socio-oriented family communication model. For instance, the fit indices of TLI and CFI indicated improvement of 0.233 and 0.157, respectively. Indeed, a difference between models in these fit indices of greater than 0.01 represents a very practical improvement to model fit (Widaman, 1985).

Similarly,  $\chi^2$  GOF for the one-dimensional concept-oriented family communication was compared to  $\chi^2$  GOF for the disaggregated multi-components concept-oriented family communication model. The results showed that the hypothesised disaggregated multi-components concept-oriented family communication model ( $\chi^2 = 28.665$ ) performed better than the one-dimensional concept-oriented family communication model ( $\chi^2 = 92.662$ ). The incremental fit measures also indicated great improvement to the hypothesised model (i.e., disaggregated multi-components concept-oriented family communication structure).

In conclusion, the findings of alternative model comparison converged with the results obtained from factor analysis, which demonstrated that socio-oriented family communication and concept-oriented family communication constructs performed

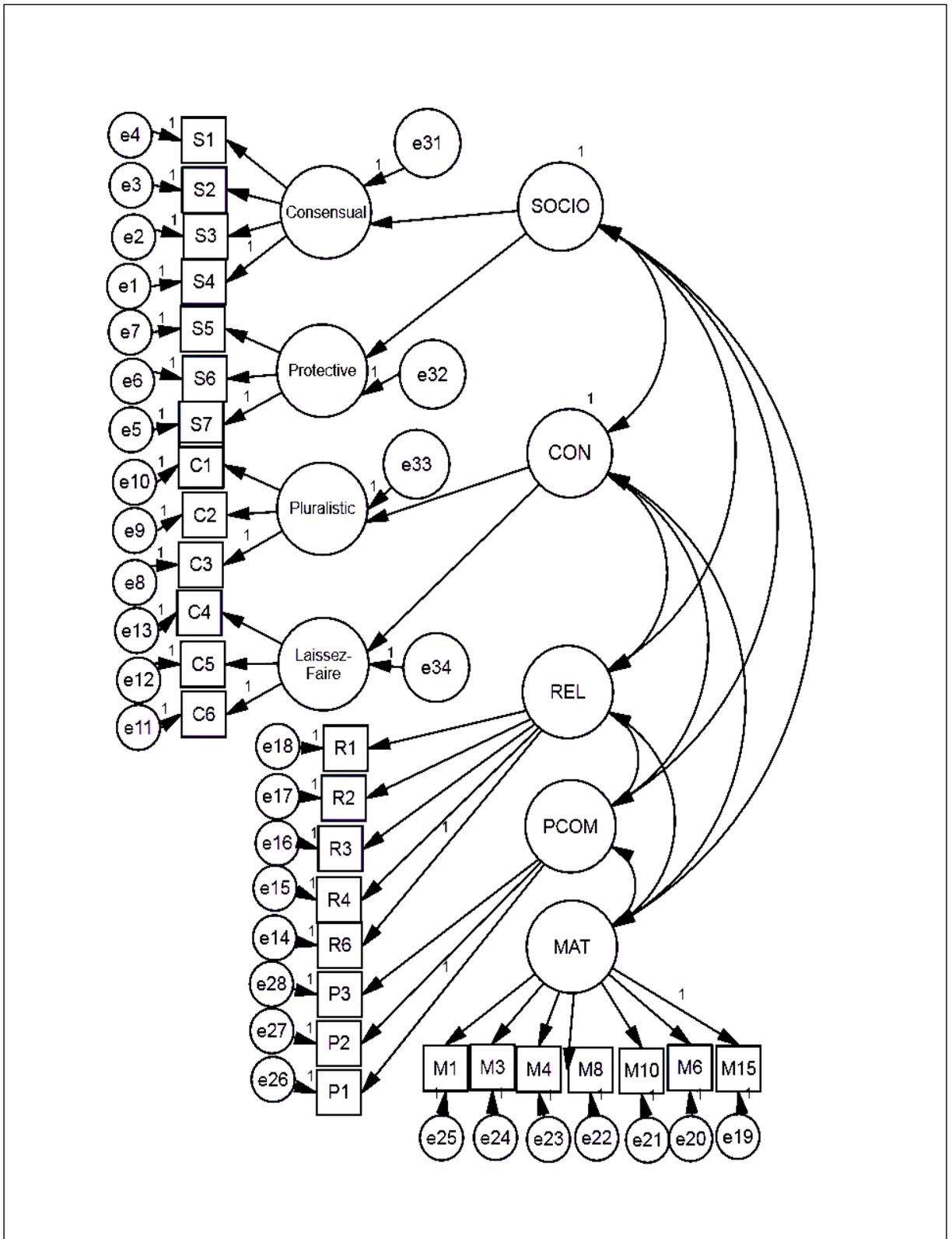
better when modeled as a disaggregated two-factor structure. Based on the empirical findings and theoretical support from prior studies (e.g., Bakir et al., 2005; Moschis et al., 1986; Chan and McNeal, 2003), the researcher modeled socio-oriented family communication and concept-oriented family communication constructs as a disaggregated multi-components measure in the subsequent structural model testing. Whereas the religiously-oriented family communication, peer communication and materialism constructs were modeled as a one-dimensional concept.

### **6.2.3 Assessment of Fit of the Measurement Model**

The initial measurement model incorporated five (5) latent constructs indicated by respective items pertaining to each scale: socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, peer communication, and materialism (see Figure 6.3 for the initial measurement model).

The absolute goodness-of-fit measures for the initial measurement models are displayed in Table 6.3. First, the measurement model should demonstrate good model fit and meet the requirements of certain fit indices as discussed earlier. The initial measurement model (CFA) of this study ( $\chi^2 = 905.743$ ,  $\chi^2/df = 2.695$ , GFI = 0.936, TLI = 0.898, CFI = 0.910, RMSEA = 0.042) has yielded an adequate model fit for the empirical data, with the exception of the incremental fit Measure for TLI (0.898) which values did not fit the recommended level of 0.90. The overall model chi-square was 905.743 with 336 in degrees of freedom. The p-value associated with the chi-square was 0.000.

**Figure 6.3**  
**Initial Measurement Model**



Note: SOCIO=Socio-oriented family communication, CON = Concept-oriented family communication, REL= Religiously-oriented family communication, PCOM= Peer communication, MAT= Materialism  
Source: AMOS Graphic Output

**Table 6.3**  
**Goodness-of-fit Results for Measurement Model**

Model	Goodness -of -fit results							Items deleted
	$\chi^2$	$\chi^2/df$	P	GFI	TLI	CFI	RMSEA	
Initial CFA Model	905.743	2.695	.00	0.936	0.898	0.910	0.042	Nil
Final CFA Model*	872.186	2.611	.00	0.915	0.903	0.915	0.041	Nil

Note: \*Final model adopted for the study

This significant p-value did not indicate that the observed covariance matrix matched the estimated covariance matrix in the empirical data (Hair et al., 2006). Nevertheless, other model fit indices were examined closely given the sensitivity of chi-square statistical test to sample size (Byrne, 2001).

Referring to Table 6.3, for the initial CFA the normed chi-square ( $\chi^2/df$ ) showed a value of 2.695. This value fell within the acceptable ratio of less than 3.0 for  $\chi^2/df$  value (Hair et al. 2006). The TLI indices were 0.898, while the CFI was 0.910. As the TLI values did not fit the recommended level of 0.90, this indicated that the model should be further improved. For the badness-of-fit index, Root Mean Square Error of Approximation (RMSEA), the value of 0.042 was well below 0.06. The goodness-of-fit index (GFI) was 0.936, indicating a good fit of the model to the data.

In summary, the various index of overall goodness-of-fit for the model indicated good fit indices. It was adequate to lend sufficient empirical support for the measurement model. However, further model modifications were needed to determine a model that would better fit the data. The measurement model may be modified by

examining the standardised residuals, modification indices and the standardised loading estimates - the path estimates linking constructs to indicators (Hair et al., 2006).

Each of these measures was examined together with the model fit indices to ascertain if re-specification was needed. The standardised residuals represented the differences between the observed covariance and the estimated covariance with smaller fitted residuals indicating good fit (Lu et al., 2007).

Based on the recommendation of Hair et al. (2006), items associated with a standardised residual greater than  $|4.0|$  should be dropped. Attention was also given to those items associated with standardised residuals between  $|2.5|$  and  $|4.0|$  by checking modification indices and loading estimates to detect any other problems associated with the pair items.

The second indication of a possible re-specification of the model was the modification indices (MI). The MI value represented the expected drop in overall chi-square value if a single parameter were to be freed and the model re-estimated in a subsequent run (Byrne, 2001). Typically, MI value of approximately 4 or greater indicated that the model fit could be improved significantly by estimating the corresponding path (Hair et al., 2006). Based on MI value, the initial measurement model was re-specified in an attempt to improve the model fit.

Other than residuals and MI, the item reliability was also taken into consideration when the model was assessed. Item reliability (or squared multiple correlations) refers to the  $R^2$  value in the observed variables that are accounted for by the latent variables influencing them (Lu et al., 2007).  $R^2$  value exceeded 0.50 were considered acceptable

(Bollen, 1990). Although the improvement of model fit was relied on MI and item reliability, only those paths that make theoretical sense were considered. Table 6.3 presents the goodness-of-fit results for the revised measurement model.

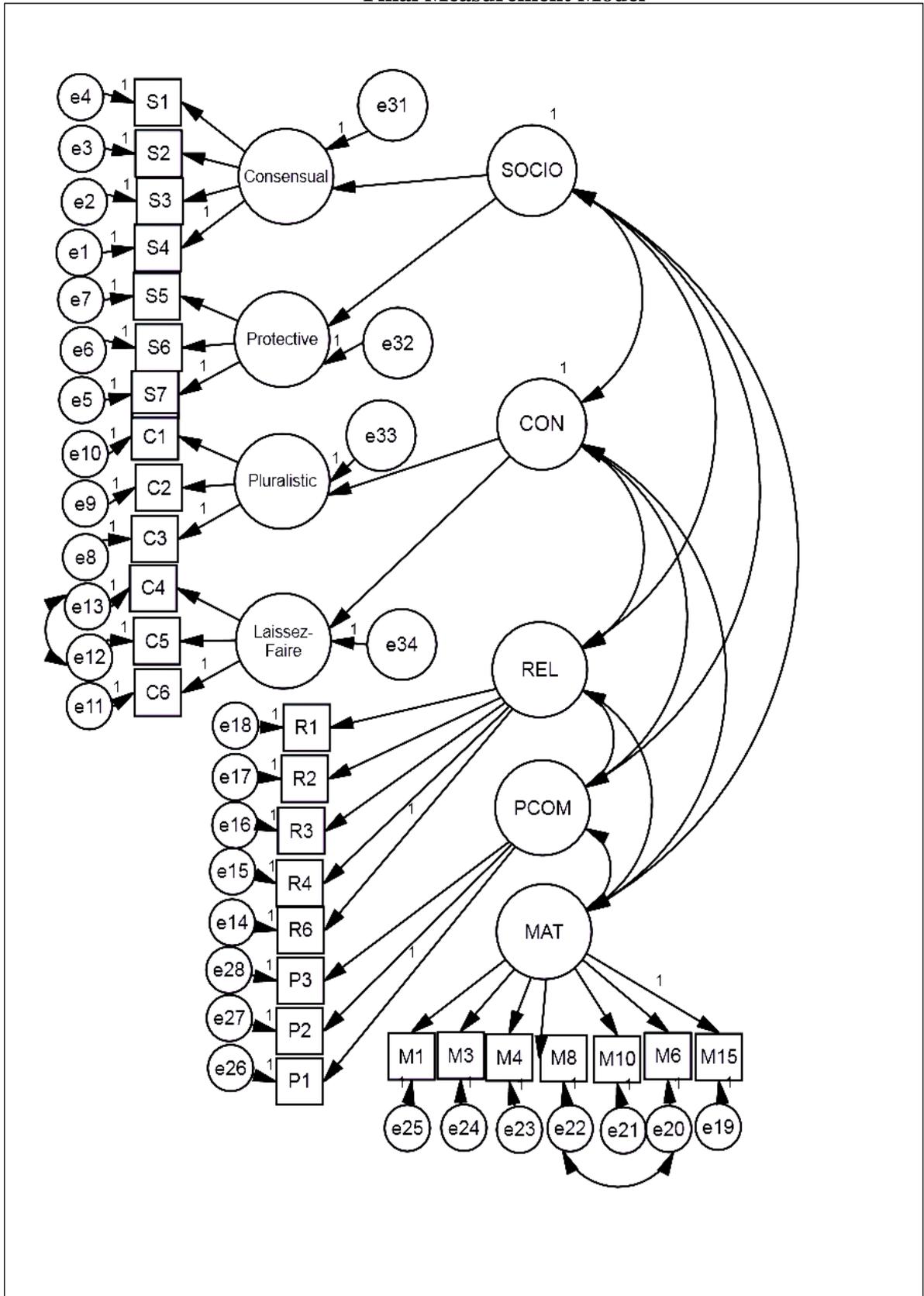
Following these procedures, no indicators were dropped, as the model fit assessment based on residual and MI provided a good fit indices for the final CFA model ( $\chi^2 = 872.186$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA = 0.041). The measurement model fit the data well (see Figure 6.4 for final measurement model).

The chi-square value was expected to be significant due to large sample size. Instead, the Chi-square normalized by degrees of freedom ( $\chi^2/df$ ) was referred to. An acceptable ratio for  $\chi^2/df$  value (2.611) was reported. The three fit indices for GFI, TLI, and CFI were substantially greater than .90 thresholds for acceptability. RMSEA value also reported to be well below the cut-off value of .06 for good model fit as recommended by Hu and Bentler (1999). Appendix D reports the selected AMOS output for the final measurement model which included analyses such as regression weights, covariances, correlations, variances and squared multiple correlations.

#### **6.2.4 Construct Validity**

There exists many ways to test construct validity in the literature. This study adopted Staub's (1988) measurement validation procedures to test construct validity in terms of convergent validity and discriminant validity. Prior to structural model testing, the construct validity and reliability were tested by checking the convergent validity, discriminant validity, and composite reliability of the data. The whole process of scale validation is delineated in the following sub-sections.

**Figure 6.4**  
**Final Measurement Model**



Note: SOCIO=Socio-oriented family communication, CON = Concept-oriented family communication, REL= Religiously-oriented family communication, PCOM= Peer communication, MAT= Materialism  
Source: AMOS Graphic Output

(a) Convergent Validity

The measurement model specified how the observed indicators were related to unobserved constructs (Kline, 2005). Having fulfilled the goodness-of-fit indices assessment, the next step was to test convergent validity of the data. The convergent validity was assessed by checking the loading of each observed indicators on their underlying latent construct (Anderson and Gerbing, 1988). Table 6.4 presents the CFA results, which included the unstandardised and standardised factor loadings for each indicator.

Firstly, the factor loadings (i.e., the path estimate linking construct to indicator) were examined to identify potential problem with the CFA model. The standardised factor loading should be significantly linked to the latent construct and have at least loading estimate of 0.5 and ideally exceed 0.7 (Hair et al., 2006). Hence, insignificant loading with low loading estimate indicated potential measurement problem.

The CFA results (see Table 6.4) indicated that each factor loadings of the reflective indicators were statistically significant at 0.001 level. The factor loadings ranged from 0.509 (SOCIO2) to 0.852 (REL01), with the exception of MAT10 (0.382), CON1 (0.417), SOCIO1 (0.460), CON6 (0.409) and MAT6 (0.411) which loadings were marginally less than the recommended level of 0.50.

i. Construct Reliability and Variance Extracted Measures

Other than fulfilling the factor loadings and item reliability criteria, the convergent validity assessment also included the measure of construct reliability and variance extracted. According to Fornell and Larcker (1981), variance extracted refers

**Table 6.4**  
**Indicator Loadings (Revised Measurement Model)**

Latent Construct		Items	Unstandardised factor loading	Standardised factor loading	Standard Error <sup>a</sup>	Critical Ratio <sup>b</sup>
Socio-oriented family communication	Consensual	SOCIO1	1.011	.460	.108	9.338
		SOCIO2	1.089	.509	.110	9.896
		SOCIO3	1.213	.574	.116	10.463
		SOCIO4	1.000	.544	-	- <sup>c</sup>
	Protective	SOCIO5	.986	.656	.068	14.480
		SOCIO6	1.128	.720	.076	14.813
		SOCIO7	1.000	.658	-	-
Concept-oriented family communication	Pluralistic	CON1	.621	.417	.063	9.862
		CON2	.976	.685	.077	12.609
		CON3	1.000	.694	-	-
	Laissez-faire	CON4	1.629	.664	.226	7.218
		CON5	1.429	.607	.204	7.015
		CON6	1.000	.409	-	-
Religiously-oriented family communication	REL01	1.413	.852	.074	19.223	
	REL02	1.217	.808	.065	18.703	
	REL03	1.218	.790	.066	18.448	
	REL04	.999	.593	.066	15.101	
	REL06	1.000	.600	-	-	
Peer communication	PCOM1	1.000	.675	-	-	
	PCOM2	1.094	.819	.069	15.865	
	PCOM3	.852	.607	.057	15.061	
Materialism	MAT1	.990	.613	.071	13.958	
	MAT3	.839	.539	.066	12.758	
	MAT4	.865	.591	.064	13.626	
	MAT8	.765	.530	.061	12.527	
	MAT10	.539	.382	.056	9.609	
	MAT6	.652	.411	.065	10.080	
	MAT15	1.000	.639	-	-	

Fit indices: ( $\chi^2 = 872.186$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA = 0.041). Note: <sup>a</sup>S.E. is an estimate of the standard error of the covariance; <sup>b</sup>C.R. is the critical ratio obtained by dividing the estimate of the covariance by its standard error. A value exceeding 1.96 represented significance level of 0.05; <sup>c</sup> some critical ratios were not calculated because loading was set to 1 to fix construct variance; All items loading in CFA model were significant at 0.001 level.

“to the amount of variance that is captured by the construct in relation to the amount of variance due to measurement error”. Further, Fornell and Larcker (1981) suggested that variance extracted to be a more conservative measure than construct reliability.

Additionally, two other criteria were assessed to ensure convergent validity: (1) construct reliability should be greater than 0.5 (Churchill, 1979), and (2) the variance extracted (VE) for a construct should be larger than 0.5 to suggest adequate convergent validity (Fornell and Larcker, 1981).

Each construct underwent reliability test as well as variance extracted. Table 6.5 summarises the results of construct reliability and variance extracted for each construct. In this study, with the exception of materialism construct, the variance extracted values for the main constructs exceeded the cut-off of 0.50 recommended by Fornell and Larcker (1981). The measurement model was further assessed to determine the construct reliability. The results display adequate reliability in that the reliability of the constructs exceeded the 0.5 threshold (Churchill, 1979).

**Table 6.5**  
**Confirmatory Factor Analysis for Convergent Validity**

<b>Construct</b>	<b>No. of Items</b>	<b>Factor Loading</b>	<b>Construct Reliability</b>	<b>Total Variance Extracted</b>
<b>Socio-oriented family communication :</b>				0.535
<b>-Consensual</b>	4	0.460-0.574	0.596	
<b>-Protective</b>	3	0.656-0.720	0.717	
<b>Concept-oriented family communication:</b>				0.550
<b>-Pluralistic</b>	3	0.417-0.694	0.612	
<b>-Laissez-Faire</b>	3	0.409-0.664	0.544	
<b>Religiously-oriented family communication</b>	5	0.593-0.852	0.848	0.628
<b>Peer communication</b>	3	0.607-0.819	0.737	0.657
<b>Materialism</b>	7	0.382-0.639	0.738	0.391

Overall, the results indicated that all constructs have achieved a range of fairly good to very good reliabilities among indicators to measure the latent constructs. The construct reliabilities for the two dimensions, socio-oriented and concept-oriented family communications in the present study were relatively similar to Rose et al. (1998) findings in the United States and Japan, and Chan and McNeal (2003) findings in China.

The two dimensions also performed slightly better than the recent study conducted by Chan and Prendergast (2007) in Hong Kong.

The relatively poor performance of materialism measures was expected as such findings was consistent with the materialism literature, whereby most materialism scales tended to be less reliable. For instance, Belk's materialism scale seems to be particularly unreliable in a different cultural context.

In France, although the overall reliability was 0.67, the coefficient alphas of three major subscales of possessiveness, non-generosity, and envy were poor: 0.52, 0.53, and 0.42 (Ger and Belk, 1990). Other studies which have been conducted cross-culturally also indicated that Belk scale was not very reliable. In Brazil, Belk's scale was so unreliable that Evrard and Boff (1998) failed to confirm the three-factor structure of materialism and then dismissed it from further analyses.

Sirgy et al. (1998) applied both Belk's scale and Richins and Dawson's scale to their U.S., Canadian, Australian, Turkish, and Chinese samples from 1989 to 1991. Their Cronbach reliability analyses showed inadequate internal consistency in relation to Belk's three subconstructs: possessiveness, non-generosity, and envy (alpha coefficients ranged from 0.02 to 0.71).

Besides Richins and Dawson's original article reporting confirmatory factor analysis, other studies have also reported mixed results. For instance, Ahuvia and Wong (1995) reported a "normed fit index" of .99 for the confirmatory factor analysis (CFA) but did not describe the model they used. Other researchers, however, found notable problems with scale structure in CFA for materialism (e.g., Pinto et al., 2000).

Taken together, the evidence supported the convergent validity of the measurement model. The variance extracted associated with the constructs were satisfactory and exceeded the recommended cut-off point of 0.50 with the exception of materialism. In addition, the CFA model fits relatively well and most factor loading estimates were significant and exceeded 0.50. Hence, all the items were retained at this point and adequate evidence of convergent validity was provided.

(b) Discriminant validity

This section presents a common method of assessing discriminant validity. It is to be noted that, a more conservative approach for establishing discriminant validity was employed (Hair et al., 2006). Table 6.6 presents the results for discriminant validity. As suggested by Fornell and Larcker (1981), discriminant validity was determined by the variance extracted value, namely whether or not it exceeded the squared inter-construct correlations associated with that construct. It was found that the variance extracted of each construct was all above its squared correlation with other constructs.

**Table 6.6**  
**Factor Correlations and Squared Correlation between the Study Constructs**

Factor	VE	SOCIO	CON	REL	PCOM	MAT
<b>SOCIO</b>	0.535	1				
<b>CON</b>	0.550	.212** (0.46)	1			
<b>REL</b>	0.628	.248** (0.49)	.229** (0.47)	1		
<b>PCOM</b>	0.657	.195** (0.44)	.248** (0.49)	.182** (0.42)	1	
<b>MAT</b>	0.391	.203** (0.4)	.097** (0.98)	.113** (0.33)	.235** (0.48)	1

Note: VE = Variance Extracted; SOCIO = Socio-oriented family communication; CON = Concept-oriented family communication; REL = Religiously-oriented family communication; PCOM = Peer communication; MAT = Materialism; \*Correlation is significant at p<.01  
\*\*. Correlation is significant at p< 0.01 level. (1- tailed)

Following Fornell and Larcker's (1981) guidelines, it was evident that these results lent adequate evidence for discriminant validity of the measurement model of this study. Overall, the required reliability and validity assessment has demonstrated strong support for satisfactory convergent validity and discriminant validity. Hence, the subsequent process of identifying the structural model that best fits the data were conducted to test the proposed hypotheses.

### **6.3 Full Structural Model Testing**

Having satisfied the various measurement issues such as measurement model fit and necessary reliability and validity tests, this second part of the chapter will focus on the hypothesized relations among the five constructs. The hypothesized structural model was assessed through four main steps. First, the theoretical model should meet the goodness-of-fit to the empirical data satisfactorily based on the same set of fit indexes applied in assessing measurement model (Hu and Bentler, 1999).

Second, alternative model comparison between non-mediation, full mediation, and partial mediation model was conducted with an aim to test and confirm the hypothesized partial mediation model using chi-square differences test (Kelloway, 1995). Third, the direction, significance and magnitude of the path corresponding to each hypothesis of the theoretical model were examined once the hypothesized partial mediation model was confirmed. Finally, the squared multiple correlations were examined to determine the proportion of variance that was explained by the exogenous construct in the theoretical model (Hair et al., 2006).

This study tested the proposed model fit to observed data using SEM technique. The proposed model consisted of three exogenous constructs (i.e., socio-oriented family communication, concept-oriented family communication, and religiously-oriented

family communication) and two endogenous constructs (i.e., peer communication and materialism).

The model development strategy was followed using model re-specification procedure which aimed to identify the source of misfit and then generate a model that achieved better fit of data (Byrne, 2001). Following the competing model strategy, three models with different hypothetical structural relationships were compared and tested against each other in order to determine the mediating role of peer communication between independent variables and materialism, the ultimate dependent variable (Cooper and Schindler, 2003).

### **6.3.1 Structural Model Specification**

The SEM technique was used as the main statistical tool to test the main hypotheses proposed for this study. As suggested by Hair et al. (2006), the proposed theoretical model was modeled in a recursive manner to avoid problems associated with statistical identification. This was more so for the present empirical data that was cross-sectional in nature. There were a total of 28 indicators contained in the second structural model, similar to the first structural model. Each indicator was connected to the underlying theoretical construct in a reflective manner.

The structural relationships between latent constructs represented by single headed straight arrows were specified according to the hypotheses established. The structural effects of socio-oriented family communication, concept-oriented family communication, and religiously-oriented family communication components were freed based on the tenets of consumer socialization agents (Moschis and Churchill, 1978). The structural effects of socio-oriented family communication, concept-oriented family

communication, and religiously-oriented family communication were freed on peer communication and materialism, based on the theorizing and findings of past research (as discussed in Chapter 4).

These hypothesized structural effects led to a proposal of a partially mediated model in which peer communication was modeled as a mediator between the predictor variables and the ultimate dependent variable (i.e., materialism). This partially mediated model was proposed based on Baron and Kenny's (1986) three required conditions for mediation effects:

1. The independent variable must affect the mediating variable. In this instance, the consumer socialization factors (i.e., socio-oriented family communication, concept-oriented family communication and religiously-oriented family communication) must affect peer communication.
2. The independent variable must affect the dependent variable. In this proposed model, factor correlation and squared correlation between the study constructs indicated that all the constructs of this study had an effect on the outcome variable (i.e., materialism) with the exception of television viewing.
3. The mediator must have effect on the dependent variable. In this case, peer communication must affect materialism.

When these conditions for mediation proposed by Baron and Kenny (1986) were examined, it appeared that all three conditions were met for this study, except for television viewing. Testing mediation effect using SEM required significant correlations between independent variable, mediating variable, and the ultimate dependent variable (Hair et al., 2006). All the predictors (i.e., socio-oriented family communication,

concept-oriented family communication, and religiously-oriented family communication) were significantly related to peer communication (proposed mediator), fulfilling the first condition.

However, in the second condition, it was shown that all predictors' constructs were significantly related to materialism (the ultimate dependent variable) with the *exception* of television viewing variable. In Hypothesis 4, (which posited that television viewing during adolescent years has a positive association with materialistic values held by young adults), the correlation coefficient between **television viewing** and **materialism** was positive ( $r = .043$ ) but not significant at  $p = 0.090$  (one-tailed).

Although significant correlation were found between **television viewing** and **peer communication** ( $r=.065$ ,  $p<0.05$ ), the relationship between television viewing and materialism, and between television viewing and peer communication were not tested in the partially mediated model proposed for this study, because the second condition proposed by Baron and Kenny (1986) which stated that the independent variable must affect the dependent variable has not been fulfilled, thus it was discarded from the structural model testing.

Next, for the third condition, it was also reported that peer communication (mediator) was significantly associated with materialism. The next important criterion of mediation is that these conditions must all hold in the predicted direction. An examination of the correlations exhibited that this condition was met in that all links listed in the three conditions were found to be positively related. Therefore, it was concluded at this juncture that peer communication played a mediating role between its antecedents and outcome variable. The proposed partial mediation model was then

subjected to model fit assessment and alternative model comparison before concluding the mediating role of peer communication.

### **6.3.2 Higher-order Factor Analysis**

Based on confirmatory factor analysis (CFA), a second-order factor structure which contains two layers of latent constructs was employed in this study. Variables socio-oriented family communication and concept-oriented family communication two layers of latent constructs. According to Hair et al. (2010), the introduction of a second-order latent factor causes multiple first-order latent factors, which in turn cause the measured variables.

Both theoretical and empirical considerations are associated with higher-order CFA. According to Hair et al. (2010), all CFA model must account for the relationships among constructs. Higher-order factors can be thought of as explicitly representing the causal constructs that impact the first-order factors.

It accounts for covariance between construct just as first-order factors account for covariation between observed variables. In other words, the first-order factors now act as indicators of the second-order factor. All the consideration and rules of thumb apply to second-order factors just as they do to first-order factors. The difference is that the researcher must consider the first-order constructs as indicators of the second-order construct (Hair et al., 2010).

The use of higher-order model has several advantages. For instance, according to Hair et al. (2010), a higher-order model is more parsimonious, as compared to a first-order model. It consumes fewer degrees of freedom, and thus it should perform better

on indices that reflect parsimony (e.g., PNFI, RMSEA). A higher-order measurement model is applicable under the following conditions:

1. Higher-order factors must have a theoretical justification and should be used only in relationships with other constructs of the same general level of abstraction.
2. All of the first-order factors should be expected to influence other related constructs in the same way.
3. At least three first constructs should be used to meet the minimum conditions for identification and good measurement practice.

In summary, the present structural model included: (a) paths from the family-oriented communication constructs to peer communication; (b) path from peer communication to materialism; (c) paths from the family-oriented communication to materialism; and d) correlation between the predictors. The hypothetical partially mediated model (see Figure 6.5) was depicted using visual tools provided by AMOS software.

#### **6.4 Evaluation of the Hypothesised Model**

The hypothesized partially mediated model (see Figure 6.5) was then tested for model fit. Prior to model testing, the standardised loading estimates for the structural model were examined to ensure problems associated with interpretational confounding were not existed (Hair et al., 2006). It was found that all loading estimates for the structural model did not change substantially compared to loading estimates of the final measurement model. This further support the validity of the measurement model specified.

Next, the overall model fit for structural model was examined. The same set of fit indices used to assess measurement model was employed to evaluate the full structural model. Table 6.7 reports the model fit indices estimated in the initial structural model and the revised structural model. The initial full structural model fit ( $\chi^2 = 905.743$ ,  $\chi^2/df = 2.695$ , GFI = 0.936, TLI = 0.898, CFI = 0.910, RMSEA = 0.042) demonstrated adequate fit with the observed data except for the TLI index, indicating the model could be further improved. Several modifications were made to the hypothesized model based on the modification index (Byrne, 2001). In this case, error terms for similar items were allowed to covary.

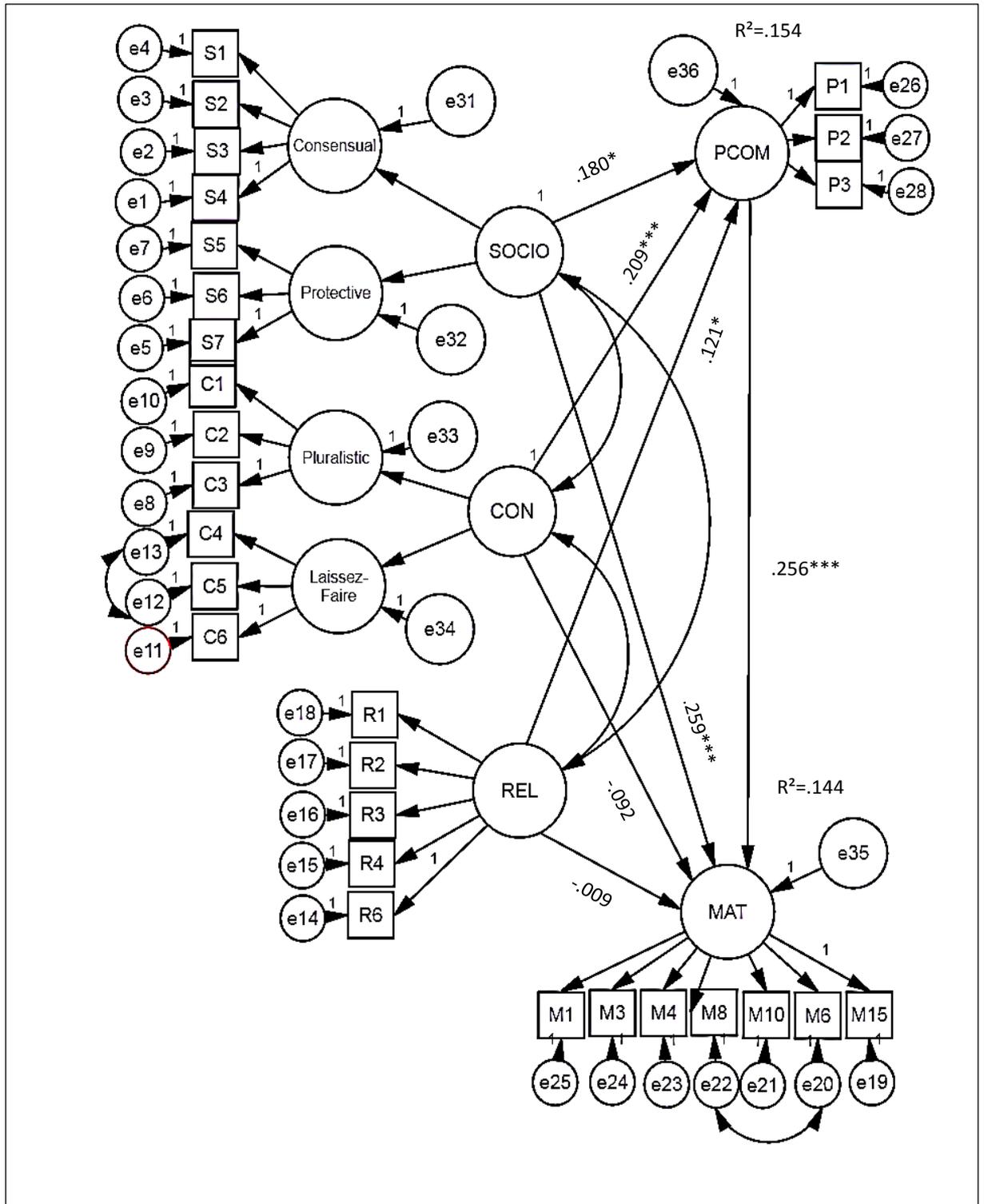
**Table 6.7**  
**Overall Fit Indices of the Hypothesized Structural Model**

Fit Indices	Recommended Value	Initial Structural Model	Revised Structural Model
<b><u>Absolute Fit Measures</u></b>			
$\chi^2$	The lower, the better	905.743	872.186**
$\chi^2/df$	$\leq 3$	2.695**	2.611**
GFI	$\geq 0.90$	0.936**	0.939**
RMSEA	$\leq 0.06$ or 0.08	0.042**	0.041**
<b><u>Incremental Fit Measures</u></b>			
TLI	$\geq 0.95$ or 0.90	0.898	0.903**
CFI	$\geq 0.95$ or 0.90	0.910**	0.915**
<b><u>Squared Multiple Correlation (SMC)</u></b>			
SMC (peer communication) <sup>a</sup>		0.160	0.154
SMC (Materialism) <sup>b</sup>		0.148	0.144

Note: Acceptability: \*\* (acceptable); <sup>a</sup> squared multiple correlation to subject's peer communication, and <sup>b</sup> squared multiple correlation to subject's materialism.

The error term associated with the laissez-faire family communication pattern questions that asked about how often parents used to tell subjects to decide about things they should or shouldn't buy (C4) was allowed to covary with the error term associated with the laissez-faire family communication pattern questions that asked subjects about how often their parents use to say that getting their ideas across was important even if others don't like them (C5). Next, the error term associated with materialism questions

**Figure 6.5**  
**Hypothesized Partially Mediated Model for the Study**



Chi Square ( $\chi^2$ )	Ratio	GFI	TLI	CFI	RMSEA
$\chi^2=872.186$ d.f 334 (p=.000)	2.611	.939	.903	.915	.041

Squared Multiple Correlations: 0.154 (peer communication); 0.144 (Materialism)

\*\*\* significant at  $p < .000$ ; \* significant at  $p < .05$

Note: SOCIO=Socio-oriented family communication, CON = Concept-oriented family communication, REL= Religiously-oriented family communication, PCOM= Peer communication, MAT= Materialism

Source: AMOS Graphic Output

that asked subjects how they would feel if they could afford to buy more things (MAT8) was allowed to covary with the error term associated with the materialism question that asked subjects if their life would be any better if they owned certain things that they don't have (MAT6).

Following these modifications, the modified model demonstrated a better model fit and was used as the final model for hypothesis testing ( $\chi^2 = 872.186$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA = 0.041). Although the chi-square was significant as expected due to large sample size, the TLI and CFI index were well at the acceptable level of .90 threshold. The absolute fit measure of RMSEA was also well below the recommended cut-off of 0.06 to be indicative of good model fit (Hu and Bentler, 1999).

The GFI index met the recommended cut-off, the value was above the 0.90 threshold. These overall fit indices indicated acceptable fit of the model to the observed data. When the squared multiple correlations were examined, it was reported that 15% of the variance associated with peer communication was accounted for by its three predictors: socio-oriented family communication, concept-oriented family communication, and religiously-oriented family communication. Accordingly, it was determined that 14% of the variation in materialism was accounted for by its four predictors including peer communication.

Although this partial mediation model was adequate for explaining the hypothesized links between constructs in the theoretical model. There may well be other model that could achieve better fit to the data. In this circumstance, alternative models with different hypothetical structural relationships was tested against each other to

determine which has the best overall fit to the empirical data (Byrne, 2001). Indeed, Cooper and Schindler (2003) stated that competing model strategy is a much stronger strategy than model development strategy which is based on slight modifications of a single theory. Therefore, two other alternative models with different structural effects were compared against the hypothesized partial mediation model. The model comparison procedures and results will be explained in the following sub-sections.

#### **6.4.1 Alternative Model Comparison for Mediation Effects Testing**

The competing model strategy was used to ensure that the hypothesized partially mediated model of peer communication not only has acceptable model fit, but also performed better than the alternative models (Hair et al., 2006).

This is in line with Kelloway's (1995) argument that any proposed model with mediating effects ought to be tested against substantially meaningful alternative models such as the full mediation and non-mediated model. It was important to ensure that both full mediated and non-mediated models were nested within the partially mediated model (Kelloway, 1995).

Following Kelloway's recommendation, a sequence of tests was then conducted to determine which has the best overall fit to the empirical data. Figure 6.6 delineates the graphical representation of the alternative models for comparison. First, the full mediation model (Model 1) with only indirect relationship between independent variables (IVs) and dependent (DV) was tested against the partially mediated model as the hypothesized theoretical model (Model 2), which included both direct and indirect relationships between IVs and DV.

Next, the non-mediated model (Model 3) was also tested against the hypothesized partially mediated model. Since the full mediation (Model 1) and non-mediation (Model 3) were nested within the hypothesized partially mediated model (Model 2), chi-square ( $\chi^2$ ) difference statistics ( $\Delta\chi^2$ ) test was appropriate for alternative model comparison. Figure 6.5, Figure 6.7 and Figure 6.8 displayed these three alternative models depicted using visual tools provided by AMOS. The covariances between the constructs were not shown for simplicity.

Concern of both the necessity and sufficiency of the mediated relationships could be addressed by comparing alternative models in this manner (Kelloway, 1995). According to Kelloway (1995), if the non-mediated and partially mediated models yield equivalent fits to the observed data, the necessity of the proposed mediated relationship is in question. Apply to the present study, for instance, peer communication might not be necessary condition to determine the effects of socio-oriented family communication, concept-oriented family communication, and religiously-oriented family communication on materialism if the non-mediated and partially mediated model were found to have equivalent fits to the data.

The hypothesised partially mediated model was tested against the fully mediated and non-mediated model based on the procedures suggested by Baron and Kenny (1986) and Kelloway (1995). Model comparison can be conducted by assessing differences in incremental or parsimony fit indices along with differences in chi-square goodness-of-fit (GOF) values for each model (Hair et al., 2006). The present study relied mainly on the chi-square difference test ( $\Delta\chi^2$ ) to determine whether the addition or deletion of the paths could significantly affect the overall model fit. Table 6.8 displays the results of chi-square difference and several overall fit indices.

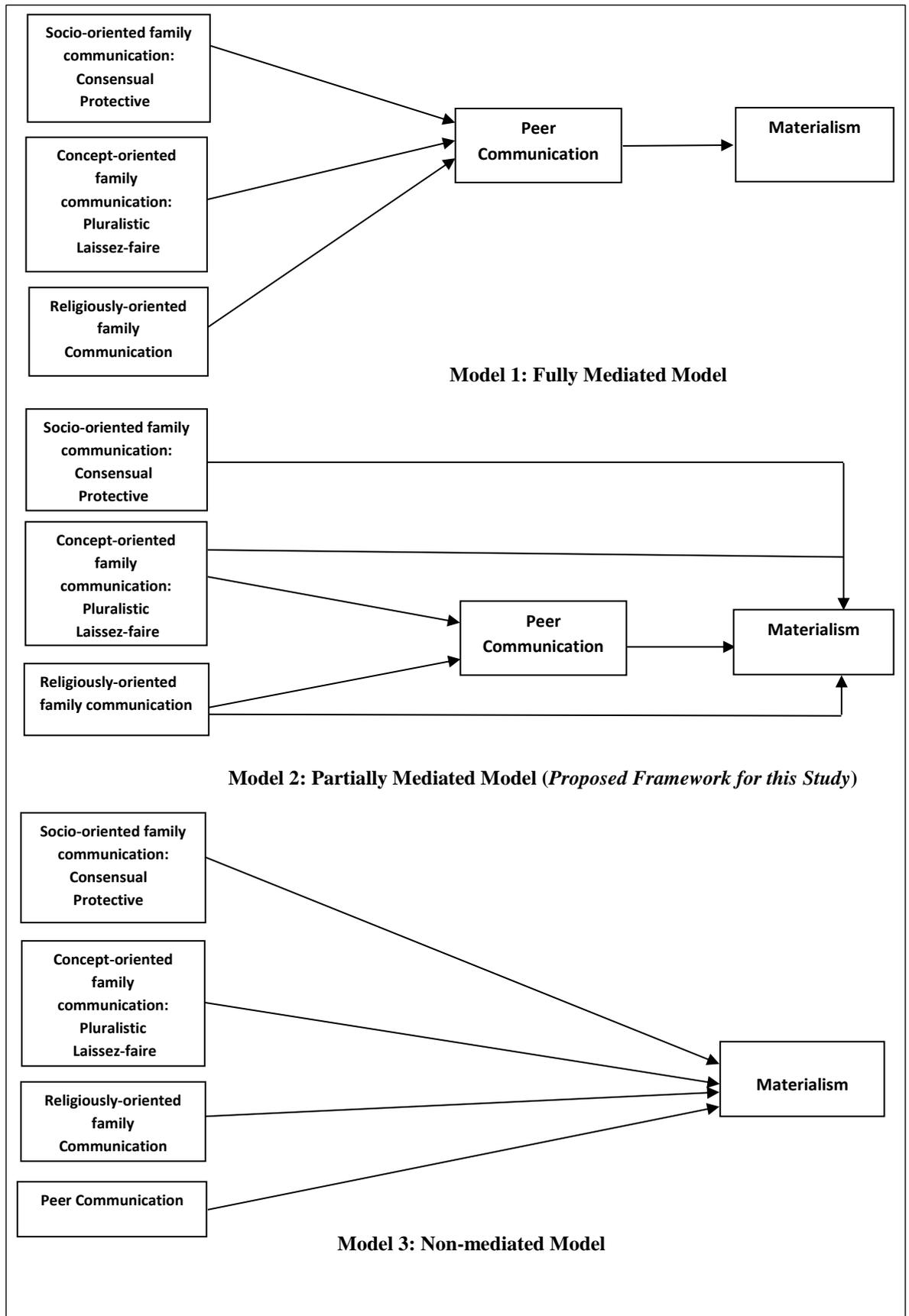
In the first instance, a comparison of  $\chi^2$  GOF was conducted. Firstly,  $\chi^2$  GOF for proposed partial mediation model was compared to  $\chi^2$  GOF for the full mediation model. It would offer support for the hypothesised partially mediated model if the  $\Delta\chi^2$  test is significant, and the  $\chi^2$  value for partial mediation is significantly lower than the full mediation model. It was reported (see Table 6.8) that the partial mediation model ( $\chi^2 = 872.186$ ) achieved significantly better fit ( $\Delta\chi^2 = 14.699$ ,  $p < .01$ ) compared to the full mediation model ( $\chi^2 = 886.885$ ). The findings supported that the partially mediated model had a better fit compared to full mediation model.

The next step was to test the partially mediated model against the non-mediation model. Similar to the previous procedure undertaken, the chi-square difference test was again conducted. The results however revealed that the partial mediation model ( $\chi^2 = 872.186$ ) did not achieved any significantly better fit as there were no differences in the chi-square between the two model compared to the non-mediation model (please see table 6.8).

As discussed in literature review chapter, there are many researches that have examined the effects of intra-family communication and peer communication variables in predicting materialism. Previous studies that included socialization factors into their model have thus far focused on how well these socialization agents were in predicting materialism using hierarchical regression analysis.

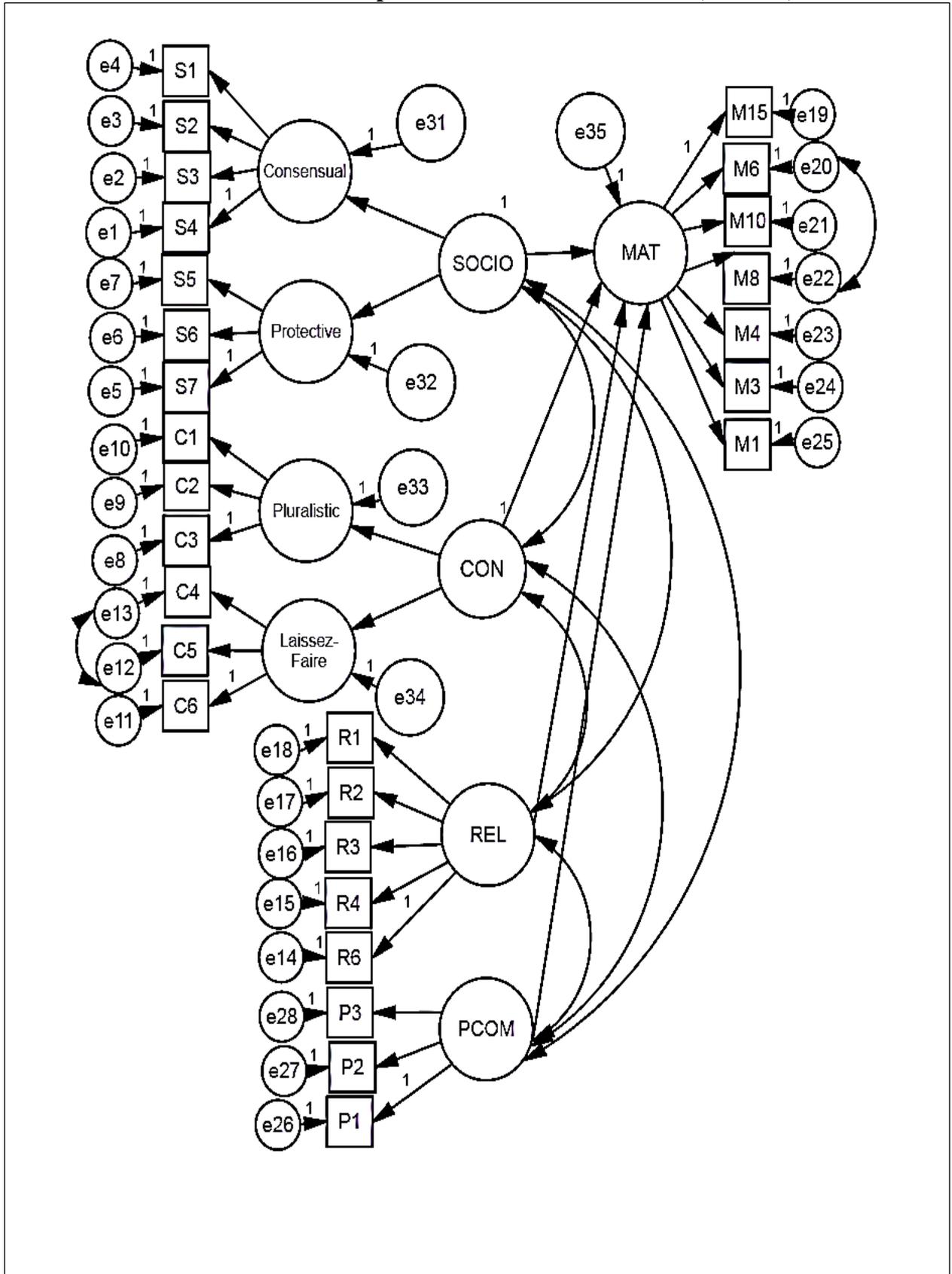
Based on the literature review on consumers socialization, although researchers have acknowledged the mediating role of peer communication little efforts have been made to test the mediating effects of peer communication empirically in the relationship between socio-oriented family communication, concept-oriented family communication and religiously-oriented family communication on materialism. Indeed, no study has

**Figure 6.6**  
**Graphical Representation of Alternative Models.**



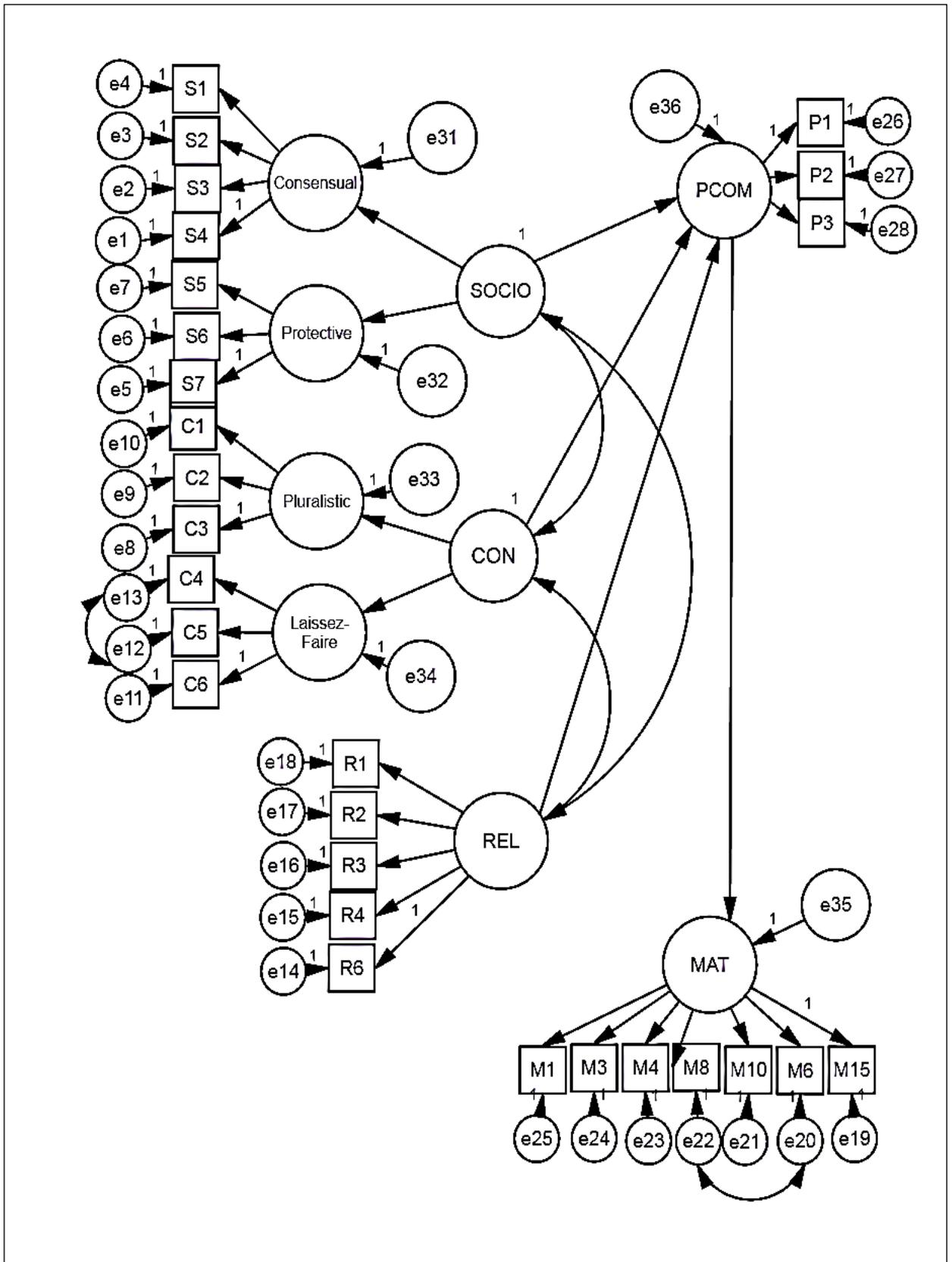
Source: Adapted from Kelloway (1995)

**Figure 6.7**  
**Alternative Model Comparison: Non-Mediated Model (Model 3)**



Source: AMOS Graphic Output

**Figure 6.8**  
**Alternative Model Comparison: Full Mediation Model (Model 1)**



Source: AMOS Graphic Output

**Table 6.8**  
**Model Comparison for Mediation Effects Testing**

Goodness-of-fit	Fit Index	Model Comparison 1		Model Comparison 2	
		Partial Mediation	Full Mediation	Partial Mediation	Non-Mediation
<b>Absolute Fit Measures</b>	$\chi^2$	872.186	886.885	872.186	872.186
	$\chi^2/df$	2.611	2.631	2.611	2.611
	GFI	0.939	0.937	0.939	0.939
	RMSEA	0.041	0.041	0.041	0.041
<b>Incremental Fit Measure</b>	TLI	0.903	0.902	0.903	0.903
	CFI	0.915	0.913	0.915	0.915
<b>Parsimony Fit Measure</b>	PCFI	0.808	0.814	0.808	0.808
	PNFI	0.768	0.773	0.768	0.768
Chi-Square Difference		$\Delta\chi^2= 14.699, p<0.01$		$\Delta\chi^2=$ no difference	

thus far provided such robust empirical approach as the present study to test the mediating role of peer communication using the alternative model comparison method in SEM.

To summarise, there appeared to have reasonable evidence from the alternative model comparison tests to support that the hypothesized partially mediated model and the non-mediated model had the best overall model fit compared to the other full mediation model. Although a comparison between a partially mediated model and a non-mediated model revealed no differences.

The partially mediated model was used for further analysis in the present study, as the objective of this study was to determine if peer communication would play a mediating role in the relationship between socio-oriented family communication, concept-oriented family communication, and religiously-oriented family communication on materialism. The hypotheses testing and findings will be discussed in the next section.

## 6.5 Results of Hypotheses Testing

The hypotheses testing was conducted based on the partially mediated model ( $\chi^2 = 872.1864$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA = 0.041) that has the best overall model fit compared to the other alternative models as discussed above. The significance of each hypothesized path in the research model was first determined. This was followed by examining the nature and magnitudes of the relationships between latent constructs according to the theoretical expectations.

AMOS output reported both unstandardised and standardized parameter estimates for all specified paths, along with standard errors and test statistics for each path. Large standard errors indicated that the particular parameter estimate was not reliable. Figure 6.7 depicted all hypothesized structural relationships among the study constructs.

The proposed hypotheses were examined by looking at the significance, signs, and the magnitude of the estimated coefficients using one-tailed distribution (Hair et al., 2006). The size of effect of a particular exogenous on its endogenous constructs was determined by examining the respective absolute magnitude of the standardised path coefficients (Hair et al., 2006).

The interpretation concerning the size of effect of the standardised path coefficients for this study was based on Kline's (2005) recommendations. Accordingly, standardised path coefficients with absolute values less than .10 indicated a small effect; value around .30 indicated a medium effect; and those values greater than .50 indicated a large effect (Kline, 2005). There were ten (10) hypotheses posed for testing in the study. Each of the hypotheses was reviewed based on findings relevant to the hypothesis.

### 6.5.1 The Effects of Socio-oriented, Concept-oriented and Religiously-oriented Family Communications on Materialism

In this section the influence of socio-oriented family communication, concept-oriented family communication, and religiously-oriented family communication on materialism (the ultimate dependent variable) is discussed. Table 6.9 presents the hypotheses testing of the effects of family-oriented communication on materialism. In the first instance, three hypotheses testing were conducted to determine the relationship between family communication and materialism. In Hypothesis 1, it was predicted that young adult person's exposure to a socio-oriented family communication structure during adolescent years is positively associated with their orientation towards materialism in their adulthood.

**Table 6.9**  
**Hypotheses Testing: The Effects of Family-oriented communication on Materialism**

Paths	Items	Hypothesised Direction	$\beta$	SE	Critical Ratio	Supported
<b>H1: Socio-oriented family communication – Materialism</b>	<b>Consensual Protective</b>	+	.259***	.044	3.768	Yes
<b>H2: Concept-oriented family communication – Materialism</b>	<b>Pluralistic Laissez-faire</b>	-	-.092	.039	-1.497	No
<b>H3: Religiously-oriented family communication – Materialism</b>		-	-.009	.039	-.199	No

Note:  $\beta$  = standardised regression weight; SE = standard error; \*\*\*  $p < 0.001$ .

Specifically, Hypothesis 1 expected socio-oriented family communication to have an effect on materialism. Based on the empirical results shown in Table 6.9, the path

coefficient for the relationship between socio-oriented family communication and materialism was significant. The standardised path coefficient was .301,  $p=0.001$ .

Hypotheses 2 predicted that young adult person's exposure to a concept-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood. The path analysis produced an insignificant standardised path coefficient ( $\beta = -.092$ ,  $p>.05$ ) with materialism, though result indicated a negative relationship between concept-oriented family communication and materialism.

The results suggested that concept-oriented family communication though related to materialism, however, was not significant in predicting materialism. Hence, Hypothesis 2 was not supported. An examination of the present findings with previous studies was conducted.

It was found that the results of this study converged with the findings of Moschis and Moore (1979a), whereby socio-oriented family communication contributed reliably to the prediction of materialism, whereas concept-oriented family communication, failed to reliably contribute to the prediction of materialism. Specifically, Moschis and Moore (1979a) conducted a study among adolescents from junior and high school students and found the correlation between socio-oriented family communication structure and materialism, to be statistically significant while the relationship between concept-oriented communication structure and materialism was insignificant.

Hypotheses 3 which predicted that young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood. From the empirical results shown in Table 6.9, although the path coefficient was negative, the

path coefficient from religiously-oriented family communication ( $\beta = -.009$ ,  $p > .05$ ) to materialism was not significant. The results suggested that religiously-oriented family communication though related to materialism, was however not significant in predicting materialism. Hence, Hypothesis 3 was not supported.

### **6.5.2 The Effects of Socio-oriented, Concept-oriented, Religiously-oriented Family Communications on Peer Communication**

This section discusses the findings regarding the effects of socio-oriented family communication, concept-oriented family communication and religiously-oriented family communication components on peer communication.

Hypothesis 5 predicted that young adult person's exposure to a socio-oriented family communication structure at home during their adolescent years has a positive effect on peer communication. From the empirical results shown in Table 6.10, the path coefficient for the relationship between socio-oriented family communication and peer communication was significant. The relationship yielded a standardised path coefficient of .301,  $p=0.005$ . Hence, hypothesis 5 was supported.

Hypotheses 6 predicted that young adult person's exposure to a concept-oriented family communication structure at home during adolescent years has a positive effect on peer communication. From the empirical results shown in Table 6.10, the path coefficient for the relationship between concept-oriented family communication and peer communication was significant. The relationship yielded a standardised path coefficient of .209,  $p=0.000$ . Hence, Hypothesis 6 was supported.

Hypotheses 7 predicted that young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years has a positive effect on peer communication. From the empirical results shown in Table 6.10, the path coefficient for the relationship between religiously-oriented family communication and peer communication was significant. The relationship yielded a standardised path coefficient of .121,  $p=0.005$ . Hence, hypothesis 7 was supported. Overall, the socio-oriented family communication, concept-oriented family communication and religiously-oriented family communication components predicted peer communication well.

Among all family oriented communication variables, the concept-oriented family communication variable was found to have the strongest effect on peer communication ( $\beta = .209$ ,  $p < .001$ ). In this study, both socio-oriented family communication ( $\beta = .180$ ,  $p < .05$ ) and religiously-oriented family communication ( $\beta = .121$ ,  $p < .05$ ) were found to exert a moderate effect on peer communication.

**Table 6.10**  
**Hypotheses Testing: The Effects of Family Oriented Communication on Peer Communication**

Paths	Items	Hypothesised Direction	$\beta$	SE	Critical Ratio	Supported
<b>H5: Socio-oriented family communication – Peer communication</b>	<b>Consensual Protective</b>	+	.180*	.046	2.795	Yes
<b>H6: Concept-oriented family communication – Peer communication</b>	<b>Pluralistic Laissez-faire</b>	+	.209***	.042	3.563	Yes
<b>H7: Religiously-oriented family communication – Peer communication</b>		+	.121*	.042	2.791	Yes

Note:  $\beta$  = standardised regression weight; SE = standard error; \*\*\*  $p < 0.001$ , \*Correlation was significant at  $p < 0.05$  level

The result of this study converged with the findings of Churchill and Moschis (1979), that socio-oriented family communication (dimension representing intra family communication) contributed reliably to the prediction of peer communication. Specifically, the findings of the study from Churchill and Moschis (1979) indicated that family communication about consumption matters increased with the amount of peer communication.

In addition, parent-initiated discussions about consumption were found to be related to the adolescent's frequency of interaction with peers about similar matters (Moore and Stephens, 1975; Moore and Moschis, 1978a). Thus, the adolescent's frequency of interaction with parents regarding consumption would be associated with the individual's frequency of interaction with his or her peers about consumption.

In another study Chan and Prendergast (2007), reported the level of concept-oriented family communication reported by the respondents was higher than that of socially oriented communication. Respondents more frequently communicated with their peers about consumption than with their parents.

The findings from Moschis and Churchill (1978) also indicated that adolescents' communications with their peers about consumption matters may be centered on the social importance of goods and services, and they may be a second-order consequence of learning from parents. The result of this study also converged with the findings of Kamaruddin and Mokhlis (2003). Specifically, the findings of their study indicated that religious group affiliations were strongly correlated with the influence of peers.

### 6.5.3 The Effects of Peer Communication on Materialism

Hypothesis 9 which predicted that young adult person's communication with their peers during adolescent years is positively associated with their orientation towards materialism in their adulthood. From the empirical results shown in Table 6.11, the path coefficient from peer communication to materialism was significant ( $\beta = .256$ ,  $p < .001$ ), indicating that peer communication had a significant direct effect on materialism. Therefore, Hypothesis 9 was supported.

**Table 6.11**  
**Hypotheses Testing: The Effects of Peer Communication on Materialism**

Paths	Hypothesised Direction	$\beta$	SE	Critical Ratio	Supported
<b>H9: Peer Communication-Materialism</b>	+	.256***	.045	5.146	Yes

Note:  $\beta$  = standardised regression weight; SE = standard error; \*\*\*  $p < 0.001$ .

Churchill and Moschis (1979) conducted a study among adolescents from junior and high school student and found that materialistic values increased with the extent of peer communication. Another study conducted by Moore and Moschis (1981) found that the frequency of peer communication seemed to lead to the development of materialistic orientations. Thus, concluding that the expressive aspects of consumption may be acquired from peers.

A study conducted by Chan and Zhang (2007) among university students (undergraduate and graduate students) aged 18 to 24 in China have found that those who placed a high importance on material possessions were keen to engage in peer interaction.

#### 6.5.4 Direct, Indirect and Total Effects of the Hypothesized Model

To further examine the effects of socio-oriented family communications, concept-oriented family communication and religiously oriented family communication on materialism, the decomposition of direct, indirect, and total effects of predicting variables on the endogenous variables (i.e., peer communication and materialism) was analysed. Table 6.12 presents the direct, indirect and total effects of the hypothesized model.

**Table 6.12**  
**Direct, Indirect, and Total Effects of Hypothesized Model**

Independent Variables		Endogenous Variables						Finding Mediation effects
		Peer Communication (R <sup>2</sup> = 0.154)			Materialism (R <sup>2</sup> =0.144)			
		Direct effects	Indirect effects	Total effects	Direct effects	Indirect effects	Total effects	
Socio-oriented family communication	Consensual Protective	.034**	.000	.034***	.006**	.019	.001***	Yes (Partial-mediation)
Concept-oriented family communication	Pluralistic Laissez-faire	.031**	.000	.031**	.152	.023	.569	Yes (full-mediation)
Religiously-oriented family communication		.020**	.000	.020**	.831	.019	.688	Yes (full-mediation)

Note: Standardised path estimates were reported; \*\*p< .05; \*\*\*p< .001.

The total variance in peer communication explained by the three family oriented communication constructs factors was 15.4%. For the prediction of peer communication, all the factors for the study (i.e., socio-oriented family communication, concept-oriented family communication and religiously-oriented family communication) had significant direct effects on peer communication. Among all

significant predictors of peer communication, concept-oriented family communication had the largest effects on peer communication.

The proposed model explained 14.4 % of the amount of variance in materialism via peer communication. Considering the total effects of all constructs on materialism, socio-oriented family communication via peer communication exhibited the strongest total effect ( $\beta = .034$ ), followed by the direct effect of concept-oriented family communication on peer communication ( $\beta = .031$ ), and religiously-oriented family communication on peer communication ( $\beta = .020$ ).

### **6.5.5 Mediation Effect**

In the diagram used for hypotheses testing (see Figure 6.7), peer communication was hypothesized as mediating the relationships between socio-oriented, concept-oriented, and religiously-oriented family communication factors and materialism. The evaluation of the three alternative models discussed earlier reported the partial mediation model ( $\chi^2 = 872.1864$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA = 0.041) as the best overall fit model as compared to a full mediation model.

Since the fit of the hypothesised partial mediation model was acceptable, Hypotheses 10, 11 and 12 were assessed to determine which path involved partial and full mediating relationship. For Hypothesis 10, it was predicted that peer communication mediates the relationship between young adults' exposure to a socio-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.

Hypothesis 11 predicted that peer communication mediates the relationship between young adults' exposure to a concept-oriented family communication structure

at home during adolescent years and their orientation towards materialism in their adulthood. And Hypothesis 12 predicted that peer communication mediates the relationship between young adults' exposure to a religiously-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.

The mediating role of peer communication was tested based on the suggestion of Baron and Kenny (1986). This study hypothesized that peer communication partially mediated the relationship between socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication components and materialism. Referring to Table 6.12, the finding indicated a significant direct path from peer communication (mediator) to materialism (dependent variable).

Following the same procedure, the hypothesized mediating role of peer communication between socio-oriented family communication and materialism was examined. The result showed that the paths between socio-oriented family communication and peer communication was significant ( $\beta=.034$ ,  $p<.05$ ), and the paths between socio-oriented family communication and materialism was significant ( $\beta=.006$ ,  $p<.05$ ).

It meant that socio-oriented family communication was directly linked to materialism, as well as indirectly, through the mediating effect of peer communication. The findings supported a partial mediating effect of peer communication for the link between socio-oriented family communication components and materialism. Hence, Hypothesis 10 was supported. Following the same procedure, the hypothesized mediating role of peer communication between concept-oriented family communication and materialism was examined.

The result showed that the paths between concept-oriented family communication and peer communication was significant ( $\beta = .031, p < .05$ ). The path analysis between concept-oriented family communication however, produced an insignificant standardised path coefficient ( $\beta = .152, p > .05$ ) with materialism.

The results suggested that concept-oriented family communication though related to materialism, was however not significant in predicting materialism. Peer communication did not partially mediate the relationship between concept-oriented family communication and materialism, but instead, peer communication fully mediated the relationship between concept-oriented family communication and materialism. Hence, Hypothesis 11 was supported.

Following the same procedure, the hypothesized mediating role of peer communication between religiously-oriented family communication and materialism was examined. The present study has fulfilled the third mediating condition (i.e., significant path between peer communication (mediator) and materialism (dependent variable)), the study examined whether condition 1 was met. Among the three family communication factors, the path between religiously-oriented family communication and peer communication was found to be significant ( $\beta = .020, p < .05$ ), thus fulfilling condition 1.

However, the path analysis between religiously-oriented family communication produced an insignificant standardised path coefficient ( $\beta = .831, p > .05$ ) with materialism. Peer communication did not partially mediate the relationship between religiously-oriented family communication and materialism, but instead, peer communication fully mediated the relationship between religiously-oriented family communication and materialism. Hence, Hypothesis 12 was supported.

## 6.6 Evaluating the Final Hypothesized Structural Model

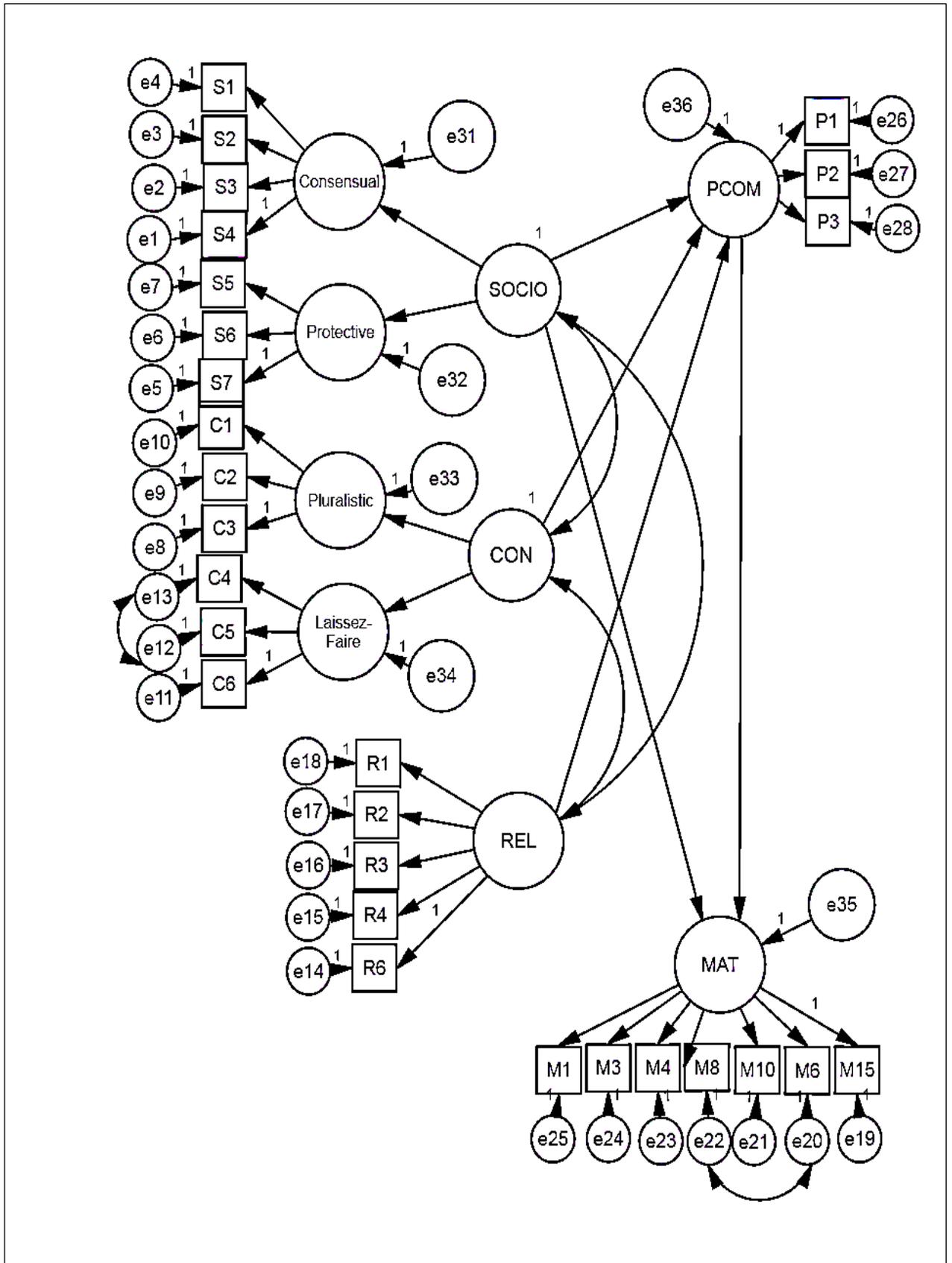
Upon completing hypotheses testing, the proportion of variance explained by the proposed model was examined. The final model is presented in Figure 6.9. Since non-significant path has no substantial meaningful interpretation provided for the parameter estimates, several insignificant paths were removed subsequently from the structure model.

This resulted in several of the path estimates from the previous partial mediation model changed slightly, as would be expected. The final model with only the significant paths still provided acceptable model fit ( $\chi^2 = 874.407$ ,  $\chi^2/df = 2.602$ , GFI = 0.938, TLI = 0.904, CFI = 0.914, RMSEA = 0.041). Selected AMOS outputs for the final structural model are presented in Appendix E.

Lastly, the squared multiple correlations ( $R^2$ ) were examined to determine the proportion of variance that was explained by the exogenous constructs in the theoretical model. Specifically, the total variance in peer communication explained by the four consumer socialization constructs was 15.7% in the final model.

The proposed model explained a substantial amount of variance in materialism in that all direct and indirect effects contributed to 13% of the total variance, which was considerably low, and this could be attributed to the numerous factors that may affect materialism.

**Figure 6.9**  
**Final Hypothesized Structural (Model 1)**



Source: Amos Graphic Output

## **6.7 Summary of Hypotheses for the Hypothetical Model**

Out of the ten (10) hypotheses tested in the hypothetical model for this study, eight (8) hypotheses were supported. This section summarises the findings of hypotheses testing. Table 6.13 provides a summary of the tests of hypothesized relationships.

Hypothesis 1 predicted that young adult person's exposure to a socio-oriented family communication structure at home during adolescent years is positively associated with their orientation towards materialism in their adulthood. The findings indicated that young adults who were characterized by a socio-oriented family communication structure at home during their adolescents' years were positively correlated with their orientation towards materialism in their adulthood.

Hypothesis 2 predicted that young adult person's exposure to a concept-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood. This finding was however not directly supported. Hypothesis 3 predicted that young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood. The finding was however not directly supported in this study.

Hypothesis 4 and 13 which posited that young adults person's exposure to television viewing at home during adolescent years has a positive effect on their orientation towards materialism in their adulthood and peer communication mediates the relationship between young adults' exposure to television viewing at home during

**Table 6.13**  
**Summary of the Tests of Hypothesized Relationships**

Hypotheses Statements	Findings
<b>H1:</b> Young adult person's exposure to a socio-oriented family communication structure at home during adolescent years is positively associated with their orientation towards materialism in their adulthood.	Supported
<b>H2:</b> Young adult person's exposure to a concept-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood.	Not Supported
<b>H3:</b> Young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years is negatively associated with their orientation towards materialism in their adulthood.	Not supported
<b>H4:</b> Young adult person's exposure to television viewing at home during adolescent years has a positive effect on their orientation towards materialism in their adulthood.	Not tested <sup>a</sup>
<b>H5:</b> Young adult person's exposure to a socio-oriented family communication structure at home during adolescent years has a positive effect on peer communication.	Supported
<b>H6:</b> Young adult person's exposure to a concept-oriented family communication structure at home during adolescent years has a positive effect on peer communication.	Supported
<b>H7:</b> Young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years has a positive effect on peer communication.	Supported
<b>H8:</b> Young adult person's exposure to television viewing at home during adolescent years is positively associated with peer communication.	Not tested <sup>a</sup>
<b>H9:</b> Young adult person's communication with their peers during adolescent years is positively associated with their orientation towards materialism in their adulthood.	Supported
<b>H10:</b> Peer communication mediates the relationship between young adults' exposure to a socio-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.	Supported
<b>H11:</b> Peer communication mediates the relationship between young adults' exposure to a concept-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.	Supported
<b>H12:</b> Peer communication mediates the relationship between young adults' exposure to a religiously-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood.	Supported
<b>H13:</b> Peer communication mediates the relationship between young adults' exposure to television viewing at home during adolescent years and their orientation towards materialism in their adulthood.	Not tested <sup>a</sup>

Note: a Although significant correlation were found between television viewing and peer communication, the hypothesis was not tested in the final hypothetical model as factor correlation and squared correlation in the preliminary analysis indicated that television viewing (as the independent variable) had no significant effect on the outcome variable (i.e., materialism). Hence, it did not fulfill the second condition proposed by Baron and Kenny (1986) for a partially mediated model.

adolescent years and their orientation towards materialism in their adulthood were not tested in the final hypothetical model because based on the preliminary analysis, the correlation coefficient between television viewing and materialism was positive ( $r = .043$ ) but not significant at  $p = 0.090$  (one-tailed).

According to Baron and Kenny's (1986) one of the conditions which needed to be fulfilled in a partially mediated model was that the independent variable should affect the dependent variable. In this proposed model, factor correlation and squared correlation between television viewing (as the independent variable) had no significant effect on the outcome variable (i.e., materialism).

Hypothesis 5 predicted that young adult person's exposure to a socio-oriented family communication structure at home during adolescent years has a positive effect on peer communication. The results indicated that socio-oriented family communication had a significant positive effect on peer communication.

Hypothesis 6 predicted that young adult person's exposure to a concept-oriented family communication structure at home during adolescent years has a positive effect on peer communication. The results indicated that concept-oriented family communication had a significant positive effect on peer communication. Hence, hypothesis 6 was supported.

Hypothesis 7 predicted that young adult person's exposure to a religiously-oriented family communication structure at home during adolescent years has a positive effect on peer communication. The results indicated that religiously-oriented family communication had a significant positive effect on peer communication.

Hypothesis 8 posited that young adult person's exposure to television viewing at home during adolescent years is positively associated with peer communication. Although significant correlation were found between television viewing and peer communication ( $r=.065$ ) and significant at  $p= 0.023$  (one-tailed), the relationship between television viewing and peer communication was not tested in the partially mediated model proposed for this study, as the second condition proposed by Baron and Kenny (1986) which stated that the independent variable must affect the dependent variable was not fulfilled.

Hypothesis 9 predicted that young adult person's communication with their peers during adolescent years is positively associated with their orientation towards materialism in their adulthood. The results indicated that young adults' communication with their peers was significantly and positively correlated to materialism. According to Baron and Kenny (1986), one of the conditions for mediation effect was that the mediator must have effect on the dependent variable. In this case, this mediation condition was met, as peer communication (mediator) did have a significant positive effect on materialism.

Hypothesis 10 predicted that peer communication mediates the relationship between young adults' exposure to a socio-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood. It was found that socio-oriented family communication had significant direct and indirect effect on materialism. Socio-oriented family communication was indirectly associated with materialism, through the mediating effect of peer communication. Peer communication partially mediated the relationship between socio-oriented family communication and materialism.

Hypothesis 11 investigated if peer communication mediates the relationship between young adults' exposure to a concept-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood. It was found that concept-oriented family communication had no significant direct effect on materialism but instead the effect was indirect. Peer communication fully mediated the relationship between concept-oriented family communication and materialism.

Hypothesis 12 investigated if peer communication mediates the relationship between young adults' exposure to a religiously-oriented family communication structure at home during adolescent years and their orientation towards materialism in their adulthood. It was found that religiously-oriented family communication had no significant direct effect on materialism but instead the effect was indirect. Peer communication fully mediated the relationship between religiously-oriented family communication and materialism.

## **6.8 Chapter Summary**

In summary this chapter has presented a brief introduction on the use of Structural Equation Modelling (SEM), and the justification for its use in this study. Next, this chapter has presented the measurement scale validation in which the procedures for the validation of the measurement model was discussed based on data collected from 956 samples, the measurement model was first revised and confirmed using confirmatory factor analysis.

Confirmatory factor analysis (CFA) was employed for the assessment of measurement model fit and unidimensionality and an important discussion relating to

CFA which included identification issues, model specification and the testing of one-dimensional versus multi-component measures employed for the study was covered. The present hypothesised model was over-identified with 336 (406 – 70) degrees of freedom. As the sample size of the present study was sufficiently large (n=956), it was believed that the hypothesised model would converge and produce reliable results.

For the model specification, based on the result of the exploratory factor analysis, all the construct of this study were measured by multiple indicators. Based on empirical findings obtained from factor analysis and the alternative model testing results, socio-oriented family communication structure, and concept-oriented family communication structure were best represented through disaggregated multi-component concepts and the constructs performed better when modeled as a disaggregated two-factor structure.

In terms of the assessment of fit of the measurement model, the initial measurement model incorporated five (5) latent constructs. The initial measurement model (CFA) of this study had yielded an adequate model fit for the empirical data, with the exception of the incremental fit Measure for TLI which values did not fit the recommended level. Hence, the measurement model was modified by examining the standardised residuals, modification indices and the standardised loading estimates.

Based on the Modification Indices (MI) value, the initial measurement model was re-specified in an attempt to improve the model fit. Following these procedures, no indicators were dropped, as the model fit assessment based on residual and MI provided a good fit indices for the final CFA model ( $\chi^2 = 872.186$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA = 0.041). The measurement model fit the data well. The convergent validity was assessed by checking the loading of each observed indicators on their underlying latent construct. The CFA results indicated that each

factor loadings of the reflective indicators were statistically significant at 0.001 level. The factor loadings ranged from 0.509 (SOCIO2) to 0.852 (REL01). Other than fulfilling the factor loadings and item reliability criteria, the convergent validity assessment also included the measure of construct reliability and variance extracted.

The second part of the chapter focused on the hypothesized relations among the six constructs. The hypothesized structural model was assessed through four main steps. First, the theoretical model had to meet the goodness-of-fit to the empirical data satisfactorily based on the same set of fit indexes applied in assessing measurement model.

Second, alternative model comparison between non-mediation, full mediation, and partial mediation model was conducted to test and confirm the hypothesized partial mediation model using chi-square differences test. Third, the direction, significance and magnitude of the path corresponding to each hypothesis of the theoretical model were examined once the hypothesized partial mediation model was confirmed. Finally, the squared multiple correlations were examined to determine the proportion of variance that was explained by the exogenous construct in the theoretical model.

The overall model fit for structural model was examined. The initial full structural model fit ( $\chi^2 = 905.743$ ,  $\chi^2/df = 2.695$ , GFI = 0.936, TLI = 0.898, CFI = 0.910, RMSEA = 0.042) demonstrated adequate fit with the observed data except for the TLI index, indicating the model could be further improved. Several modifications were made to the hypothesized model based on the modification index and the final model for hypothesis testing converged with established benchmark requirements ( $\chi^2 = 872.186$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA = 0.041).

Alternative models with different hypothetical structural relationships were tested against each other to determine which has the best overall fit to the empirical data. Evidence from the alternative model comparison tests supported that the hypothesized partially mediated model had the best overall model fit compared to the other two alternative models. Therefore, the partially mediated model was used for further analysis in the present study, and the hypotheses testing and findings.

The hypotheses testing was conducted based on the partially mediated model ( $\chi^2 = 872.1864$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA = 0.041) that had the best overall model fit compared to the other alternative models. Out of the ten (10) hypotheses tested in the hypothetical model for this study, six (6) hypotheses were supported. Upon completing hypotheses testing, the proportion of variance explained by the proposed model was examined. The final model with only the significant paths provided acceptable model fit ( $\chi^2 = 874.407$ ,  $\chi^2/df = 2.602$ , GFI = 0.938, TLI = 0.904, CFI = 0.914, RMSEA = 0.041).

The hypotheses for this study were then tested and a comparison was made with prior studies. Hypothesis 1 predicted that young adult person's exposure to a socio-oriented family communication structure at home during adolescent years was positively associated with their orientation towards materialism in their adulthood was supported. Hypothesis 2 and 3 predicted that young adult person's exposure to a concept-oriented and religiously-oriented family communication structures at home during adolescent years was negatively associated with their orientation towards materialism in their adulthood were not directly supported.

Hypothesis 4 and 13 posited that young adult person's exposure to television viewing at home during adolescent years has a positive effect on their orientation

towards materialism in their adulthood and that peer communication mediates the relationship between young adults' exposure to television viewing at home during adolescent years and their orientation towards materialism in their adulthood were not tested in the final hypothetical as the correlation coefficient between television viewing and materialism was not significant.

Hypothesis 5, 6 and 7 predicted that young adult person's exposure to a socio-oriented, concept-oriented and religiously family communication structures at home during adolescent years has a positive effect on peer communication were supported. Hypothesis 8 posited that young adult person's exposure to television viewing at home during adolescent years is positively associated with peer communication was not tested.

Hypothesis 9 predicted that young adult person's communication with their peers during adolescent years is positively associated with their orientation towards materialism in their adulthood was supported. Hypothesis 10, 11 and 12 predicted that peer communication would mediate the relationship between young adults' exposure to a socio-oriented, concept-oriented and religiously-oriented family communication structures at home during adolescent years and their orientation towards materialism in their adulthood were supported.

## **CHAPTER 7**

### **DISCUSSION**

In this chapter, an overview of the study, including the objectives, literature review and research methodology for this study are discussed. Following this, the significance and implications of the findings are discussed, and reasonable explanations of the research results are offered. Lastly, the limitations, suggestions for future research, the implication for marketers, researchers and public policy makers are presented and a chapter summary.

#### **7.1 Overview of the Study**

Materialism among today's youth has received strong interest among educators, parents, consumer activist and government regulators as young adults are getting more materialistic. Although materialism has long been of interest to consumer researchers, surprisingly research into this area has received little attention from academic researchers.

Based on prior literature review, it was not clear whether specific socialization agents in general, and communication environment in particular, instilled materialism among people. Based on established theories of consumer socialization, this study attempted to determine if young adult person's exposure to a socio-oriented, concept-oriented, religiously-oriented family communication structures at home, television viewing and peer communication during adolescent years would have an effect on their orientation towards materialism in adulthood. It also attempted to determine if young

adult person's exposure to a socio-oriented, concept-oriented and religiously family communication structures and television viewing at home during adolescent years would have any effect on peer communication, and whether peer communication during adolescent years would influence their orientation towards materialism in adulthood.

This study also predicted that peer communication would mediate the relationship between young adults' exposure to a socio-oriented, concept-oriented and religiously-oriented family communication structures and television viewing at home during adolescent years and their orientation towards materialism in their adulthood.

The theoretical framework of this study is built upon theories and concepts in the field of consumer socialization. A survey was used to explore the complex relationship between young adults' family-oriented communications, peer communication and materialism. The survey questionnaire consisted of 51 questions. Socio-oriented family communication structure was measured in line with previous research and consisted of seven items.

Concept-oriented family communication structure was measured with six items, religiously-oriented family communication was measured with six items, while young adults' television viewing was measured with the "weekly" method practiced by mass communication scholars by asking respondents how many hours per week do they watched specific programme categories.

Peer communication was measured with three items and materialism was assessed using previously published, multi-item measures using a five-point Likert format adopted from Wong et al. (2003). With the exception of television viewing scale, all other measurement scales employed Likert scale ranging from 1 'Strongly disagree' to 5

‘Strongly agree.’ The reason for the modification was to standardize the scale for the various sections of the questionnaire and to encourage consistency in responses.

This study employed non-probability sampling technique based on convenience sampling method. Respondents consisted of young adults mostly college students attending public and private institution of higher learning in the Klang Valley, in Malaysia, and the data were collected for a period of four consecutive months.

The total number of questionnaires distributed was 1,200 for a response rate of 83.5%. Of these returns, only 956 completed questionnaires were usable for the data analyses. The Statistical Package for Social Sciences (SPSS) 18 version and AMOS 16.0 version were used for statistical analyses.

## **7.2 Major Findings**

Of the 956 respondents who completed the questionnaire, 39.9% were males and 60.1% were females. In terms of age distribution, 63.6% of the samples were between the aged of 20-29 years old, followed by age range of 19 years old and below (25.4%) and the remaining of the respondents 11% were aged 30 to 40 years old. In terms of ethnic group, the majority of the sample consisted of Malay respondents (51.8%), followed by Chinese respondents (28.2%) and Indians (10.7%) and other ethnic groups formed (9.3%) of the sample.

In terms of religious faith, the majority of the respondents endorsed Islam (58.2%), followed by Buddhism, (20.4%), Christianity (10.2%), Hinduism (9.4%) and others (2.0%). Two third of the responding sample were single (87.8%), while (6.9%)

were married with children and (4.4%) were married without children. In terms of education, the majority of the respondents in the sample group possessed a professional qualification/university degree (56.9%), and (32.2%) possessed a college diploma while 10.6% have obtained their SPM certificate. In addition to that, 65.8% of respondents were earning an income range of less than RM1000.

In the preliminary analysis, all constructs were factor analysed using the principal components analysis with Varimax rotation. The principal components analysis performed extracted nine unidimensional factors having eigenvalues greater than 1.0. These factors (F1 to F9), represented 37 items and accounted for 52.5% of the total variance. Socio-oriented and concept-oriented family communication consisted of two subscales, namely obedience and social harmony (socio-oriented family communication), and mutuality of interest and respect (concept-oriented family communication).

All measurement constructs of the study consisted of more than two items on their respective dimensions. This study have demonstrated a moderate to high internal consistency reliability (alpha range = 0.54 to 0.84) for the five constructs. This study performed assumption testing based on four commonly applied requirements: normality, homoscedasticity, linearity, and multicollinearity. Based on the univariate estimation of skewness and kurtosis, no serious violations of univariate normality were found except for television viewing variable.

Overall significant positive correlations were reported for all the hypothesized relationships at .01 level and .05 level of confidence in the expected direction. With the exception of television viewing, the correlation between all the study constructs and materialism were significant with a p value of  $\leq 0.01$ . Hypothesis 4, which predicated

that television viewing during adolescent years has a positive association with materialistic values held by young adults, was not tested in subsequent analysis using Structural Equation Modelling (SEM).

Demographic differences were examined in socio-oriented family communication, concept-oriented family communication, religiously-oriented family communication, television viewing, peer communication and materialism constructs. Preliminary statistical procedures were employed to examine possible significant group differences in all the constructs based on gender, age, ethnicity, religion, marital status, education, and income.

Following that, a second section was made for further analysis. In the second part of the analysis, SEM technique was used to examine the overall hypothesised model and specific hypotheses testing. All constructs were subjected to confirmatory factor analyses using AMOS 16.0. Having met all the measurement issues such as unidimensionality of construct, convergent and discriminant validity, a structural model was then analysed to determine the structural relationships between exogenous and endogenous variables within the revised model.

The proposed model consisted of three exogenous constructs (i.e., socio-oriented family communication, concept-oriented family communication and religiously-oriented family communication) and two endogenous constructs (i.e., peer communication and materialism). Research model testing and analyses were conducted through three general approaches. First, the proposed model analyses were conducted using covariances and the most widely used maximum-likelihood estimation method with AMOS 16.0 (Anderson and Gerbing, 1982).

Second, the model development strategy was followed using model re-specification procedure which aims to identify the source of misfit and then generate a model that achieve better fit of data. Third, following the competing model strategy, three models with different hypothetical structural relationships were compared to determine the mediating role of peer communication between independent variables and materialism. In addition, the competing model strategy was employed to compare the disaggregated multi-components measures to a traditional unidimensional structure.

The hypotheses testing was conducted based on the partially mediated model ( $\chi^2 = 872.1864$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA = 0.041). Out of the ten (10) hypotheses tested in the hypothetical model for this study, eight (8) hypotheses were supported. Young adults' exposure to a socio-oriented family communication at home during adolescent years was significantly positively correlated with materialism. Young adults' exposure to a socio-oriented family communication structure during adolescent years had a significant positive effect on peer communication.

Young adults' exposure to a concept-oriented family communication structure during adolescent years had a significant positive effect on peer communication. The findings also indicated that young adults' exposure to a religiously-oriented family communication during adolescent years had a significant positive effect on peer communication. The results also indicated that young adults' communication with their peers during adolescent years was significantly and positively correlated to materialism. Peer communication partially mediated the relationship between socio-oriented family communication and materialism. Peer communication fully mediated the relationship between concept-oriented family communication and materialism, and between religiously-oriented family communication and materialism.

### **7.3 Contribution of the Study**

This study is significant in many ways. First, this study provides an insight into how the family environment influences the orientation of materialism among young adults. This study was built on the theories of socialization to explore the factors which were likely to influence the orientation of materialism among young adult consumers by taking into account their exposure to the family communication environment and peer communication during their adolescents' years.

Past studies have mainly concentrated on children and adolescents living room for assumptions as to which factors exerted greater influence on the orientation of materialism among young adults. As Ward (1977) mentioned, people at different age or life cycle levels may be influenced differently by environmental factors, and may respond differently to stimuli in general. Ward (1974) research identified three major socialization agents influencing children's consumer behaviour: parents, peers and mass media.

The findings of this study confirm that the extent to which socialization agents exert their influence on the individuals varies according to an individual life cycle stage. Past studies have established that adolescent who are exposed to a socio-oriented family communication at home tended to be more materialistic (e.g., Moschis and Churchill, 1978; Moschis and Moore, 1979a; Moore and Moschis, 1980; Bristol and Mangelburg, 2005). In this study, it was found that young adults who were exposed to a socio-oriented family communication at home during adolescent years remained inclined towards materialism in adulthood regardless of whether or not they communicated with peers during adolescent years.

The findings of this study converged with a study conducted by Moschis et al. (2013) in which a positive significant relationship was found between young adults' characterized by a socio-oriented family communication at home during their adolescent years and their level of materialism in adulthood.

This study demonstrated that adolescents who transitioned into adulthood and who were exposed to a socio-oriented family communication structure at home during adolescent years did not change their orientation towards materialism in adulthood. Their orientation towards materialism remained unchanged regardless of their age. In addition to that, their communication with peers during adolescent years further contributed significantly and positively in influencing their orientation towards materialism in adulthood.

Prior studies conducted among children and adolescents found no significant relationship between concept-oriented family communication and their level of materialism (e.g., Moschis and Churchill, 1978; Moschis and Moore, 1979a; Moore and Moschis, 1980). This study also did not find any association between young adults' exposure to a concept-oriented family communication at home during adolescent years and their orientation towards materialism in adulthood.

However, although there was no association between young adults' exposure to a concept-oriented family communication structure at home during adolescent years and their orientation towards materialism in adulthood, their frequent communication with their peers during adolescent years led them to become more oriented towards materialism in adulthood. This study also attempted to examine the implications of young adults who were exposed to a religiously-oriented family communication

structure at home during adolescent years and its implication on their materialistic orientation during adulthood. This study has fulfilled a research gap by examining if whether or not young adults exposure to a religiously-oriented family communication structure at home during adolescent years would lead to their orientation towards materialism in adulthood.

Although no direct significant relationship were found, one of the interesting findings of this study was that, young adults' who were exposed to a religiously-oriented family communication structure at home during adolescent years and who frequently communicated with peers during adolescent years, tended to be oriented towards materialism in adulthood.

Regardless of the type of family communication structure at home, which ultimately would lead to young adults' orientation towards materialism, it appeared that peers communication during adolescent years, exerted a great influence on the orientation towards materialism in adulthood. In fact, peers communication during adolescent years appeared to be of greater importance than the family communication environment on young adults' orientation towards materialism.

This finding converged with the pioneering work of Ward (1974), which described parents as the main socialization agent until adolescence where peers take over and tend to exert more influence on adolescence in acquiring values. The findings of this study also converged with Piaget theory which places major emphasis on interaction with peers as an important facilitator of learning and socialization during adolescent years. In this study, the influence of peer communication has been examined as a mediator in the relationship between the various types of family communications structure at home

during adolescent years and their orientation towards materialism in adulthood. Prior research which examined the mediating effect of peer communication in their model within the family environment, has done so very recently and only within the context of family structure environment and materialism (studied as an outcome) but not within the context of family communication environment and materialism (Moschis et al. 2013).

Given that previous studies have identified three main areas of family environment (i.e., family structure, family communication and family resources) to explore, it was appropriate to examine how peer communication (as a mediating variable) would interplay within various family communication structure and its effect on materialism. By doing so, this study has theoretically fulfilled another important research gap.

The findings of this study which highlighted on the importance of family and peer communication in young adults' orientation towards materialism also proved to be in line with McLeod and O'Keefe (1972) social learning model which seeks explanations for the formation of cognitions and behaviours from the sources of influence (socialization agents) transmitting values to the person. Learning is assumed to be taking place during the person's interaction with these socialization agents in various social settings. In this study, family and peer communication both proved to be important in the orientation towards materialism

The findings of this study also converged with Bandura's (1977) social cognitive learning theory in which it is suggested that a combination of behavioural, cognitive, and environmental factors can influence behaviour. Through verbal communication with family and peers, young adults can positively be influence towards materialism.

This study also serves as an indication that communication quality and consumption interaction were important in determining consumer activity. Consumption interaction and communication quality among family members at home and with peers outside the house, were important for consumer activity.

In terms of methodological contribution, this study has presented a scale to measure the concept of religiously-oriented family communication structure among young adult consumers. The scale measuring the construct has been found to be very reliable in a multi-cultural and multi-ethnic population environment.

The second methodological contribution of this study is with regards to the nature of the population sample employed in this study which consisted of young adult consumers. Prior studies in the area of consumer socialization have mostly examined the influence of family communication environment on materialism (as an outcome) mostly among children and adolescents (e.g., Vel and Moschis, 2008) while this study has examined young adults in particular.

#### **7.4 Limitations**

Inevitably, this study has its own limitations. In terms of theoretical limitation, it has been established that the family environment would impact on the development of materialism. However, parental influence is not limited to the family communication environment alone.

Within the context of family environment, other important variables need considerable attention as well. This study has captured the effect of family communication environment on materialism, whereas the effect of family structure, and

family resources were not examined in the model. Another objective of this study was to investigate the effect of peer communication would have an implication on the materialistic orientation of young adults. This study has explored peer interaction effect but did not examined the nature and purpose of interactions (i.e., normative versus informative) and the degree to which it may have an implication on the development of materialism among young adults.

Another objective which this study has failed to achieve was to determine if television viewing during adolescent years would have an effect on young adults' orientation towards materialism. This is especially so given that several studies have consistently found a significant positive relationship between television viewing and materialism among children, adolescents and young adults (for e.g., Chan and Prendergast, 2007; Shrum et al., 2005; Shrum, 2011).

The failure in achieving this objective could have been related to the choice of instrument selected for measuring television viewing. Although several theoretical justifications were made prior to the adoption of the measurement instrument, the construct violated the multivariate analysis assumptions when tested empirically. Furthermore, no correlation was found between television viewing and materialism which was one important pre-requisite in testing a partially mediated model using structural equation modelling (SEM). For these reasons, the variable had to be discarded from the study.

Methodological limitations have also weakened to some extent the validity and generalizability of research findings. This study has examined the influence of three major socialization agents influence on the orientation of materialism among young adult consumers and respondents of this study were asked to think back during their

childhood years and were provided with a list of things that their parents did or said during their conversation with them.

Although most of the instruments employed in this study were reliable, respondents could have had some difficulties to recall back their family conversations and the list of things that parents sometimes said or did during their childhood while growing up. This is especially so due to the passage of time and life events from childhood to adulthood which could have affected their ability to retrieve information that took place in the past among family members and themselves accurately. As a result, the validity of the results could have been affected to some extent.

The findings of this study is limited to explaining the respondents in the current study since the survey employed a convenience student sample from public and private institution of higher learning in the Klang Valley in Malaysia. The use of a convenience sample may have lead to a homogenous sample (Palan and Wilkes, 1997) and the findings may not be generalizable to other settings or nations. It is therefore not appropriate to generalize the findings to all young adults' or college students in Malaysia even though they can serve as a good reference for future research.

## **7.5 Recommendations for Future Research**

Due to the limitations respondents of this study may have faced in recalling back their family conversations and the list of things that their parents may have sometimes said or did during their childhood while growing up, longitudinal study could be conducted in future research to explore how the various socialization agents exert their influence on young adults orientation towards materialism from the period of childhood to adulthood.

A longitudinal study would involve repeated observations of the same variables across the life span and could provide further insight into how and at which point of time peer influence begin to exert greater influence on the life of an individual towards their orientation towards materialism.

Unlike the cross-sectional study which was conducted for this study, in which different individuals with same characteristics were compared, a longitudinal study could track the same people, and therefore the differences observed in those people would be less likely to be the result of cultural differences across generations.

Longitudinal studies would also make observing changes more accurate. It would also allow researchers to distinguish short from long-term phenomena, because materialism is a long term phenomena which developed over time and through the influence of various environmental factors.

Future research could conduct a cohort study to better understand the orientation of materialism among individuals born in a particular period of time. Subgroup within the cohort could be compared with each other to determine more accurately at which specific age socialization influencers could exert greater influence in an individual's orientation towards materialism.

In terms of methodology, although this study was unable to generalize the findings across the whole youth populations due in part to the sampling technique adopted, future research could further improved on the sampling technique in this area of research for the purpose of generalizing the findings across the whole youth population in Malaysia. Probability sampling method could be chosen over non-probability sampling technique.

Future studies could adopt a probability sampling in which every unit in the population has a chance (greater than zero) of being selected in the sample, and this probability could be accurately determined. The combination of these traits makes it possible to produce unbiased estimates of population totals, by weighting sampled units according to their probability of selection.

Future studies should be cautious when examining television viewing in their model. This study was not able to test if the frequency of television viewing would have an implication on young adults' orientation towards materialism, and the main reason attributed to this failure was due to the scale employed to measure the construct.

There exists however other measurement instruments which could be used in future research to measure television viewing. This study has utilized a ratio scale to measure television viewing, by asking respondent how many hours per week they watched specific programme categories. Perhaps future studies could identify an interval scale for measuring the construct of television viewing.

Future studies could develop a model to determine if both television viewing and peer communication could be treated as secondary socialization influencers and play a mediating role in the relationship between socio, concept and religiously-oriented family communications and young adults' orientation towards materialism. While employing both television viewing and peer communication as a mediator in a different model, future studies would be able to determine and compare which of these mediating variables exert more influence on young adults' orientation towards materialism, as opposed to the present study which only tested peer communication as a mediator in the relationship between the various family communication structure and materialism.

Another area which would need further attention in future research is related to young adults who are married, and those who are married with children. In such cases, it would be interesting to explore if the type of family communication that takes place within the home among spouses and children would influence the materialistic orientation of young adults.

This is due to the fact that young adults who are married and married with children may be involved in collective decision-making with their spouses and children with regards to their purchases and consumption, and family communication may exert a greater influence as compared to peers on young adults' orientation towards materialism.

This study has examined the influences of young adults who are characterized by a religiously-oriented family communication at home and the implication on materialism. However, given that the construct of religiously-oriented family communication is relatively new, it has not been previously examined within a different age group. Future studies could be conducted to determine if religiously-oriented family communication structure at home have any implications among children and adolescents, and also among older adults (over 40 years of age).

## **7.6 Implication for Marketers, Researchers and Public Policy Makers**

This study was an attempt to provide information which could be useful to help marketers to get a better understanding of their target consumers, especially on consumers' values. On the other hand, this study will evoke the attention of consumer

educators that young people's materialistic values are likely to get them into financial troubles.

From a theoretical perspective, this study is an attempt to inform our ideas about consumer learning, development, and change. No other area of consumer behaviour research is so focused on the process and outcomes of consumer learning that evolve over time. A number of implications for academics and practitioners are highlighted in this section. This study contributed to the existing body of research in several ways.

First, the study added to the existing literature by capturing cultural differences in materialistic tendencies as well as in family communication in a Malaysian context that is lacking in the literature. Moreover, not only has the current research answered the call for prospective research to examine the role of communication structures in the family, and peer communication as mediators in the transmission of materialism values among young adults and hence, provided a more comprehensive understanding about parent-to-child transmission of values, but it also contributed to the consumer socialization literature through developing a framework conceptualizing the role of family communication in the socialization of materialism orientation among young adults, a framework that was lacking and was fundamentally needed in this area of research.

From a managerial perspective, consumer socialization research provides unique insight into the beliefs and behaviour of an important consumer segment that is young adults. Overall, the findings of this study suggested that through communication and interaction with peers about consumption matters, young adults are aware of goods and services in the marketplace. This greater awareness of his/her consumer environment

may contribute to his/her active interaction about consumption matters leading them to become materialistic.

The marketing implications of these research findings can have implications for the marketing strategy formulation directed at young adult consumers. This study showed that as a child grows up into adulthood different socialization agents exert different degree of influence on the individual's orientation towards materialism. Thus, marketers should first consider coordinating their marketing communications according to the age of the consumers.

This is because the importance place on product attributes may change during the transition period from childhood to adulthood. Consequently, marketers should isolate the significant product attributes used in decision making by different age groups of young adults and adjust their marketing and promotional mixes accordingly. Another important finding of this study that is useful for marketers in targeting at their consumers is to understand that peer interaction and communication exert a great influence among young adult to consume.

Hence, marketers should develop savvy strategies relating to their marketing communication and promotional mixes effectively to reach out to their target market. For instance, marketers could have their brands incorporated into a specific lifestyle by peer-to-peer marketing and they can identify and target opinion leaders to represent and market their products among their peers.

They can also utilized social marketing tools to market their products. Much of the work can be done via social media, such as relevant Facebook updates and targeted

tweets on Twitter. It is detail-oriented marketing intricately tuned in to things vital and specific. So there will be little wasted messaging. It is however vital for marketers to understand their target market well so that they can reach out to their consumers exactly where they are, by using social media to focus on their needs and wants.

Furthermore, given that the concept of societal marketing is becoming more important globally, companies should consider incorporating the concept of impeding materialism as one of their corporate social responsibility practices at various levels of their organizations. Given that materialism is a socially irresponsible act, it should thus be altered rather than being promoted. For instance, promotion initiatives which encourage excess materialism should be discouraged.

Finally, from a public policy and societal perspective, there is probably no other topic in consumer research that holds more interest than socialization and the study of materialism. Government agencies and consumer groups have had an uneven history of aggressively pursuing consumer in these areas.

Government agencies could also collaborate with the relevant agencies in the industry to aired programmes aimed at creating awareness about the dangers of excessive consumption among consumers, particularly among young adults, and how to manage their finances according to their economic status to avoid getting into debts due to excessive consumptions.

## **7.7 Chapter Summary**

In summary, the hypotheses testing was conducted based on the partially mediated model ( $\chi^2 = 872.1864$ ,  $\chi^2/df = 2.611$ , GFI = 0.939, TLI = 0.903, CFI = 0.915, RMSEA =

0.041) which excluded television viewing. Specifically in the partially meditated model, out of the ten (10) hypotheses tested in the hypothetical model for this study, eight (8) hypotheses were supported and this study was significant in many ways.

First, in terms of theoretical contribution, the findings of this study confirmed that the extent to which socialization agents exert their influence on the individuals varied according to an individual life cycle stage. This study demonstrated that adolescents who transitioned into adulthood and who were characterized by a socio-oriented family communication structure at home during their adolescent years did not change their orientation towards materialism in adulthood.

Their orientation towards materialism had remained unchanged regardless of their age. Besides from the various family communication structures at home, young adults who communicated with their peers about consumption matters outside the house during adolescents' years were found to be oriented towards materialism in adulthood. Inevitably, this study has its own limitations. In terms of theoretical limitation, this study unfortunately failed to determine if television viewing would have any effect on young adults' orientation towards materialism.

Methodological limitations have also weakened to some extent the validity and generalizability of research findings as the survey employed a convenience sample. Longitudinal study could be conducted in future research to explore how the various socialization agents exert their influence on young adults' orientation towards materialism from the period of childhood to adulthood using probability sampling technique.

Future studies could develop a model to determine if both television viewing and peer communication could be treated as secondary socialization influencers in

determining materialism orientation of young adults. It would also be interesting to explore if the type of family communication that takes place within the home among spouses and children would influence the materialistic orientation of young adults. Also further research on peer influences is needed to examine the nature and purpose of interaction. Future studies could also determine how a religiously-oriented family communication structure at home affects the orientation towards materialism among children and adolescents.

This study was an attempt to provide information which could be useful to help marketers to get a better understanding of their target consumers, especially consumers' values. This study added to the existing literature by capturing cultural differences in materialism in the Malaysian context. Moreover, the current research contributed to the consumer socialization literature through developing a framework conceptualizing the role of family communication in the socialization of materialism orientation among young adults, a framework that was lacking and was fundamentally needed in this area of research.

From a managerial perspective, consumer socialization research provides unique insight into the beliefs and behaviour of an important consumer segment that is young adults. The marketing implications of these research findings can have implications for the marketing strategy formulation directed at young adult consumers. Marketers should consider coordinating their marketing communications according to the age of the consumers and isolate the significant product attributes used in decision making by different age groups of young adults and adjust their promotional mixes accordingly. Marketers could utilize social marketing tools to market their products.

Companies should consider incorporating the concept of impeding materialism as one of their corporate social responsibility practices at various levels of their organizations. Finally, from a public policy and societal perspective, government agencies could collaborate with relevant agencies in the industry to aired programmes aimed at creating awareness about the dangers of excessive consumption among young adult consumers, and how to manage their finances according to their economic status to avoid getting into debts due to excessive consumptions.

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**Appendix A:**  
**Survey Questionnaire**



University of Malaya

The Faculty of Business & Accountancy  
Degree of  
Doctor of Philosophy

**THE INFLUENCE OF FAMILY COMMUNICATION, TELEVISION VIEWING AND  
PEER COMMUNICATION ON THE ORIENTATION OF MATERIALISM AMONG  
YOUNG ADULT CONSUMERS**

Dear Sir/Madam/Miss,

This survey is conducted as part of a research project which shall be submitted in completion of the degree of Doctor of Philosophy from the University of Malaya.

The major purpose of the study is to allow us to understand the mechanism behind which young adult consumers tend to develop materialistic values. As such, the questionnaire is intended for young adults. The questionnaire is constructed in a straightforward manner and easy to answer. There is no right or wrong answers to the questions and it should take no more than 20 minutes of your valuable time. You may rest assure that all information provided in the questionnaire will be treated with the strictest confidentiality and only the aggregate data will be analyzed.

The questionnaire is divided into Seven (7) sections. Please answer every question in a way that most accurately reflects what you think. Please answer all the questions in all the sections (Section A to G).

Thanking you in advance for your valuable assistance in participating in this survey. If you have any queries regarding the questionnaire, please contact the researcher, **Eric V. Bindah**.

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Main Page

**A. The following are questions regarding your attitude toward material possessions. For each, please CIRCLE ONE NUMBER to show the degree the answers apply to you.**

No.	Statements					
1)	How do you feel about people who own expensive homes, car, and clothes?	Do not admire admire		Greatly admire		
		1	2	3	4	5
2)	How do you shop?	Buy anything what I might want			Buy only I need	
		1	2	3	4	5
3)	How do you feel about owning things that impress people?	Makes me uncomfortable			Makes me feel great	
		1	2	3	4	5
4)	How do you feel about acquiring material possessions as an achievement in life?	Not important important				Very important
		1	2	3	4	5
5)	How do you approach your life in terms of your possessions? (i.e., buying and owning things).	More is better			Simple is better	
		1	2	3	4	5
6)	Would your life be any better if you owned certain things that you don't have?	Not any better better				Much better
		1	2	3	4	5
7)	Do you think the amount of material objects people own shows how successful they are?	Very much			Not at all	
		1	2	3	4	5
8)	How would you feel if you could afford to buy more things?	Not any happier			Much happier	
		1	2	3	4	5
9)	How would you feel if you owned nicer things?	Much happier happier				Not any happier
		1	2	3	4	5
10)	What do the things you own say about how well you are doing in life?	Very little			A great deal	
		1	2	3	4	5

11)	How do you feel about spending money on things that aren't practical?	Do not enjoy enjoy					Really
		1	2	3	4	5	
12)	Do you feel that you have all the things you really need to enjoy life?	Need more need					Have all I
		1	2	3	4	5	
13)	How much pleasure do you get from buying things?	Very little					A great deal
		1	2	3	4	5	
14)	How do you feel about the things you own?	Very important that					Not all important
		1	2	3	4	5	
15)	How do you feel about having a lot of luxury in your life?	Do not enjoy enjoy					Really
		1	2	3	4	5	

**B. The following is a list of things that parents sometimes say or do in their family conversations while their children are growing up. Please think back to the time when you were younger, and tell us if whether your parents often use to say or did these things. For each, please CIRCLE ONE NUMBER to indicate the extent to which you agree or disagree with each statement.**

No.	Statements	Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree
1)	My parents often use to say that the best way to stay out of trouble is to stay away from it.	1	2	3	4	5
2)	My parents often use to say that their ideas are correct and I shouldn't question them.	1	2	3	4	5
3)	My parents often use to answer my arguments with saying something like "You'll know better when you grow up?"	1	2	3	4	5
4)	My parents often use to say that I should give in when he/she argues rather than risk making people angry.	1	2	3	4	5
5)	My parents often use to tell me what things I should or shouldn't buy.	1	2	3	4	5
6)	My parents often wanted to know what I did with my money.	1	2	3	4	5
7)	My parents often use to complain when they didn't like something I bought for myself.	1	2	3	4	5

C. The following is a list of things that parents sometimes say or do in their family conversations while their children are growing up. Please think back to the time when you were younger, and tell us if whether your parents use to say or did these things. For each, please **CIRCLE ONE NUMBER** to indicate whether you disagree or agree with each statement.

No.	Statements	Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree
1)	My parents often use to ask me to help them buy things for our family.	1	2	3	4	5
2)	My parents often use to ask me what I think about things they buy for themselves.	1	2	3	4	5
3)	My parents often use to ask me for advice about buying things.	1	2	3	4	5
4)	My parents often use to tell me to decide about things I should or shouldn't buy.	1	2	3	4	5
5)	My parents often use to say that getting my ideas across is important even if others don't like them.	1	2	3	4	5
6)	My parents often use to say that I should decide myself how to spend my money.	1	2	3	4	5

D. Again when you were living at home did your parents often emphasize the following things? **Strongly Disagree, Somewhat Disagree, Neither agree nor disagree, Somewhat agree or Strongly Agree.** Please **CIRCLE ONE NUMBER** for each of the following statement.

No.	Statements	Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree
1)	My parents often tell me that my ideas about religion are one of the most important parts of my philosophy of life.	1	2	3	4	5
2)	My parents often tell me that my ideas on religion have a considerable influence on my views in other areas.	1	2	3	4	5
3)	My parents often say that believing as I do about religion is very important to being the kind of person I want to be.	1	2	3	4	5
4)	My parents often say that if my ideas about religion are different, my way of life will be different.	1	2	3	4	5
5)	My parents often say that religion is a subject in which I am not particularly interested.	1	2	3	4	5
6)	My parents often ask me to think about matters relating to religion.	1	2	3	4	5

E. The following items are related to the extent to which you interact with your peers with regards to your buying habits. Please think back to the time you were younger and CIRCLE ONE NUMBER for each of the following statement to show your extent of agreement or disagreement.

No.	Statements	Strongly Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Strongly Agree
1)	My friend and I talk about buying things.	1	2	3	4	5
2)	My friend and I learn from each other about buying things.	1	2	3	4	5
3)	My friend and I trust each other about buying things.	1	2	3	4	5

F. About how many hours a week do you watch the following on television?

1. News: \_\_\_\_\_ Hours/ week.
  - a. CNN.
  - b. BBC World news.
  - c. CBS.
  - d. Bernama TV.
  - e. CCTV 9.
  - f. Al-Jazeera- English.
  - g. Others, please specify \_\_\_\_\_.
2. Sports Events: \_\_\_\_\_ Hours/ week.
  - a. ESPN.
  - b. PGA Tour.
  - c. English Premier League.
  - d. World Wrestling Entertainment (WWE).
  - e. Others, please specify \_\_\_\_\_.
3. Movies: \_\_\_\_\_ Hours/ week.
  - a. Transformers.
  - b. Spiderman.
  - c. Madagascar.
  - d. Batman Returns.
  - e. Hancock 2.
  - f. Others, please specify \_\_\_\_\_.
4. Soap Operas/Drama Shows: \_\_\_\_\_ Hours/ week.
  - a. Malaysian Idol.
  - b. One in a Million.
  - c. Akademi Fantasia.
  - d. The Apprentice.
  - e. Fear Factor.
  - f. Who wants to be a Millionaire.
  - g. Project Runway.
  - h. Gossip Girls.
  - i. One Tree Hills.
  - j. Others, please specify \_\_\_\_\_.
5. Documentaries: \_\_\_\_\_ Hours/ week.
  - a. National Geographic Channel.
  - b. 999.
  - c. 360.
  - d. Living in Malaysia.
  - e. Dynamic Malaysia.
  - f. Rainforest.
  - g. Others, please specify \_\_\_\_\_.
6. Comedy Shows: \_\_\_\_\_ Hours/ week.
  - a. Scrubs.
  - b. My name is Earl.
  - c. Friends.
  - d. Sex and the city.
  - e. Seinfeld.
  - f. Everybody loves Raymond.

- g. Desperate Housewives.
- h. The Simpsons.
- i. Others, please specify \_\_\_\_\_ .

7. Action and Adventure Shows: \_\_\_\_\_ Hours/ week.

- a. 24.
- b. Prison Break.
- c. Alias.
- d. Casino Royale.
- e. Quantum of Solace.
- f. Bangkok Dangerous.
- g. Incredible Hulk.
- h. Wanted.
- i. Others, please specify \_\_\_\_\_.

8. Others, Please specify: \_\_\_\_\_ Hours/ week.

**G. CLASSIFICATION QUESTIONS FOR STATISTICAL PURPOSES**

a. Gender

- 1) Male
- 2) Female

b. Year of Birth: \_\_\_\_\_

c. Race

- 1) Malay
- 2) Chinese
- 3) Indian
- 4) Others, please specify \_\_\_\_\_

d. Religion

- 1) Islam
- 2) Buddhism
- 3) Hinduism
- 4) Christianity
- 5) Others, please specify \_\_\_\_\_

e. Marital Status

- 1) Single
- 2) Married without children
- 3) Married with children
- 4) Widow/Widower/Divorcee

f. Highest Education level

- 1) Primary school or less
- 2) PMR/SRP/LCE
- 3) SPM/SPVM/MCE
- 4) College Diploma
- 5) Professional Qualification/University Degree

g. Gross monthly personal income

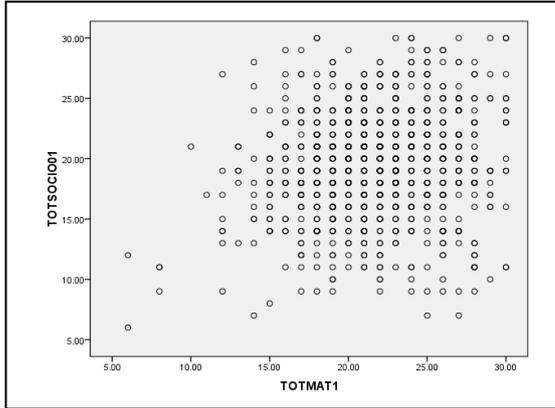
- 1) Less than RM 1,000
- 2) RM 1,000 to RM 1,999
- 3) RM 2,000 to RM 3,999
- 4) RM 4,000 to RM 5,999
- 5) RM 6,000 to RM 7,999
- 6) RM 8,000 to RM 9,999
- 7) RM 10,000 and Above.

**- THANK YOU FOR YOUR PARTICIPATION-**

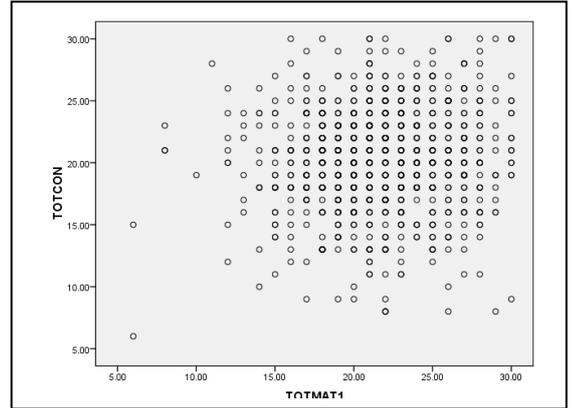
## **Appendix B:**

# **Test of Homoscedasticity Scatterplot**

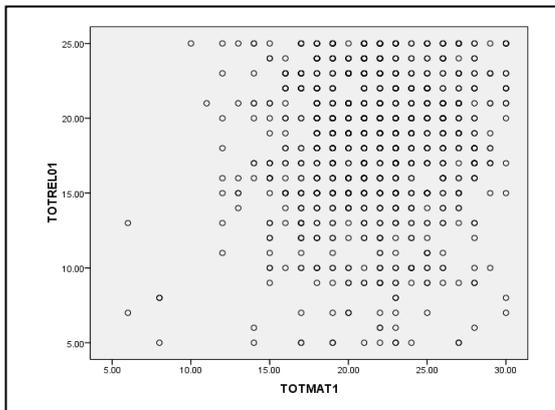
**TEST OF HOMOSCEDASTICITY - SCATTER PLOT**



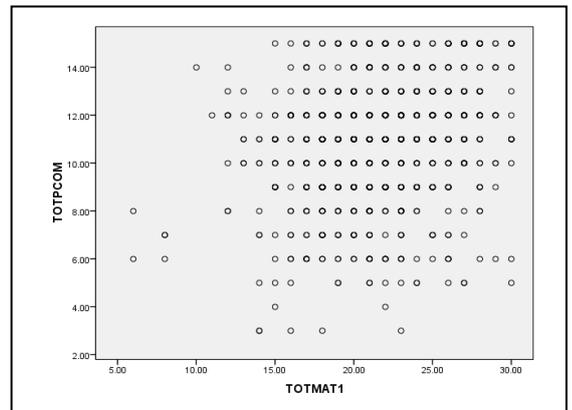
**SOCIO-ORIENTED FAMILY COMMUNICATION**



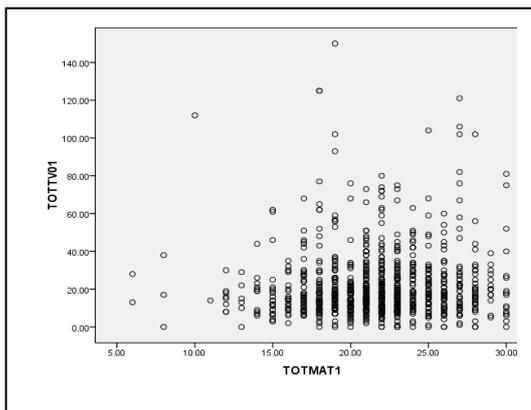
**CONCEPT-ORIENTED FAMILY COMMUNICATION**



**RELIGIOUSLY-ORIENTED FAMILY COMMUNICATION**



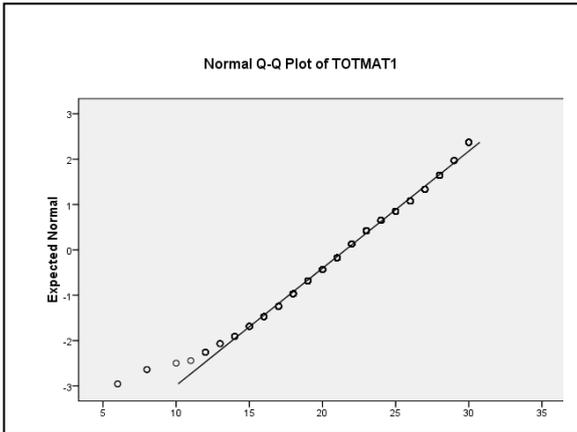
**PEER COMMUNICATION**



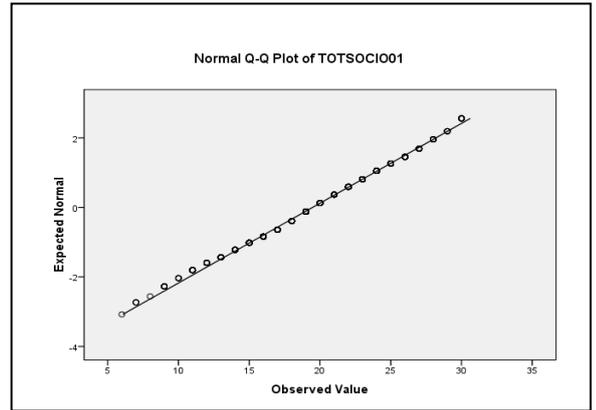
**TELEVISION VIEWING**

**Appendix C:**  
**Test of Linearity- Normal Probability P-**  
**P Plot**

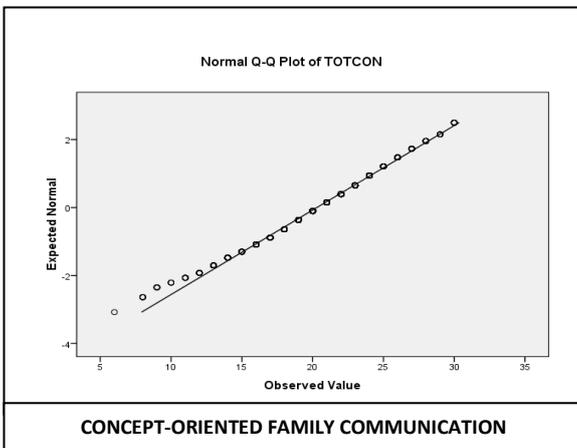
## TEST OF LINEARITY- Normal Probability P-P Plot



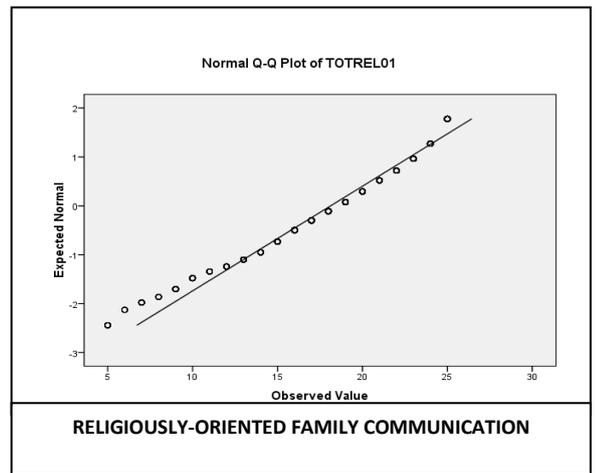
**MATERIALISM**



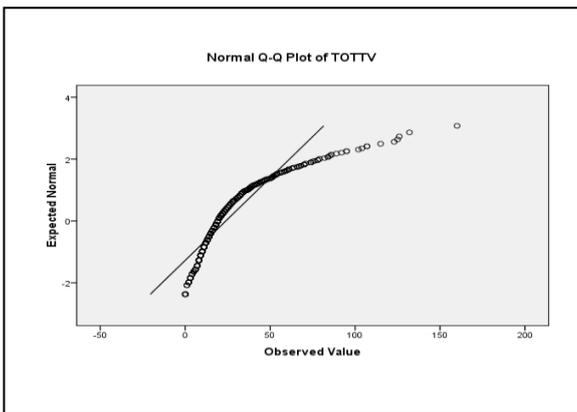
**SOCIO-ORIENTED FAMILY COMMUNICATION**



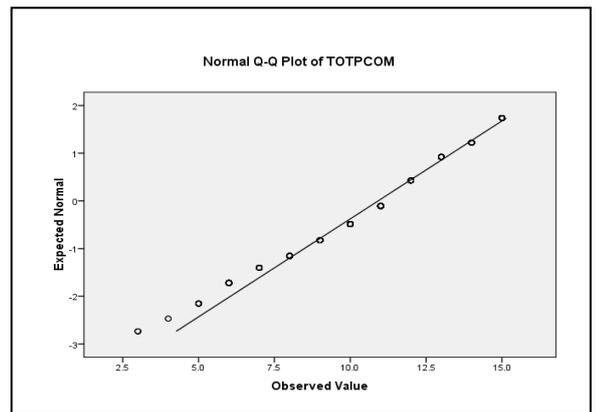
**CONCEPT-ORIENTED FAMILY COMMUNICATION**



**RELIGIOUSLY-ORIENTED FAMILY COMMUNICATION**



**TELEVISION VIEWING**



**PEER COMMUNICATION**

**Appendix D:**

**Selected AMOS Output for the Final  
Measurement Model**

**Notes for Model (Default model)**

**Computation of degrees of freedom (Default model)**

Number of distinct sample moments: 406  
 Number of distinct parameters to be estimated: 72  
 Degrees of freedom (406 - 72): 334

**Result (Default model)**

Minimum was achieved  
 Chi-square = 872.186  
 Degrees of freedom = 334  
 Probability level = .000

**Estimates (Group number 1 - Default model)**

**Scalar Estimates (Group number 1 - Default model)**

**Maximum Likelihood Estimates**

**Regression Weights: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
Consensual <--- SOCIO	.428	.041	10.363	***	
Protective <--- SOCIO	.533	.047	11.266	***	
Pluralistic <--- CON	.544	.050	10.833	***	
Laissez-faire <--- CON	.384	.054	7.174	***	
SOCIO04 <--- Consensual	1.000				
SOCIO03 <--- Consensual	1.213	.116	10.453	***	
SOCIO02 <--- Consensual	1.089	.110	9.896	***	
SOCIO01 <--- Consensual	1.011	.108	9.338	***	
SOCIO07 <--- Protective	1.000				
SOCIO06 <--- Protective	1.128	.076	14.813	***	
SOCIO05 <--- Protective	.986	.068	14.480	***	
CON03 <--- Pluralistic	1.000				
CON02 <--- Pluralistic	.976	.077	12.609	***	
CON01 <--- Pluralistic	.621	.063	9.862	***	
CON06 <--- Laissez-faire	1.000				
CON05 <--- Laissez-faire	1.429	.204	7.015	***	
CON04 <--- Laissez-faire	1.629	.226	7.218	***	
REL06 <--- RELIGION	1.000				
REL04 <--- RELIGION	.999	.066	15.101	***	
REL03 <--- RELIGION	1.218	.066	18.448	***	
REL02 <--- RELIGION	1.217	.065	18.703	***	
REL01 <--- RELIGION	1.413	.074	19.223	***	
MAT15 <--- MATERIAL	1.000				
MAT06 <--- MATERIAL	.652	.065	10.080	***	
MAT10 <--- MATERIAL	.539	.056	9.609	***	

			Estimate	S.E.	C.R.	P	Label
MAT08	<---	MATERIAL	.765	.061	12.527	***	
MAT04	<---	MATERIAL	.865	.064	13.626	***	
MAT03	<---	MATERIAL	.839	.066	12.758	***	
MAT01	<---	MATERIAL	.990	.071	13.958	***	
PCOM01	<---	PEER	1.000				
PCOM02	<---	PEER	1.094	.069	15.865	***	
PCOM03	<---	PEER	.852	.057	15.061	***	

**Standardized Regression Weights: (Group number 1 - Default model)**

			Estimate
Consensual	<---	SOCIO	.786
Protective	<---	SOCIO	.687
Pluralistic	<---	CON	.687
Laissez-faire	<---	CON	.907
SOCIO04	<---	Consensual	.544
SOCIO03	<---	Consensual	.574
SOCIO02	<---	Consensual	.509
SOCIO01	<---	Consensual	.460
SOCIO07	<---	Protective	.658
SOCIO06	<---	Protective	.720
SOCIO05	<---	Protective	.656
CON03	<---	Pluralistic	.694
CON02	<---	Pluralistic	.685
CON01	<---	Pluralistic	.417
CON06	<---	Laissez-faire	.409
CON05	<---	Laissez-faire	.607
CON04	<---	Laissez-faire	.664
REL06	<---	RELIGION	.600
REL04	<---	RELIGION	.593
REL03	<---	RELIGION	.790
REL02	<---	RELIGION	.808
REL01	<---	RELIGION	.852
MAT15	<---	MATERIAL	.639
MAT06	<---	MATERIAL	.411
MAT10	<---	MATERIAL	.382
MAT08	<---	MATERIAL	.530
MAT04	<---	MATERIAL	.591
MAT03	<---	MATERIAL	.539
MAT01	<---	MATERIAL	.613
PCOM01	<---	PEER	.675
PCOM02	<---	PEER	.819
PCOM03	<---	PEER	.607

**Covariances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
RELIGION <--> MATERIAL	.056	.019	2.913	.004	
RELIGION <--> PEER	.125	.022	5.626	***	
RELIGION <--> SOCIO	.258	.036	7.114	***	
RELIGION <--> CON	.195	.034	5.803	***	
MATERIAL <--> PEER	.140	.022	6.446	***	
MATERIAL <--> SOCIO	.189	.034	5.596	***	
MATERIAL <--> CON	.069	.031	2.238	.025	
PEER <--> SOCIO	.227	.037	6.146	***	
PEER <--> CON	.231	.035	6.609	***	
SOCIO <--> CON	.461	.054	8.504	***	
e12 <--> e13	-.077	.055	-1.397	.162	
e20 <--> e22	.147	.027	5.373	***	

**Correlations: (Group number 1 - Default model)**

	Estimate
RELIGION <--> MATERIAL	.119
RELIGION <--> PEER	.240
RELIGION <--> SOCIO	.351
RELIGION <--> CON	.265
MATERIAL <--> PEER	.307
MATERIAL <--> SOCIO	.295
MATERIAL <--> CON	.108
PEER <--> SOCIO	.319
PEER <--> CON	.324
SOCIO <--> CON	.461
e12 <--> e13	-.125
e20 <--> e22	.202

**Variances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
SOCIO	1.000				
CON	1.000				
RELIGION	.540	.056	9.677	***	
MATERIAL	.411	.044	9.431	***	
PEER	.507	.051	10.009	***	
e31	.114	.030	3.817	***	
e32	.317	.050	6.331	***	
e33	.331	.057	5.824	***	
e34	.032	.024	1.319	.187	
e1	.707	.042	16.952	***	
e2	.887	.055	16.102	***	
e3	1.008	.057	17.794	***	
e4	1.130	.060	18.752	***	

	Estimate	S.E.	C.R.	P	Label
e5	.787	.050	15.653	***	
e6	.709	.054	13.141	***	
e7	.774	.049	15.733	***	
e8	.673	.055	12.341	***	
e9	.676	.053	12.755	***	
e10	1.149	.058	19.878	***	
e11	.894	.046	19.238	***	
e12	.628	.061	10.312	***	
e13	.605	.071	8.520	***	
e14	.957	.047	20.162	***	
e15	.991	.049	20.223	***	
e16	.483	.029	16.705	***	
e17	.425	.027	15.962	***	
e18	.408	.030	13.632	***	
e19	.594	.035	16.740	***	
e20	.860	.043	20.208	***	
e21	.699	.034	20.609	***	
e22	.614	.033	18.867	***	
e23	.573	.032	17.891	***	
e24	.705	.037	18.842	***	
e25	.669	.038	17.404	***	
e26	.605	.039	15.589	***	
e27	.298	.034	8.661	***	
e28	.632	.035	17.814	***	

**Squared Multiple Correlations: (Group number 1 - Default model)**

	Estimate
Laissez-faire	.823
Pluralistic	.472
Protective	.473
Consensual	.617
PCOM03	.368
PCOM02	.671
PCOM01	.456
MAT01	.376
MAT03	.291
MAT04	.349
MAT08	.281
MAT10	.146
MAT06	.169
MAT15	.409
REL01	.726
REL02	.653
REL03	.623

	Estimate
REL04	.352
REL06	.360
CON04	.441
CON05	.369
CON06	.167
CON01	.174
CON02	.469
CON03	.482
SOCIO05	.430
SOCIO06	.518
SOCIO07	.433
SOCIO01	.212
SOCIO02	.259
SOCIO03	.330
SOCIO04	.296

**Matrices (Group number 1 - Default model)**

**Total Effects (Group number 1 - Default model)**

	CON	SOCIO	PEER	MATERIAL	RELIGION	Laissez-faire	Pluralistic	Protective	Consensual
Laissez-faire	.384	.000	.000	.000	.000	.000	.000	.000	.000
Pluralistic	.544	.000	.000	.000	.000	.000	.000	.000	.000
Protective	.000	.533	.000	.000	.000	.000	.000	.000	.000
Consensual	.000	.428	.000	.000	.000	.000	.000	.000	.000
PCOM03	.000	.000	.852	.000	.000	.000	.000	.000	.000
PCOM02	.000	.000	1.094	.000	.000	.000	.000	.000	.000
PCOM01	.000	.000	1.000	.000	.000	.000	.000	.000	.000
MAT01	.000	.000	.000	.990	.000	.000	.000	.000	.000
MAT03	.000	.000	.000	.839	.000	.000	.000	.000	.000
MAT04	.000	.000	.000	.865	.000	.000	.000	.000	.000
MAT08	.000	.000	.000	.765	.000	.000	.000	.000	.000
MAT10	.000	.000	.000	.539	.000	.000	.000	.000	.000
MAT06	.000	.000	.000	.652	.000	.000	.000	.000	.000
MAT15	.000	.000	.000	1.000	.000	.000	.000	.000	.000
REL01	.000	.000	.000	.000	1.413	.000	.000	.000	.000
REL02	.000	.000	.000	.000	1.217	.000	.000	.000	.000
REL03	.000	.000	.000	.000	1.218	.000	.000	.000	.000
REL04	.000	.000	.000	.000	.999	.000	.000	.000	.000
REL06	.000	.000	.000	.000	1.000	.000	.000	.000	.000
CON04	.626	.000	.000	.000	.000	1.629	.000	.000	.000
CON05	.549	.000	.000	.000	.000	1.429	.000	.000	.000
CON06	.384	.000	.000	.000	.000	1.000	.000	.000	.000
CON01	.338	.000	.000	.000	.000	.000	.621	.000	.000
CON02	.531	.000	.000	.000	.000	.000	.976	.000	.000
CON03	.544	.000	.000	.000	.000	.000	1.000	.000	.000
SOCIO5	.000	.525	.000	.000	.000	.000	.000	.986	.000
SOCIO6	.000	.601	.000	.000	.000	.000	.000	1.128	.000
SOCIO7	.000	.533	.000	.000	.000	.000	.000	1.000	.000
SOCIO1	.000	.433	.000	.000	.000	.000	.000	.000	1.011
SOCIO2	.000	.466	.000	.000	.000	.000	.000	.000	1.089
SOCIO3	.000	.519	.000	.000	.000	.000	.000	.000	1.213

	CON	SOCIO	PEER	MATERIAL	RELIGION	Laissez-faire	Pluralistic	Protective	Consensual
SOCIO4	.000	.428	.000	.000	.000	.000	.000	.000	1.000

**Standardized Total Effects (Group number 1 - Default model)**

	CON	SOCIO	PEER	MATERIAL	RELIGION	Laissez-faire	Pluralistic	Protective	Consensual
Laissez-faire	.907	.000	.000	.000	.000	.000	.000	.000	.000
Pluralistic	.687	.000	.000	.000	.000	.000	.000	.000	.000
Protective	.000	.687	.000	.000	.000	.000	.000	.000	.000
Consensual	.000	.786	.000	.000	.000	.000	.000	.000	.000
PCOM03	.000	.000	.607	.000	.000	.000	.000	.000	.000
PCOM02	.000	.000	.819	.000	.000	.000	.000	.000	.000
PCOM01	.000	.000	.675	.000	.000	.000	.000	.000	.000
MAT01	.000	.000	.000	.613	.000	.000	.000	.000	.000
MAT03	.000	.000	.000	.539	.000	.000	.000	.000	.000
MAT04	.000	.000	.000	.591	.000	.000	.000	.000	.000
MAT08	.000	.000	.000	.530	.000	.000	.000	.000	.000
MAT10	.000	.000	.000	.382	.000	.000	.000	.000	.000
MAT06	.000	.000	.000	.411	.000	.000	.000	.000	.000
MAT15	.000	.000	.000	.639	.000	.000	.000	.000	.000
REL01	.000	.000	.000	.000	.852	.000	.000	.000	.000
REL02	.000	.000	.000	.000	.808	.000	.000	.000	.000
REL03	.000	.000	.000	.000	.790	.000	.000	.000	.000
REL04	.000	.000	.000	.000	.593	.000	.000	.000	.000
REL06	.000	.000	.000	.000	.600	.000	.000	.000	.000
CON04	.602	.000	.000	.000	.000	.664	.000	.000	.000
CON05	.551	.000	.000	.000	.000	.607	.000	.000	.000
CON06	.371	.000	.000	.000	.000	.409	.000	.000	.000
CON01	.287	.000	.000	.000	.000	.000	.417	.000	.000
CON02	.471	.000	.000	.000	.000	.000	.685	.000	.000
CON03	.477	.000	.000	.000	.000	.000	.694	.000	.000
SOCIO05	.000	.451	.000	.000	.000	.000	.000	.656	.000
SOCIO06	.000	.495	.000	.000	.000	.000	.000	.720	.000
SOCIO07	.000	.452	.000	.000	.000	.000	.000	.658	.000
SOCIO01	.000	.361	.000	.000	.000	.000	.000	.000	.460
SOCIO02	.000	.400	.000	.000	.000	.000	.000	.000	.509
SOCIO03	.000	.451	.000	.000	.000	.000	.000	.000	.574
SOCIO04	.000	.427	.000	.000	.000	.000	.000	.000	.544

**Direct Effects (Group number 1 - Default model)**

	CON	SOCIO	PEER	MATERIAL	RELIGION	Laissez-faire	Pluralistic	Protective	Consensual
Laissez-faire	.384	.000	.000	.000	.000	.000	.000	.000	.000
Pluralistic	.544	.000	.000	.000	.000	.000	.000	.000	.000
Protective	.000	.533	.000	.000	.000	.000	.000	.000	.000
Consensual	.000	.428	.000	.000	.000	.000	.000	.000	.000
PCOM03	.000	.000	.852	.000	.000	.000	.000	.000	.000
PCOM02	.000	.000	1.094	.000	.000	.000	.000	.000	.000
PCOM01	.000	.000	1.000	.000	.000	.000	.000	.000	.000
MAT01	.000	.000	.000	.990	.000	.000	.000	.000	.000
MAT03	.000	.000	.000	.839	.000	.000	.000	.000	.000
MAT04	.000	.000	.000	.865	.000	.000	.000	.000	.000
MAT08	.000	.000	.000	.765	.000	.000	.000	.000	.000
MAT10	.000	.000	.000	.539	.000	.000	.000	.000	.000
MAT06	.000	.000	.000	.652	.000	.000	.000	.000	.000
MAT15	.000	.000	.000	1.000	.000	.000	.000	.000	.000
REL01	.000	.000	.000	.000	1.413	.000	.000	.000	.000

	CON	SOCIO	PEER	MATERIAL	RELIGION	Laissez-faire	Pluralistic	Protective	Consensual
REL02	.000	.000	.000	.000	1.217	.000	.000	.000	.000
REL03	.000	.000	.000	.000	1.218	.000	.000	.000	.000
REL04	.000	.000	.000	.000	.999	.000	.000	.000	.000
REL06	.000	.000	.000	.000	1.000	.000	.000	.000	.000
CON04	.000	.000	.000	.000	.000	1.629	.000	.000	.000
CON05	.000	.000	.000	.000	.000	1.429	.000	.000	.000
CON06	.000	.000	.000	.000	.000	1.000	.000	.000	.000
CON01	.000	.000	.000	.000	.000	.000	.621	.000	.000
CON02	.000	.000	.000	.000	.000	.000	.976	.000	.000
CON03	.000	.000	.000	.000	.000	.000	1.000	.000	.000
SOCIO05	.000	.000	.000	.000	.000	.000	.000	.986	.000
SOCIO06	.000	.000	.000	.000	.000	.000	.000	1.128	.000
SOCIO07	.000	.000	.000	.000	.000	.000	.000	1.000	.000
SOCIO01	.000	.000	.000	.000	.000	.000	.000	.000	1.011
SOCIO02	.000	.000	.000	.000	.000	.000	.000	.000	1.089
SOCIO03	.000	.000	.000	.000	.000	.000	.000	.000	1.213
SOCIO04	.000	.000	.000	.000	.000	.000	.000	.000	1.000

**Standardized Direct Effects (Group number 1 - Default model)**

	CON	SOCIO	PEER	MATERIAL	RELIGION	Laissez-faire	Pluralistic	Protective	Consensual
Laissez-faire	.907	.000	.000	.000	.000	.000	.000	.000	.000
Pluralistic	.687	.000	.000	.000	.000	.000	.000	.000	.000
Protective	.000	.687	.000	.000	.000	.000	.000	.000	.000
Consensual	.000	.786	.000	.000	.000	.000	.000	.000	.000
PCOM03	.000	.000	.607	.000	.000	.000	.000	.000	.000
PCOM02	.000	.000	.819	.000	.000	.000	.000	.000	.000
PCOM01	.000	.000	.675	.000	.000	.000	.000	.000	.000
MAT01	.000	.000	.000	.613	.000	.000	.000	.000	.000
MAT03	.000	.000	.000	.539	.000	.000	.000	.000	.000
MAT04	.000	.000	.000	.591	.000	.000	.000	.000	.000
MAT08	.000	.000	.000	.530	.000	.000	.000	.000	.000
MAT10	.000	.000	.000	.382	.000	.000	.000	.000	.000
MAT06	.000	.000	.000	.411	.000	.000	.000	.000	.000
MAT15	.000	.000	.000	.639	.000	.000	.000	.000	.000
REL01	.000	.000	.000	.000	.852	.000	.000	.000	.000
REL02	.000	.000	.000	.000	.808	.000	.000	.000	.000
REL03	.000	.000	.000	.000	.790	.000	.000	.000	.000
REL04	.000	.000	.000	.000	.593	.000	.000	.000	.000
REL06	.000	.000	.000	.000	.600	.000	.000	.000	.000
CON04	.000	.000	.000	.000	.000	.664	.000	.000	.000
CON05	.000	.000	.000	.000	.000	.607	.000	.000	.000
CON06	.000	.000	.000	.000	.000	.409	.000	.000	.000
CON01	.000	.000	.000	.000	.000	.000	.417	.000	.000
CON02	.000	.000	.000	.000	.000	.000	.685	.000	.000
CON03	.000	.000	.000	.000	.000	.000	.694	.000	.000
SOCIO05	.000	.000	.000	.000	.000	.000	.000	.656	.000
SOCIO06	.000	.000	.000	.000	.000	.000	.000	.720	.000
SOCIO07	.000	.000	.000	.000	.000	.000	.000	.658	.000
SOCIO01	.000	.000	.000	.000	.000	.000	.000	.000	.460
SOCIO02	.000	.000	.000	.000	.000	.000	.000	.000	.509
SOCIO03	.000	.000	.000	.000	.000	.000	.000	.000	.574
SOCIO04	.000	.000	.000	.000	.000	.000	.000	.000	.544

**Indirect Effects (Group number 1 - Default model)**

	CON	SOCIO	PEER	MATERIAL	RELIGION	Laissez-faire	Pluralistic	Protective	Consensual
Laissez-faire	.000	.000	.000	.000	.000	.000	.000	.000	.000
Pluralistic	.000	.000	.000	.000	.000	.000	.000	.000	.000
Protective	.000	.000	.000	.000	.000	.000	.000	.000	.000
Consensual	.000	.000	.000	.000	.000	.000	.000	.000	.000
PCOM03	.000	.000	.000	.000	.000	.000	.000	.000	.000
PCOM02	.000	.000	.000	.000	.000	.000	.000	.000	.000
PCOM01	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT01	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT03	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT04	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT08	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT10	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT06	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT15	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL01	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL02	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL03	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL04	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL06	.000	.000	.000	.000	.000	.000	.000	.000	.000
CON04	.626	.000	.000	.000	.000	.000	.000	.000	.000
CON05	.549	.000	.000	.000	.000	.000	.000	.000	.000
CON06	.384	.000	.000	.000	.000	.000	.000	.000	.000
CON01	.338	.000	.000	.000	.000	.000	.000	.000	.000
CON02	.531	.000	.000	.000	.000	.000	.000	.000	.000
CON03	.544	.000	.000	.000	.000	.000	.000	.000	.000
SOCIO5	.000	.525	.000	.000	.000	.000	.000	.000	.000
SOCIO6	.000	.601	.000	.000	.000	.000	.000	.000	.000
SOCIO7	.000	.533	.000	.000	.000	.000	.000	.000	.000
SOCIO1	.000	.433	.000	.000	.000	.000	.000	.000	.000
SOCIO2	.000	.466	.000	.000	.000	.000	.000	.000	.000
SOCIO3	.000	.519	.000	.000	.000	.000	.000	.000	.000
SOCIO4	.000	.428	.000	.000	.000	.000	.000	.000	.000

**Standardized Indirect Effects (Group number 1 - Default model)**

	CON	SOCIO	PEER	MATERIAL	RELIGION	Laissez-faire	Pluralistic	Protective	Consensual
Laissez-faire	.000	.000	.000	.000	.000	.000	.000	.000	.000
Pluralistic	.000	.000	.000	.000	.000	.000	.000	.000	.000
Protective	.000	.000	.000	.000	.000	.000	.000	.000	.000
Consensual	.000	.000	.000	.000	.000	.000	.000	.000	.000
PCOM03	.000	.000	.000	.000	.000	.000	.000	.000	.000
PCOM02	.000	.000	.000	.000	.000	.000	.000	.000	.000
PCOM01	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT01	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT03	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT04	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT08	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT10	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT06	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAT15	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL01	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL02	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL03	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL04	.000	.000	.000	.000	.000	.000	.000	.000	.000
REL06	.000	.000	.000	.000	.000	.000	.000	.000	.000
CON04	.602	.000	.000	.000	.000	.000	.000	.000	.000
CON05	.551	.000	.000	.000	.000	.000	.000	.000	.000

	CON	SOCIO	PEER	MATERIAL	RELIGION	Laissez-faire	Pluralistic	Protective	Consensual
CON06	.371	.000	.000	.000	.000	.000	.000	.000	.000
CON01	.287	.000	.000	.000	.000	.000	.000	.000	.000
CON02	.471	.000	.000	.000	.000	.000	.000	.000	.000
CON03	.477	.000	.000	.000	.000	.000	.000	.000	.000
SOCIO05	.000	.451	.000	.000	.000	.000	.000	.000	.000
SOCIO06	.000	.495	.000	.000	.000	.000	.000	.000	.000
SOCIO07	.000	.452	.000	.000	.000	.000	.000	.000	.000
SOCIO01	.000	.361	.000	.000	.000	.000	.000	.000	.000
SOCIO02	.000	.400	.000	.000	.000	.000	.000	.000	.000
SOCIO03	.000	.451	.000	.000	.000	.000	.000	.000	.000
SOCIO04	.000	.427	.000	.000	.000	.000	.000	.000	.000

**Modification Indices (Group number 1 - Default model)**

**Covariances: (Group number 1 - Default model)**

		M.I.	Par Change
e34 <-->	SOCIO	5.164	.044
e33 <-->	SOCIO	9.066	-.109
e33 <-->	RELIGION	4.830	.046
e32 <-->	CON	14.009	.121
e32 <-->	MATERIAL	6.145	-.048
e32 <-->	RELIGION	5.365	-.046
e32 <-->	e34	26.528	.065
e31 <-->	CON	12.659	-.088
e31 <-->	MATERIAL	5.560	.035
e31 <-->	RELIGION	4.851	.034
e31 <-->	e34	5.024	-.022
e28 <-->	e33	5.794	.058
e26 <-->	e31	5.248	-.041
e24 <-->	e25	8.236	.072
e23 <-->	CON	6.869	.083
e22 <-->	e24	4.069	-.046
e21 <-->	RELIGION	9.130	.062
e21 <-->	e26	13.385	-.087
e21 <-->	e25	13.464	-.090
e21 <-->	e23	13.055	.081
e20 <-->	e32	4.747	.054
e19 <-->	PEER	5.623	.049
e19 <-->	e28	5.372	.054
e19 <-->	e26	5.263	.054
e19 <-->	e22	15.459	.085
e18 <-->	e27	6.195	-.045
e18 <-->	e26	10.274	.069
e17 <-->	e26	5.308	-.047
e17 <-->	e18	7.264	.047
e16 <-->	PEER	4.519	.040
e16 <-->	e27	7.693	.051

	M.I.	Par Change
e15 <--> SOCIO	5.291	.098
e15 <--> PEER	5.694	-.060
e15 <--> e25	7.619	-.082
e14 <--> e23	11.776	.091
e14 <--> e19	5.968	-.068
e14 <--> e15	13.525	.124
e13 <--> SOCIO	47.825	.263
e13 <--> PEER	5.423	-.052
e13 <--> RELIGION	10.267	-.071
e13 <--> e32	108.127	.258
e13 <--> e28	4.616	-.055
e13 <--> e16	8.058	-.066
e13 <--> e15	4.420	.065
e12 <--> e32	6.200	-.060
e12 <--> e28	4.326	.052
e12 <--> e25	4.319	-.054
e12 <--> e14	5.988	.072
e11 <--> SOCIO	22.517	-.192
e11 <--> RELIGION	5.185	.054
e11 <--> e32	11.295	-.088
e11 <--> e31	5.375	-.047
e11 <--> e27	4.490	.049
e11 <--> e24	5.431	-.065
e11 <--> e14	10.664	-.104
e10 <--> PEER	6.624	.070
e10 <--> RELIGION	7.936	.075
e10 <--> e27	7.533	.072
e9 <--> e34	4.635	-.031
e9 <--> e27	6.982	-.059
e9 <--> e26	4.583	.057
e9 <--> e24	6.962	.072
e9 <--> e21	6.249	-.066
e9 <--> e15	7.545	.087
e9 <--> e12	4.477	-.059
e9 <--> e10	5.026	.076
e8 <--> SOCIO	5.081	-.090
e8 <--> e34	5.002	.032
e8 <--> e25	5.089	.062
e8 <--> e15	7.115	-.086
e8 <--> e10	11.950	-.118
e7 <--> e34	12.894	.054
e7 <--> e33	4.700	-.060
e7 <--> e24	15.540	-.111
e7 <--> e19	4.947	.060
e7 <--> e13	45.285	.197

	M.I.	Par Change
e6 <--> CON	4.841	.085
e6 <--> SOCIO	5.706	-.095
e6 <--> e31	13.342	-.074
e6 <--> e28	7.982	-.077
e6 <--> e19	8.102	-.077
e6 <--> e13	20.783	.135
e5 <--> RELIGION	8.816	-.071
e5 <--> e31	5.149	.046
e5 <--> e24	10.690	.093
e5 <--> e18	6.065	-.061
e5 <--> e15	11.596	.112
e4 <--> SOCIO	5.868	-.110
e4 <--> MATERIAL	15.296	.101
e4 <--> RELIGION	10.350	.087
e4 <--> e32	4.712	-.065
e4 <--> e19	4.226	.063
e4 <--> e16	5.362	.065
e4 <--> e13	5.270	-.076
e4 <--> e12	7.374	.088
e4 <--> e5	4.576	-.076
e3 <--> CON	35.057	-.247
e3 <--> SOCIO	6.230	.108
e3 <--> e34	15.315	-.064
e3 <--> e33	7.589	-.084
e3 <--> e26	9.985	-.094
e3 <--> e16	5.285	-.062
e3 <--> e11	17.094	-.140
e3 <--> e6	5.949	-.084
e3 <--> e5	11.483	.116
e2 <--> e14	7.902	-.095
e2 <--> e5	5.383	.077
e1 <--> e19	4.641	-.054
e1 <--> e14	5.973	.073
e1 <--> e7	5.823	.069

**Variances: (Group number 1 - Default model)**

	M.I.	Par Change

**Regression Weights: (Group number 1 - Default model)**

	M.I.	Par Change
Laissez-faire <--- Protective	12.001	.079
Protective <--- CON	8.182	.096
Protective <--- MATERIAL	6.110	-.120

			M.I.	Par Change
Protective	<---	Laissez-faire	12.166	.266
Consensual	<---	CON	7.403	-.070
Consensual	<---	MATERIAL	5.534	.087
Consensual	<---	Laissez-faire	7.886	-.164
Consensual	<---	Pluralistic	7.972	-.087
PCOM03	<---	Pluralistic	4.426	.087
PCOM03	<---	CON05	4.349	.057
PCOM03	<---	SOCIO06	4.477	-.048
PCOM02	<---	REL03	4.075	.042
PCOM02	<---	CON01	4.454	.042
PCOM02	<---	CON02	4.652	-.045
PCOM01	<---	MAT10	8.320	-.089
PCOM01	<---	MAT15	5.362	.064
PCOM01	<---	REL02	4.892	-.056
PCOM01	<---	REL04	4.718	-.049
PCOM01	<---	SOCIO02	10.194	-.076
PCOM01	<---	SOCIO04	4.507	-.059
MAT01	<---	MAT03	5.351	.067
MAT01	<---	MAT10	11.097	-.106
MAT03	<---	RELIGION	5.019	-.093
MAT03	<---	PCOM03	4.594	-.061
MAT03	<---	MAT01	4.459	.058
MAT03	<---	REL01	4.909	-.052
MAT03	<---	REL06	4.402	-.049
MAT03	<---	CON06	5.561	-.065
MAT03	<---	SOCIO05	11.367	-.083
MAT04	<---	Pluralistic	5.354	.092
MAT04	<---	MAT10	10.749	.095
MAT04	<---	REL06	8.638	.063
MAT04	<---	CON05	4.349	.055
MAT04	<---	CON02	4.077	.047
MAT08	<---	MAT15	7.697	.071
MAT10	<---	CON	5.927	.084
MAT10	<---	SOCIO	5.311	.083
MAT10	<---	RELIGION	12.049	.139
MAT10	<---	Laissez-faire	5.772	.188
MAT10	<---	Consensual	4.361	.131
MAT10	<---	PCOM01	4.628	-.056
MAT10	<---	MAT01	7.203	-.072
MAT10	<---	MAT04	7.411	.080
MAT10	<---	REL01	8.013	.064
MAT10	<---	REL02	9.384	.077
MAT10	<---	REL03	7.937	.069
MAT10	<---	REL04	4.146	.046
MAT10	<---	REL06	10.434	.073

		M.I.	Par Change
MAT10	<--- CON05	4.676	.060
MAT10	<--- CON01	4.811	.051
MAT06	<--- Protective	5.106	.101
MAT06	<--- SOCIO07	6.098	.062
MAT15	<--- PCOM03	5.816	.066
MAT15	<--- PCOM01	5.284	.060
MAT15	<--- MAT08	10.132	.094
MAT15	<--- REL06	8.810	-.066
MAT15	<--- CON04	4.163	-.054
MAT15	<--- SOCIO06	7.904	-.063
MAT15	<--- SOCIO04	4.126	-.056
REL01	<--- Protective	5.178	-.085
REL01	<--- SOCIO05	4.293	-.044
REL01	<--- SOCIO07	8.723	-.063
REL02	<--- PCOM01	4.018	-.046
REL03	<--- PCOM02	6.968	.070
REL03	<--- CON04	5.545	-.057
REL03	<--- SOCIO01	4.061	.042
REL04	<--- Protective	4.610	.107
REL04	<--- PCOM01	4.784	-.069
REL04	<--- MAT01	5.016	-.072
REL04	<--- REL06	8.111	.078
REL04	<--- CON04	5.143	.073
REL04	<--- CON02	5.391	.069
REL04	<--- SOCIO07	12.370	.099
REL06	<--- MAT04	9.345	.107
REL06	<--- REL04	8.236	.076
REL06	<--- CON05	5.019	.074
REL06	<--- CON06	6.394	-.080
REL06	<--- SOCIO04	5.496	.077
CON04	<--- SOCIO	14.636	.148
CON04	<--- PEER	4.115	-.096
CON04	<--- RELIGION	5.021	-.097
CON04	<--- Protective	68.564	.370
CON04	<--- Consensual	4.484	.143
CON04	<--- PCOM03	7.226	-.080
CON04	<--- REL01	5.608	-.058
CON04	<--- REL03	10.380	-.085
CON04	<--- SOCIO05	85.448	.237
CON04	<--- SOCIO06	61.333	.193
CON04	<--- SOCIO07	25.511	.128
CON05	<--- Protective	5.269	-.100
CON05	<--- SOCIO05	6.013	-.061
CON05	<--- SOCIO06	6.068	-.059
CON06	<--- SOCIO	6.891	-.108

			M.I.	Par Change
CON06	<---	Protective	12.434	-.167
CON06	<---	Consensual	8.372	-.207
CON06	<---	REL03	5.245	.064
CON06	<---	SOCIO05	9.096	-.082
CON06	<---	SOCIO06	9.943	-.082
CON06	<---	SOCIO07	5.941	-.065
CON06	<---	SOCIO02	20.572	-.123
CON06	<---	SOCIO04	5.287	-.072
CON01	<---	SOCIO	5.429	.108
CON01	<---	PEER	12.840	.203
CON01	<---	MATERIAL	5.868	.156
CON01	<---	RELIGION	12.335	.182
CON01	<---	Consensual	4.035	.163
CON01	<---	PCOM03	8.578	.105
CON01	<---	PCOM02	14.291	.142
CON01	<---	MAT08	7.579	.107
CON01	<---	MAT10	6.156	.098
CON01	<---	REL01	11.171	.098
CON01	<---	REL02	5.910	.079
CON01	<---	REL03	8.674	.093
CON01	<---	REL06	9.777	.092
CON01	<---	CON03	4.602	-.067
CON02	<---	MAT10	6.286	-.086
CON02	<---	MAT06	4.354	-.063
CON02	<---	CON05	5.461	-.072
CON03	<---	MAT01	4.374	.063
CON03	<---	CON01	9.488	-.081
CON03	<---	SOCIO02	4.153	-.054
SOCIO05	<---	Laissez-faire	4.840	.198
SOCIO05	<---	MAT03	11.047	-.106
SOCIO05	<---	CON04	31.359	.171
SOCIO05	<---	SOCIO04	6.210	.079
SOCIO06	<---	Consensual	4.298	-.150
SOCIO06	<---	MAT15	7.413	-.087
SOCIO06	<---	CON04	16.780	.126
SOCIO06	<---	CON01	4.604	.058
SOCIO06	<---	SOCIO02	8.021	-.078
SOCIO06	<---	SOCIO03	4.077	-.056
SOCIO07	<---	RELIGION	7.966	-.131
SOCIO07	<---	MAT03	4.445	.068
SOCIO07	<---	REL01	11.054	-.087
SOCIO07	<---	REL02	9.934	-.091
SOCIO07	<---	REL03	5.805	-.068
SOCIO07	<---	SOCIO02	9.824	.086
SOCIO07	<---	SOCIO03	4.752	.061

		M.I.	Par Change
SOCIO01	<--- PEER	4.240	.118
SOCIO01	<--- MATERIAL	16.309	.262
SOCIO01	<--- RELIGION	10.296	.168
SOCIO01	<--- MAT01	8.322	.101
SOCIO01	<--- MAT04	4.325	.080
SOCIO01	<--- MAT08	11.330	.131
SOCIO01	<--- MAT06	11.024	.118
SOCIO01	<--- MAT15	13.518	.132
SOCIO01	<--- REL01	9.746	.092
SOCIO01	<--- REL02	4.051	.066
SOCIO01	<--- REL03	13.334	.116
SOCIO01	<--- REL04	5.124	.066
SOCIO01	<--- CON05	5.596	.086
SOCIO02	<--- CON	30.059	-.237
SOCIO02	<--- RELIGION	6.337	-.126
SOCIO02	<--- Laissez-faire	30.616	-.542
SOCIO02	<--- Pluralistic	26.620	-.268
SOCIO02	<--- PCOM01	8.294	-.095
SOCIO02	<--- MAT03	4.035	.070
SOCIO02	<--- REL01	5.160	-.065
SOCIO02	<--- REL02	4.254	-.065
SOCIO02	<--- REL03	9.797	-.096
SOCIO02	<--- CON04	14.691	-.128
SOCIO02	<--- CON05	11.737	-.119
SOCIO02	<--- CON06	30.705	-.185
SOCIO02	<--- CON02	13.855	-.114
SOCIO02	<--- CON03	17.609	-.127
SOCIO02	<--- SOCIO07	6.184	.073
SOCIO04	<--- MAT15	4.259	-.061
SOCIO04	<--- REL02	4.222	.055
SOCIO04	<--- REL06	8.397	.070

**Model Fit Summary**

**CMIN**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	72	872.186	334	.000	2.611
Saturated model	406	.000	0		
Independence model	28	6674.941	378	.000	17.659

**RMR, GFI**

Model	RMR	GFI	AGFI	PGFI
Default model	.056	.939	.925	.772
Saturated model	.000	1.000		

Model	RMR	GFI	AGFI	PGFI
Independence model	.205	.552	.519	.514

**Baseline Comparisons**

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.869	.852	.915	.903	.915
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

**Parsimony-Adjusted Measures**

Model	PRATIO	PNFI	PCFI
Default model	.884	.768	.808
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

**NCP**

Model	NCP	LO 90	HI 90
Default model	538.186	454.623	629.410
Saturated model	.000	.000	.000
Independence model	6296.941	6035.215	6565.069

**FMIN**

Model	FMIN	F0	LO 90	HI 90
Default model	.913	.564	.476	.659
Saturated model	.000	.000	.000	.000
Independence model	6.989	6.594	6.320	6.874

**RMSEA**

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.041	.038	.044	1.000
Independence model	.132	.129	.135	.000

**AIC**

Model	AIC	BCC	BIC	CAIC
Default model	1016.186	1020.696	1366.305	1438.305
Saturated model	812.000	837.430	2786.280	3192.280
Independence model	6730.941	6732.694	6867.098	6895.098

## **Appendix E:**

### **Selected AMOS Output for the Final Measurement Model**

**Result (Default model)**

**Notes for Model (Default model)**

**Computation of degrees of freedom (Default model)**

Number of distinct sample moments: 406  
 Number of distinct parameters to be estimated: 72  
 Degrees of freedom (406 - 72): 334

**Result (Default model)**

Minimum was achieved  
 Chi-square = 872.186  
 Degrees of freedom = 334  
 Probability level = .000

**Scalar Estimates (Group number 1 - Default model)**

**Maximum Likelihood Estimates**

**Regression Weights: (Group number 1 - Default model)**

			Estimate	S.E.	C.R.	P	Label
PEER	<---	SOCIO	.128	.046	2.795	.005	
PEER	<---	CON	.148	.042	3.563	***	
PEER	<---	RELIGION	.118	.042	2.791	.005	
Consensual	<---	SOCIO	.428	.041	10.363	***	
Protective	<---	SOCIO	.533	.047	11.266	***	
Pluralistic	<---	CON	.544	.050	10.833	***	
Laissez-faire	<---	CON	.384	.054	7.174	***	
MATERIAL	<---	PEER	.230	.045	5.146	***	
MATERIAL	<---	SOCIO	.166	.044	3.768	***	
MATERIAL	<---	CON	-.059	.039	-1.497	.134	
MATERIAL	<---	RELIGION	-.008	.039	-.199	.842	
SOCIO04	<---	Consensual	1.000				
SOCIO03	<---	Consensual	1.213	.116	10.453	***	
SOCIO02	<---	Consensual	1.089	.110	9.896	***	
SOCIO01	<---	Consensual	1.011	.108	9.338	***	
SOCIO07	<---	Protective	1.000				
SOCIO06	<---	Protective	1.128	.076	14.813	***	
SOCIO05	<---	Protective	.986	.068	14.480	***	
CON03	<---	Pluralistic	1.000				
CON02	<---	Pluralistic	.976	.077	12.609	***	
CON01	<---	Pluralistic	.621	.063	9.862	***	
CON06	<---	Laissez-faire	1.000				
CON05	<---	Laissez-faire	1.429	.204	7.015	***	
CON04	<---	Laissez-faire	1.629	.226	7.218	***	

			Estimate	S.E.	C.R.	P	Label
REL06	<---	RELIGION	1.000				
REL04	<---	RELIGION	.999	.066	15.101	***	
REL03	<---	RELIGION	1.218	.066	18.448	***	
REL02	<---	RELIGION	1.217	.065	18.703	***	
REL01	<---	RELIGION	1.413	.074	19.223	***	
MAT15	<---	MATERIAL	1.000				
MAT06	<---	MATERIAL	.652	.065	10.080	***	
MAT10	<---	MATERIAL	.539	.056	9.609	***	
MAT08	<---	MATERIAL	.765	.061	12.527	***	
MAT04	<---	MATERIAL	.865	.064	13.626	***	
MAT03	<---	MATERIAL	.839	.066	12.758	***	
MAT01	<---	MATERIAL	.990	.071	13.958	***	
PCOM01	<---	PEER	1.000				
PCOM02	<---	PEER	1.094	.069	15.865	***	
PCOM03	<---	PEER	.852	.057	15.061	***	

**Standardized Regression Weights: (Group number 1 - Default model)**

			Estimate
PEER	<---	SOCIO	.180
PEER	<---	CON	.209
PEER	<---	RELIGION	.121
Consensual	<---	SOCIO	.786
Protective	<---	SOCIO	.687
Pluralistic	<---	CON	.687
Laissez-faire	<---	CON	.907
MATERIAL	<---	PEER	.256
MATERIAL	<---	SOCIO	.259
MATERIAL	<---	CON	-.092
MATERIAL	<---	RELIGION	-.009
SOCIO04	<---	Consensual	.544
SOCIO03	<---	Consensual	.574
SOCIO02	<---	Consensual	.509
SOCIO01	<---	Consensual	.460
SOCIO07	<---	Protective	.658
SOCIO06	<---	Protective	.720
SOCIO05	<---	Protective	.656
CON03	<---	Pluralistic	.694
CON02	<---	Pluralistic	.685
CON01	<---	Pluralistic	.417
CON06	<---	Laissez-faire	.409
CON05	<---	Laissez-faire	.607
CON04	<---	Laissez-faire	.664
REL06	<---	RELIGION	.600
REL04	<---	RELIGION	.593
REL03	<---	RELIGION	.790

			Estimate
REL02	<---	RELIGION	.808
REL01	<---	RELIGION	.852
MAT15	<---	MATERIAL	.639
MAT06	<---	MATERIAL	.411
MAT10	<---	MATERIAL	.382
MAT08	<---	MATERIAL	.530
MAT04	<---	MATERIAL	.591
MAT03	<---	MATERIAL	.539
MAT01	<---	MATERIAL	.613
PCOM01	<---	PEER	.675
PCOM02	<---	PEER	.819
PCOM03	<---	PEER	.607

**Covariances: (Group number 1 - Default model)**

			Estimate	S.E.	C.R.	P	Label
RELIGION	<-->	SOCIO	.258	.036	7.114	***	
RELIGION	<-->	CON	.195	.034	5.803	***	
SOCIO	<-->	CON	.461	.054	8.504	***	
e12	<-->	e13	-.077	.055	-1.397	.162	
e20	<-->	e22	.147	.027	5.373	***	

**Correlations: (Group number 1 - Default model)**

			Estimate
RELIGION	<-->	SOCIO	.351
RELIGION	<-->	CON	.265
SOCIO	<-->	CON	.461
e12	<-->	e13	-.125
e20	<-->	e22	.202

**Variances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
SOCIO	1.000				
CON	1.000				
RELIGION	.540	.056	9.677	***	
e36	.428	.044	9.733	***	
e31	.114	.030	3.817	***	
e32	.317	.050	6.331	***	
e33	.331	.057	5.824	***	
e34	.032	.024	1.319	.187	
e35	.352	.039	9.045	***	
e1	.707	.042	16.952	***	
e2	.887	.055	16.102	***	
e3	1.008	.057	17.794	***	
e4	1.130	.060	18.752	***	
e5	.787	.050	15.653	***	

	Estimate	S.E.	C.R.	P	Label
e6	.709	.054	13.141	***	
e7	.774	.049	15.733	***	
e8	.673	.055	12.341	***	
e9	.676	.053	12.755	***	
e10	1.149	.058	19.878	***	
e11	.894	.046	19.238	***	
e12	.628	.061	10.312	***	
e13	.605	.071	8.520	***	
e14	.957	.047	20.162	***	
e15	.991	.049	20.223	***	
e16	.483	.029	16.705	***	
e17	.425	.027	15.962	***	
e18	.408	.030	13.632	***	
e19	.594	.035	16.740	***	
e20	.860	.043	20.208	***	
e21	.699	.034	20.609	***	
e22	.614	.033	18.867	***	
e23	.573	.032	17.891	***	
e24	.705	.037	18.842	***	
e25	.669	.038	17.404	***	
e26	.605	.039	15.589	***	
e27	.298	.034	8.661	***	
e28	.632	.035	17.814	***	

**Squared Multiple Correlations: (Group number 1 - Default model)**

	Estimate
PEER	.154
MATERIAL	.144
Laissez-faire	.823
Pluralistic	.472
Protective	.473
Consensual	.617
PCOM03	.368
PCOM02	.671
PCOM01	.456
MAT01	.376
MAT03	.291
MAT04	.349
MAT08	.281
MAT10	.146
MAT06	.169
MAT15	.409
REL01	.726
REL02	.653

	Estimate
REL03	.623
REL04	.352
REL06	.360
CON04	.441
CON05	.369
CON06	.167
CON01	.174
CON02	.469
CON03	.482
SOCIO05	.430
SOCIO06	.518
SOCIO07	.433
SOCIO01	.212
SOCIO02	.259
SOCIO03	.330
SOCIO04	.296

**Modification Indices (Group number 1 - Default model)**

**Covariances: (Group number 1 - Default model)**

	M.I.	Par Change
e33 <--> SOCIO	5.143	-.082
e33 <--> RELIGION	5.717	.051
e32 <--> CON	15.128	.127
e32 <--> RELIGION	5.647	-.048
e32 <--> e35	6.145	-.048
e32 <--> e34	26.528	.065
e31 <--> CON	13.663	-.092
e31 <--> RELIGION	5.104	.035
e31 <--> e35	5.560	.035
e31 <--> e34	5.024	-.022
e28 <--> e33	5.794	.058
e26 <--> e31	5.248	-.041
e24 <--> e25	8.236	.072
e23 <--> CON	4.821	.070
e22 <--> e24	4.069	-.046
e21 <--> RELIGION	8.710	.061
e21 <--> e26	13.385	-.087
e21 <--> e25	13.464	-.090
e21 <--> e23	13.055	.081
e20 <--> e32	4.747	.054
e19 <--> e36	5.633	.050
e19 <--> e28	5.372	.054
e19 <--> e26	5.263	.054
e19 <--> e22	15.459	.085

	M.I.	Par Change
e18 <--> e27	6.195	-.045
e18 <--> e26	10.274	.069
e17 <--> e26	5.308	-.047
e17 <--> e18	7.264	.047
e16 <--> e36	5.926	.047
e16 <--> e27	7.693	.051
e15 <--> e36	6.337	-.065
e15 <--> e25	7.619	-.082
e14 <--> e23	11.776	.091
e14 <--> e19	5.968	-.068
e14 <--> e15	13.525	.124
e13 <--> SOCIO	35.479	.226
e13 <--> RELIGION	12.463	-.079
e13 <--> e36	7.204	-.062
e13 <--> e32	108.127	.258
e13 <--> e28	4.616	-.055
e13 <--> e16	8.058	-.066
e13 <--> e15	4.420	.065
e12 <--> e32	6.200	-.060
e12 <--> e28	4.326	.052
e12 <--> e25	4.319	-.054
e12 <--> e14	5.988	.072
e11 <--> SOCIO	17.534	-.169
e11 <--> RELIGION	6.212	.059
e11 <--> e32	11.295	-.088
e11 <--> e31	5.375	-.047
e11 <--> e27	4.490	.049
e11 <--> e24	5.431	-.065
e11 <--> e14	10.664	-.104
e10 <--> RELIGION	10.041	.085
e10 <--> e36	8.535	.081
e10 <--> e27	7.533	.072
e9 <--> e34	4.635	-.031
e9 <--> e27	6.982	-.059
e9 <--> e26	4.583	.057
e9 <--> e24	6.962	.072
e9 <--> e21	6.249	-.066
e9 <--> e15	7.545	.087
e9 <--> e12	4.477	-.059
e9 <--> e10	5.026	.076
e8 <--> e34	5.002	.032
e8 <--> e25	5.089	.062
e8 <--> e15	7.115	-.086
e8 <--> e10	11.950	-.118
e7 <--> e34	12.894	.054

	M.I.	Par Change
e7 <--> e33	4.700	-.060
e7 <--> e24	15.540	-.111
e7 <--> e19	4.947	.060
e7 <--> e13	45.285	.197
e6 <--> CON	6.076	.096
e6 <--> SOCIO	7.190	-.107
e6 <--> e31	13.342	-.074
e6 <--> e28	7.982	-.077
e6 <--> e19	8.102	-.077
e6 <--> e13	20.783	.135
e5 <--> RELIGION	9.627	-.075
e5 <--> e31	5.149	.046
e5 <--> e24	10.690	.093
e5 <--> e18	6.065	-.061
e5 <--> e15	11.596	.112
e4 <--> RELIGION	11.628	.093
e4 <--> e35	15.296	.101
e4 <--> e32	4.712	-.065
e4 <--> e19	4.226	.063
e4 <--> e16	5.362	.065
e4 <--> e13	5.270	-.076
e4 <--> e12	7.374	.088
e4 <--> e5	4.576	-.076
e3 <--> CON	36.314	-.253
e3 <--> SOCIO	8.295	.125
e3 <--> e34	15.315	-.064
e3 <--> e33	7.589	-.084
e3 <--> e26	9.985	-.094
e3 <--> e16	5.285	-.062
e3 <--> e11	17.094	-.140
e3 <--> e6	5.949	-.084
e3 <--> e5	11.483	.116
e2 <--> e14	7.902	-.095
e2 <--> e5	5.383	.077
e1 <--> e19	4.641	-.054
e1 <--> e14	5.973	.073
e1 <--> e7	5.823	.069

**Variances: (Group number 1 - Default model)**

	M.I.	Par Change

**Regression Weights: (Group number 1 - Default model)**

	M.I.	Par Change
Laissez-faire <--- Protective	12.001	.079

		M.I.	Par Change
Protective	<--- CON	8.182	.096
Protective	<--- MATERIAL	6.110	-.120
Protective	<--- Respect	12.166	.266
Consensual	<--- CON	7.403	-.070
Consensual	<--- MATERIAL	5.534	.087
Consensual	<--- Respect	7.886	-.164
Consensual	<--- Pluralistic	7.972	-.087
PCOM03	<--- Pluralistic	4.426	.087
PCOM03	<--- CON05	4.349	.057
PCOM03	<--- SOCIO06	4.477	-.048
PCOM02	<--- REL03	4.075	.042
PCOM02	<--- CON01	4.454	.042
PCOM02	<--- CON02	4.652	-.045
PCOM01	<--- MAT10	8.320	-.089
PCOM01	<--- MAT15	5.362	.064
PCOM01	<--- REL02	4.892	-.056
PCOM01	<--- REL04	4.718	-.049
PCOM01	<--- SOCIO02	10.194	-.076
PCOM01	<--- SOCIO04	4.507	-.059
MAT01	<--- MAT03	5.351	.067
MAT01	<--- MAT10	11.097	-.106
MAT03	<--- RELIGION	5.019	-.093
MAT03	<--- PCOM03	4.594	-.061
MAT03	<--- MAT01	4.459	.058
MAT03	<--- REL01	4.909	-.052
MAT03	<--- REL06	4.402	-.049
MAT03	<--- CON06	5.561	-.065
MAT03	<--- SOCIO05	11.367	-.083
MAT04	<--- Pluralistic	5.354	.092
MAT04	<--- MAT10	10.749	.095
MAT04	<--- REL06	8.638	.063
MAT04	<--- CON05	4.349	.055
MAT04	<--- CON02	4.077	.047
MAT08	<--- MAT15	7.697	.071
MAT10	<--- CON	5.927	.084
MAT10	<--- SOCIO	5.311	.083
MAT10	<--- RELIGION	12.049	.139
MAT10	<--- Laissez-faire	5.772	.188
MAT10	<--- Consensual	4.361	.131
MAT10	<--- PCOM01	4.628	-.056
MAT10	<--- MAT01	7.203	-.072
MAT10	<--- MAT04	7.411	.080
MAT10	<--- REL01	8.013	.064
MAT10	<--- REL02	9.384	.077
MAT10	<--- REL03	7.937	.069

		M.I.	Par Change
MAT10	<--- REL04	4.146	.046
MAT10	<--- REL06	10.434	.073
MAT10	<--- CON05	4.676	.060
MAT10	<--- CON01	4.811	.051
MAT06	<--- Protective	5.106	.101
MAT06	<--- SOCIO07	6.098	.062
MAT15	<--- PCOM03	5.816	.066
MAT15	<--- PCOM01	5.284	.060
MAT15	<--- MAT08	10.132	.094
MAT15	<--- REL06	8.810	-.066
MAT15	<--- CON04	4.163	-.054
MAT15	<--- SOCIO06	7.904	-.063
MAT15	<--- SOCIO04	4.126	-.056
REL01	<--- Protective	5.178	-.085
REL01	<--- SOCIO05	4.293	-.044
REL01	<--- SOCIO07	8.723	-.063
REL02	<--- PCOM01	4.018	-.046
REL03	<--- PCOM02	6.968	.070
REL03	<--- CON04	5.545	-.057
REL03	<--- SOCIO01	4.061	.042
REL04	<--- Protective	4.610	.107
REL04	<--- PCOM01	4.784	-.069
REL04	<--- MAT01	5.016	-.072
REL04	<--- REL06	8.111	.078
REL04	<--- CON04	5.143	.073
REL04	<--- CON02	5.391	.069
REL04	<--- SOCIO07	12.370	.099
REL06	<--- MAT04	9.345	.107
REL06	<--- REL04	8.236	.076
REL06	<--- CON05	5.019	.074
REL06	<--- CON06	6.394	-.080
REL06	<--- SOCIO04	5.496	.077
CON04	<--- SOCIO	14.636	.148
CON04	<--- RELIGION	5.021	-.097
CON04	<--- PEER	4.115	-.096
CON04	<--- Protective	68.564	.370
CON04	<--- Consensual	4.484	.143
CON04	<--- PCOM03	7.226	-.080
CON04	<--- REL01	5.608	-.058
CON04	<--- REL03	10.380	-.085
CON04	<--- SOCIO05	85.448	.237
CON04	<--- SOCIO06	61.333	.193
CON04	<--- SOCIO07	25.511	.128
CON05	<--- Protective	5.269	-.100
CON05	<--- SOCIO05	6.013	-.061

			M.I.	Par Change
CON05	<---	SOCIO06	6.068	-.059
CON06	<---	SOCIO	6.891	-.108
CON06	<---	Protective	12.434	-.167
CON06	<---	Consensual	8.372	-.207
CON06	<---	REL03	5.245	.064
CON06	<---	SOCIO05	9.096	-.082
CON06	<---	SOCIO06	9.943	-.082
CON06	<---	SOCIO07	5.941	-.065
CON06	<---	SOCIO02	20.572	-.123
CON06	<---	SOCIO04	5.287	-.072
CON01	<---	SOCIO	5.429	.108
CON01	<---	RELIGION	12.335	.182
CON01	<---	PEER	12.840	.203
CON01	<---	MATERIAL	5.868	.156
CON01	<---	Consensual	4.035	.163
CON01	<---	PCOM03	8.578	.105
CON01	<---	PCOM02	14.291	.142
CON01	<---	MAT08	7.579	.107
CON01	<---	MAT10	6.156	.098
CON01	<---	REL01	11.171	.098
CON01	<---	REL02	5.910	.079
CON01	<---	REL03	8.674	.093
CON01	<---	REL06	9.777	.092
CON01	<---	CON03	4.602	-.067
CON02	<---	MAT10	6.286	-.086
CON02	<---	MAT06	4.354	-.063
CON02	<---	CON05	5.461	-.072
CON03	<---	MAT01	4.374	.063
CON03	<---	CON01	9.488	-.081
CON03	<---	SOCIO02	4.153	-.054
SOCIO05	<---	Respect	4.840	.198
SOCIO05	<---	MAT03	11.047	-.106
SOCIO05	<---	CON04	31.359	.171
SOCIO05	<---	SOCIO04	6.210	.079
SOCIO06	<---	Consensual	4.298	-.150
SOCIO06	<---	MAT15	7.413	-.087
SOCIO06	<---	CON04	16.780	.126
SOCIO06	<---	CON01	4.604	.058
SOCIO06	<---	SOCIO02	8.021	-.078
SOCIO06	<---	SOCIO03	4.077	-.056
SOCIO07	<---	RELIGION	7.966	-.131
SOCIO07	<---	MAT03	4.445	.068
SOCIO07	<---	REL01	11.054	-.087
SOCIO07	<---	REL02	9.934	-.091
SOCIO07	<---	REL03	5.805	-.068

			M.I.	Par Change
SOCIO07	<---	SOCIO02	9.824	.086
SOCIO07	<---	SOCIO03	4.752	.061
SOCIO01	<---	RELIGION	10.296	.168
SOCIO01	<---	PEER	4.240	.118
SOCIO01	<---	MATERIAL	16.309	.262
SOCIO01	<---	MAT01	8.322	.101
SOCIO01	<---	MAT04	4.325	.080
SOCIO01	<---	MAT08	11.330	.131
SOCIO01	<---	MAT06	11.024	.118
SOCIO01	<---	MAT15	13.518	.132
SOCIO01	<---	REL01	9.746	.092
SOCIO01	<---	REL02	4.051	.066
SOCIO01	<---	REL03	13.334	.116
SOCIO01	<---	REL04	5.124	.066
SOCIO01	<---	CON05	5.596	.086
SOCIO02	<---	CON	30.059	-.237
SOCIO02	<---	RELIGION	6.337	-.126
SOCIO02	<---	Respect	30.616	-.542
SOCIO02	<---	Pluralistic	26.620	-.268
SOCIO02	<---	PCOM01	8.294	-.095
SOCIO02	<---	MAT03	4.035	.070
SOCIO02	<---	REL01	5.160	-.065
SOCIO02	<---	REL02	4.254	-.065
SOCIO02	<---	REL03	9.797	-.096
SOCIO02	<---	CON04	14.691	-.128
SOCIO02	<---	CON05	11.737	-.119
SOCIO02	<---	CON06	30.705	-.185
SOCIO02	<---	CON02	13.855	-.114
SOCIO02	<---	CON03	17.609	-.127
SOCIO02	<---	SOCIO07	6.184	.073
SOCIO04	<---	MAT15	4.259	-.061
SOCIO04	<---	REL02	4.222	.055
SOCIO04	<---	REL06	8.397	.070

**Model Fit Summary CMIN**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	72	872.186	334	.000	2.611
Saturated model	406	.000	0		
Independence model	28	6674.941	378	.000	17.659

**RMR, GFI**

Model	RMR	GFI	AGFI	PGFI
Default model	.056	.939	.925	.772
Saturated model	.000	1.000		

Model	RMR	GFI	AGFI	PGFI
Independence model	.205	.552	.519	.514

**Baseline Comparisons**

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.869	.852	.915	.903	.915
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

**Parsimony-Adjusted Measures**

Model	PRATIO	PNFI	PCFI
Default model	.884	.768	.808
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

**NCP**

Model	NCP	LO 90	HI 90
Default model	538.186	454.623	629.410
Saturated model	.000	.000	.000
Independence model	6296.941	6035.215	6565.069

**FMIN**

Model	FMIN	F0	LO 90	HI 90
Default model	.913	.564	.476	.659
Saturated model	.000	.000	.000	.000
Independence model	6.989	6.594	6.320	6.874

**RMSEA**

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.041	.038	.044	1.000
Independence model	.132	.129	.135	.000

**AIC**

Model	AIC	BCC	BIC	CAIC
Default model	1016.186	1020.696	1366.305	1438.305
Saturated model	812.000	837.430	2786.280	3192.280
Independence model	6730.941	6732.694	6867.098	6895.098

**ECVI**

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.064	.977	1.160	1.069
Saturated model	.850	.850	.850	.877
Independence model	7.048	6.774	7.329	7.050

**HOELTER**

Model	HOELTER	HOELTER
	.05	.01

Model	HOELTER	HOELTER
	.05	.01
Default model	414	435
Independence model	61	64

**Direct Effects - Two Tailed Significance (BC) (Group number 1 - Default model)**

	CON	SOCIO	RELIGION	PEER	MATERIAL	Laissez-faire	Pluralistic	Protective	Consensual
PEER	.031	.034	.020	...	...	...	...	...	...
MATERIAL	.152	.006	.831	.002	...	...	...	...	...
Laissez-faire	.001	...	...	...	...	...	...	...	...
Pluralistic	.001	...	...	...	...	...	...	...	...
Protective	...	.002	...	...	...	...	...	...	...
Consensual	...	.001	...	...	...	...	...	...	...
PCOM03	...	...	...	.002	...	...	...	...	...
PCOM02	...	...	...	.001	...	...	...	...	...
PCOM01	...	...	...	...	...	...	...	...	...
MAT01	...	...	...	...	.001	...	...	...	...
MAT03	...	...	...	...	.002	...	...	...	...
MAT04	...	...	...	...	.001	...	...	...	...
MAT08	...	...	...	...	.002	...	...	...	...
MAT10	...	...	...	...	.002	...	...	...	...
MAT06	...	...	...	...	.001	...	...	...	...
MAT15	...	...	...	...	...	...	...	...	...
REL01	...	...	.002	...	...	...	...	...	...
REL02	...	...	.002	...	...	...	...	...	...
REL03	...	...	.002	...	...	...	...	...	...
REL04	...	...	.002	...	...	...	...	...	...
REL06	...	...	...	...	...	...	...	...	...
CON04	...	...	...	...	...	.002	...	...	...
CON05	...	...	...	...	...	.003	...	...	...
CON06	...	...	...	...	...	...	...	...	...
CON01	...	...	...	...	...	...	.004	...	...
CON02	...	...	...	...	...	...	.002	...	...
CON03	...	...	...	...	...	...	...	...	...
SOCIO05	...	...	...	...	...	...	...	.002	...
SOCIO06	...	...	...	...	...	...	...	.002	...
SOCIO07	...	...	...	...	...	...	...	...	...
SOCIO01	...	...	...	...	...	...	...	...	.001
SOCIO02	...	...	...	...	...	...	...	...	.003
SOCIO03	...	...	...	...	...	...	...	...	.002
SOCIO04	...	...	...	...	...	...	...	...	...

**Indirect Effects - Two Tailed Significance (BC) (Group number 1 - Default model)**

	CON	SOCIO	RELIGION	PEER	MATERIAL	Laissez-faire	Pluralistic	Protective	Consensual
<b>PEER</b>	...	...	...	...	...	...	...	...	...
<b>MATERIAL</b>	.023	.019	.019	...	...	...	...	...	...
Laissez-faire	...	...	...	...	...	...	...	...	...
Pluralistic	...	...	...	...	...	...	...	...	...
Protective	...	...	...	...	...	...	...	...	...
Consensual	...	...	...	...	...	...	...	...	...
PCOM03	.032	.028	.023	...	...	...	...	...	...
PCOM02	.030	.028	.020	...	...	...	...	...	...
PCOM01	.031	.034	.020	...	...	...	...	...	...
MAT01	.562	.001	.691	.002	...	...	...	...	...
MAT03	.565	.001	.666	.002	...	...	...	...	...
MAT04	.583	.001	.680	.002	...	...	...	...	...
MAT08	.562	.001	.699	.002	...	...	...	...	...
MAT10	.586	.001	.699	.001	...	...	...	...	...
MAT06	.572	.001	.669	.001	...	...	...	...	...
MAT15	.569	.001	.688	.002	...	...	...	...	...
REL01	...	...	...	...	...	...	...	...	...
REL02	...	...	...	...	...	...	...	...	...
REL03	...	...	...	...	...	...	...	...	...

	CON	SOCIO	RELIGION	PEER	MATERIAL	Laissez-faire	Pluralistic	Protective	Consensual
REL04	...	...	...	...	...	...	...	...	...
REL06	...	...	...	...	...	...	...	...	...
CON04	.003	...	...	...	...	...	...	...	...
CON05	.002	...	...	...	...	...	...	...	...
CON06	.001	...	...	...	...	...	...	...	...
CON01	.001	...	...	...	...	...	...	...	...
CON02	.001	...	...	...	...	...	...	...	...
CON03	.001	...	...	...	...	...	...	...	...
SOCIO05	...	.002	...	...	...	...	...	...	...
SOCIO06	...	.003	...	...	...	...	...	...	...
SOCIO07	...	.002	...	...	...	...	...	...	...
SOCIO01	...	.002	...	...	...	...	...	...	...
SOCIO02	...	.001	...	...	...	...	...	...	...
SOCIO03	...	.001	...	...	...	...	...	...	...
SOCIO04	...	.001	...	...	...	...	...	...	...

**Total Effects - Two Tailed Significance (BC) (Group number 1 - Default model)**

	CON	SOCIO	RELIGION	PEER	MATERIAL	Laissez-faire	Pluralistic	Protective	Consensual
PEER	.031	.034	.020	...	...	...	...	...	...
MATERIAL	.569	.001	.688	.002	...	...	...	...	...
Laissez-faire	.001	...	...	...	...	...	...	...	...
Pluralistic	.001	...	...	...	...	...	...	...	...
Protective	...	.002	...	...	...	...	...	...	...
Consensual	...	.001	...	...	...	...	...	...	...
PCOM03	.032	.028	.023	.002	...	...	...	...	...
PCOM02	.030	.028	.020	.001	...	...	...	...	...
PCOM01	.031	.034	.020	...	...	...	...	...	...
MAT01	.562	.001	.691	.002	.001	...	...	...	...
MAT03	.565	.001	.666	.002	.002	...	...	...	...
MAT04	.583	.001	.680	.002	.001	...	...	...	...
MAT08	.562	.001	.699	.002	.002	...	...	...	...
MAT10	.586	.001	.699	.001	.002	...	...	...	...
MAT06	.572	.001	.669	.001	.001	...	...	...	...
MAT15	.569	.001	.688	.002	...	...	...	...	...
REL01	...	...	.002	...	...	...	...	...	...
REL02	...	...	.002	...	...	...	...	...	...
REL03	...	...	.002	...	...	...	...	...	...
REL04	...	...	.002	...	...	...	...	...	...
REL06	...	...	...	...	...	...	...	...	...
CON04	.003	...	...	...	...	.002	...	...	...
CON05	.002	...	...	...	...	.003	...	...	...
CON06	.001	...	...	...	...	...	...	...	...
CON01	.001	...	...	...	...	...	.004	...	...
CON02	.001	...	...	...	...	...	.002	...	...
CON03	.001	...	...	...	...	...	...	...	...
SOCIO05	...	.002	...	...	...	...	...	.002	...
SOCIO06	...	.003	...	...	...	...	...	.002	...
SOCIO07	...	.002	...	...	...	...	...	...	...
SOCIO01	...	.002	...	...	...	...	...	...	.001
SOCIO02	...	.001	...	...	...	...	...	...	.003
SOCIO03	...	.001	...	...	...	...	...	...	.002
SOCIO04	...	.001	...	...	...	...	...	...	...