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Chinese children's understanding of commercial communications: A comparison of cognitive development and social learning models

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Abstract

Parents and the media, especially television, have long been seen as important socializing agents that have impact on children's consumer socialization. The objective of this study conducted in China was to test the relative contribution of the cognitive developmental model and the social learning model with a focus on television and parents as socializing agents. Using a sample of 1758 children ages 6-14 and their parents living in three Mainland Chinese cities with different levels of advertising development, we examined children's understanding of television advertising by age utilizing a verbal method. Results of logistic regression analyses indicated that the cognitive developmental model made a greater contribution to predicting children's understanding of commercial communications than the social learning model. Chinese parents were not important socializing agents and television played some role in children's consumer socialization. Gender, household income and the media environment had impact on children's understanding of commercial communications. Girls and children from families with high household income had a higher understanding. Children residing in cities with the presence of public service advertising had a lower understanding of commercial communications.

Keywords: Children – television – advertising – social learning – consumer socialization

JEL classification: D12

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1. Introduction

Consumer socialization is the process by which consumers acquire the knowledge and skills necessary to operate as consumers ([Ward, 1974](#)). The process has received much attention from marketers and advertisers, parents, educators, and policy makers because each wishes to make significant input to it. Marketers and advertisers are interested from the standpoint of designing effective ways to sell products and services to children. Parents are concerned about undesirable effects of marketing and advertising targeted to their children, e.g. causing parent-child conflict and encouraging materialistic values (Buijzen and Valkenburg, 2003). Educators are concerned about the teaching of proper consumer skills and rational purchase decision-making to children. Policy makers are interested because they want to develop appropriate legislation to protect children's consumer rights.

In the consumer socialization process, socialization agents are specific sources from which norms, attitudes, motivations, and behaviours are transmitted to young consumers. A socializing agent can be a person or an organization that provides influence through frequent interaction with an individual, primacy over the individual, or control over rewards and punishments given to the individual (Brim, 1966). Television, families and peers are often identified as major socializing agents among young consumers ([Churchill and Moschis, 1979](#)).

Previous research on consumer socialization has mainly adopted two theoretical models, the cognitive developmental model and the social learning model. The cognitive developmental model attempts to explain the formation of consumer knowledge, skills and behaviours as a function of qualitative changes in cognitive development stages. Children are conceptualised to have gone through different stages from infancy to adulthood, each marked with its cognitive structure. Integrating Piaget's (1970) stage theory of cognitive development and Selman's (1980) stage theory of social development, John (1999) proposes a model of consumer socialization that is shown to be particularly useful in characterising children's response to advertising. In the model, learning to be a consumer is a developmental process

from the perceptual stage (3-7 years) to the analytical stage (7-11 years) to the reflective stage (11-16 years). In the perceptual stage, children can grasp concrete knowledge only. Their consumer knowledge is characterized by perceptual features and distinctions based on a single and simple dimension. They are egocentric and generally unable to take others' perspectives into account. Children in the analytical stage are able to grasp abstract knowledge. Concepts are thought of in terms of functional or underlying dimensions. They are able to analyse marketplace information in two or more dimensions and have the acknowledgment of contingencies. They have developed new perspectives that go beyond their own feelings and motives, and can assume dual perspectives of their own and that of others. Children in the reflective stage possess a multidimensional understanding of marketing concepts such as branding and pricing. They shift into more reflective ways of thinking and reasoning and focus more on the social meanings and underpinnings of the consumer marketplace.

On the other hand, the social learning model attempts to explain the formation of consumer knowledge, skills and behaviours as a function of interactions between socialization agents and individuals in different social settings (McLeod and O'Keefe, 1972). Attitudes, motivations, and values are learned through modelling, reinforcement, and social exchange. The social learning model implies that the more interaction between the socializing agents and the individuals, the more likely learning will take place. In other words, children with more social interaction with parents regarding commercial communications, for example, will be more likely to understand commercial communications.

The current study focuses on one particular aspect of consumer socialization, i.e. understanding of commercial communications through the medium of television. Both verbal and non-verbal methods have been used to measure children's understanding of television advertising. In research using verbal measures, the child is typically asked to give an answer to questions such as "What is the purpose of television commercials?" ([Ward, 1972](#); [Ward et al., 1977](#)). In research using non-verbal measures, a child is typically asked to provide his/her

answer by selecting a picture ([Stephens and Stutts, 1982](#)), selecting an appropriate ending for a television commercial ([Young, 2000](#)), or by acting out the answer ([Macklin, 1987](#)). [Macklin \(1987\)](#) argued that non-verbal methods are more appropriate than verbal methods for young children because of their limited ability to verbalize their understanding.

Through both verbal and non-verbal measures, most of the studies of children's communication processing of television advertising have found evidence supporting the cognitive developmental model. Studies have generally indicated that children's comprehension of television advertising and its persuasive intent increases with age ([Blosser and Roberts, 1985](#); [Rubin, 1974](#); [Ward, 1972](#)). An understanding of advertising intent usually emerges by the time most American children turn seven to eight ([Bever et al., 1975](#); [Rubin, 1974](#)). In a focus group study of 182 U.K. children aged between 6 and 10 years it was found that none of the 6 year olds, a minority of the 8 year olds, and most of the 10 year olds were able to articulate an understanding of the persuasive nature of advertising ([Oates et al., 2003](#)). [Furnham \(2000\)](#) reported that nearly two out of three 6-year-old German children can make the distinction between programs and commercials, and can grasp the intent behind commercial messages. [Chan \(2000\)](#) surveyed 448 children in Hong Kong and found that children in grade 2 (7-8 years) were beginning to be aware of advertising's informative and persuasive intent. In a study of 112 children in kindergarten through fourth grades (6-9 years), [Henriksen \(1997\)](#) found that children's understanding of advertising intent has a positive relationship with their perspective-taking ability, persuasive skill, and knowledge of buying and selling. Research also suggests that by the age of nine children show marked improvement in understanding ambiguous wording, humor, and imagery found in advertisements ([Belk et al., 1984](#); [Nippold et al., 1988](#)).

[Martin \(1997\)](#) conducted a meta-analysis of twenty-three studies on children's understanding of advertising intent and age. A total sample size of 2,934 resulted in an estimated effect size of 0.37. The effect size for verbal measurement ($r=0.40$) was higher than

that for non-verbal measurement ($r=0.23$). The authors attributed the difference to the higher demonstration of understanding of advertising intent among younger children when using non-verbal measurements.

Television advertising also plays a role in children's consumer socialization. A recent study found that cumulative exposure to commercials has a positive but weak relationship with understanding of advertising intent ([Oates et al., 2002](#)).

Most of the empirical literature on children's understanding of advertising is based on research conducted in Western societies, and there are almost no comparable studies in China, the country with the largest population of children. The objective of this study conducted in Mainland China was to test the relative contribution of the cognitive developmental model and the social learning model with focus on television and parents as socializing agents in predicting children's understanding of television commercials. We expected that cultural factors would influence the relative importance of the cognitive developmental model and the social learning model in the prediction. Following Hofstede (1994, p.4), a nation's culture is defined as "collective programming of the mind which distinguishes the members of one group or category of people from those of another." China has a long history of being an authoritarian society that emphasizes Confucius's five cardinal relations between sovereign and minister, father and son, husband and wife, old and young, and friends ([Yang, 1959](#)). Chinese people have a strong respect for authority ([Bond, 1991](#)) and are ready to accept authority without question ([Yau, 1988](#)). Therefore, we expected that parents would be seen as important socializing agents, perhaps even more important than television.

2. Media and advertising development in China

As China rapidly becomes a market-driven economy, and its one-child-per-family policy spreads throughout society, children have been repositioned as a focal point of family life. China adopted a one-child policy in 1979 and today it is the rule in urban China ([Zhang and Yang, 1992](#)). As only children, Chinese children act like "little emperors/empresses"

according to some observers (e.g., Shao and Herbig, 1994). These only children are increasingly believed to constitute an important market force ([McNeal and Yeh, 1997](#)). There are 289.8 million children in the age group 0 to 14 in China (The State Statistical Bureau, 2000), compared to around 290 million people for the entire population of the United States. It is estimated that in 1999, the 58 million (approximately) children, ages 4 to 12, living in just the largest cities of China spent around US\$6.2 billion of their own money on their own wants, and influenced the spending by parents and grandparents of over US\$61 billion, giving them a market potential of US\$67 billion ([McNeal and Zhang, 2000](#)). Rapid commercialisation of childhood as a result of economic restructuring, new affluence, and innovative retailing practices is not unique to China. The one-child policy and the very rapid economic development in China, however, have enabled the process to unfold at a fast pace and across all social strata ([Davis and Sensenbrenner, 2000](#)).

A survey of 460 urban children aged 8 to 13 in Beijing indicated that Chinese children spend on average 17.2 hours each week watching television, which is far greater than the total time spent on reading newspapers, magazines and listening to radio combined. Chinese children utilized a wide variety of information sources including parents, retail outlets, and the mass media, to learn about new products, and they considered television to be the most important source ([McNeal and Ji, 1999](#)). Cultural values reflected in children's commercials in China differ significantly from that in the United States. Children's commercials in China generally reflect its traditional cultural values, and its social and economic development level ([Ji and McNeal, 2001](#)).

In addition to cultural factors, children's advertising in China has several unique characteristics not shared by Western and more developed societies. First, there is a lack of specific regulation of television advertising targeted to children. For example, the United States has laws and regulations to protect children from excessive and unfair advertising on television and in schools. China's advertising regulation standards, however, focus more on the cultural

impact of advertising to children than the misleading effect of advertising on children's consumption of products and services (Ha, 1996). Article 8 of the Advertising Law enacted in February, 1995 does specify that advertisements may not be harmful to the physical and mental health of minors and disabled persons, but it does not have a separate section dealing specifically with advertising to children (Asia Law and Practice Limited, 1994).

Second, children in China have been exposed to a high level of irresponsible advertising practices. Since the implementation of the Advertising Law in 1995, local and central level officials of the State Administration of Commerce and Industry have prosecuted more than 160,000 illegal cases with fines totalling 450 million yuan, or about 58 million US dollars (Xinhua News Agency, 2000). Ads for fake medicine, illegal medical services, and illegal food ads accounted for the biggest share of illegal advertising activities (Xinhua News Agency, 1998). Some advertising to children has been accused of misleading them and promoting unhealthy lifestyles (Zhou, 2001). For example, according to the China Consumer Association, food advertisers have claimed that certain biscuits can increase children's intelligence, certain health food can enable students to score one hundred percent on examinations, and certain shoes can enhance growth.

Third, the development of advertising is highly uneven within the nation. Children in different provinces have different level of exposures to advertising. In the year 2000, Beijing, Shanghai, and Guangdong province in the south accounted for nearly half of advertising expenditures (Fan, 2001). There is a marked difference in terms of the number of commercial and non-commercial communications carried between national television and regional television stations. For example, in a typical week of approximately ten hours of children's programming on the national channel CCTV-1 in May 2002, there were 571 commercials, including public service advertisements (PSAs). PSAs here refer to television commercials that advocate social ideas such as caring for older people or maintaining good health, rather than advertising for goods and products. A week of children's programming on Beijing TV-1 carried 45 commercials.

A week of children's programming on Nanjing TV-1 and Chengdu TV-1 carried 32 and 28 commercials, respectively. Not all television channels carried PSAs. In the same week of analysis, there were 7 PSAs broadcast on CCTV-1 and 27 PSAs broadcast on Beijing TV-1 while no PSAs occurred on Nanjing TV-1 and Chengdu TV-1.

3. Theoretical model

In the current study, children's understanding of commercial communications (or in this case, the understanding of television commercials) is viewed as a combination of a cognitive-psychological process of reasoning about one's environment and a social learning process with parents and television as socializing agents. Figure 1 shows the theoretical model.

Age. Previous research indicates that age has a positive influence on children's understanding of commercial communications. Younger children view the purpose of advertising from their own perspective as something entertaining or informative. Older children are more likely to adopt a dual perspective, their own as well as that of advertisers.

Social learning model from parents. It is hypothesized that the type and degree of social interaction between parents and children will have impact on children's understanding of commercial communications. Family communication about consumption has been conceptualized to be composed of two dimensions ([Moschis, 1987](#)). The first dimension, socio-orientation, measures vertical or relationship-oriented patterns of communication. The emphasis is on parental control and children's deference to authority. The second dimension, concept-orientation, measures issue-oriented communication. The emphasis is on the establishment of an independent evaluation of an issue by the children. We hypothesize that parents using socio-oriented communication will discourage independent thinking and discourage cognitive development. As a result, children will have a lower understanding of commercial communications. Similarly, we hypothesize that parents using concept-oriented communication will encourage independent thinking and therefore facilitate cognitive development. As a result, children will have a higher understanding of commercial

communications. Reid's (1978) study indicated that a higher level of understanding can be facilitated by parents who take a strong consumer education role with their children. So, we hypothesize a child's frequency of communication with his or her parents about television commercials will increase his or her understanding of the commercials. Similarly, watching television with children will provide parents with an opportunity for exerting personal influence. We therefore hypothesize that watching television with children will enhance their understanding of the commercials. Parents' negative attitude toward advertising in general will have a positive impact on children's understanding of commercial communications. In other words, parents who do not like advertising will be motivated to help their children develop a cognitive defense against television commercials. Parents' perceived influence will have a positive impact on children's understanding of commercial communications because those who perceive that they have more influence will be more likely to help their children to develop a cognitive defense against advertising.

Social learning model from television. The amount of television viewing is positively related to the cumulative exposure to commercials. We hypothesize that level of television viewing and attention to television commercials also will have a positive impact on children's understanding of commercial communications.

Besides variables from the cognitive developmental model and the social learning model, the following variables are expected to have impact on children's understanding of commercial communications.

Sex. Most of the studies about children's understanding of commercial communications did not report if there were gender differences. A study of seventy-five children aged 4-5 years in U.K. indicated that girls were more likely to express preference for branded products than boys (Pine and Nash, 2003). The authors attribute the result to girls' greater verbal ability and emotional sensitivity in processing informative and emotional messages in advertisements. Henriksen's (1997) study reported no gender difference in understanding of advertising intent. We do not have a

specific hypothesis for the sex variable but anticipate its influence.

Socio-economic status. This variable reflects the economic and knowledge resources of the family and the child. Socio-economic status of the family is hypothesized to have a positive impact on children's understanding of commercial communications. This is because with higher household income and allowances, children are more likely to engage in consumption. Hence, they are more likely to be motivated to search for market information from various sources including television commercials. Parents with a higher educational level and with skilled occupations are more likely to encourage children's cognitive development. As a result, their children are more likely to understand commercial communications.

Media environment. This variable includes level of advertising development and the presence of public services advertising. We found that a city with a high level of advertising development has more television commercials. We hypothesize that children in an advertising-rich environment will have a higher chance of exposure to television advertising and will be more likely to understand it. The presence of public services advertising is hypothesized to have a negative impact on children's understanding of commercial communications. This is because children will have difficulties in differentiating and identifying the purpose of commercial and non-commercial communications. As a result, they will be confused and may not understand commercial communications.

Table 1 summarizes the hypotheses direction of prediction in the model.

[FIGURE ONE ABOUT HERE]

[TABLE ONE ABOUT HERE]

4. Methodology

4.1. The samples

The child-parent paired data analyzed in this study were collected from three cities in China--Beijing, Nanjing and Chengdu--during the period December 2001 to March 2002. The three cities were selected to represent high, medium, and low levels of advertising development

respectively, according to provincial advertising expenditures for all advertisers in 2000 (Fan, 2001). The respective provincial advertising expenditures were 14.8 percent, 8.1 percent and 2.7 percent of the national advertising expenditure, and the advertising expenditure per capita were 708 yuan, 73 yuan and 21 yuan respectively. Also, the selection of these three cities (located in different parts of China) was an attempt to better represent China as compared to single-city studies.

The draft questionnaire for surveying children was prepared based on a focus-group interview of twenty-two urban children aged from six to twelve years, conducted in Beijing in October 2001 (Chan and McNeal, 2002). The draft questionnaire for surveying parents was based on Rose et al.'s (1998) study and a focus-group interview of eight parents with children ages seven to eleven conducted in Beijing in October 2001. Both questionnaires were pre-tested in Beijing by personally interviewing eight children and eight parents about their clarity and then retested in Nanjing.

Two elementary schools were recruited in each of the three cities. Students generally came from lower to middle class. The total number of students in each school ranged from 800 to 1700. Average class size ranged from 40 in Beijing and Nanjing, to 65 in Chengdu. One class each from grade 1 to grade 6 was randomly selected from each of the two schools to form the sample. All the children were in the age group of 6 to 14. All aspects of the research procedure were conducted in the Chinese (Mandarin) language. The children were asked to fill out the questionnaire in the classrooms. For children in grades 1 and 2, the researchers read out the questions as well as the answers, and ask the children to check the most appropriate answers. Most of the respondents could cope with the method. Children in grades 3 to 6 were instructed to complete the questionnaire on their own in the class. We also asked the sampled children to take a questionnaire back home and ask either their mothers or fathers to complete it and return it to the schools. Altogether, 1758 questionnaires were distributed to children and their parents; 1758 questionnaires were collected from children (460 from Beijing, 557 from Nanjing, and

741 from Chengdu) and 1700 questionnaires were collected from their parents (437 from Beijing, 525 from Nanjing, and 738 from Chengdu). Several questionnaires were not usable because most of the questions were left blank or checked with two or more answers, leaving a net total of 1751 usable questionnaires from children and 1665 usable questionnaires from parents. Thus, the response rate was 99.6 percent for the children sample and 94.7 percent for the parent sample, respectively.

4.2. Measures

Questionnaire for children

Understanding of television advertising by children was measured by a verbal method as follows. Children were told: “When we watch television, some messages occur before or after the television program that are not related to the program. They are called commercials (*Guanggao*)”. Children were then asked: “What are television commercials?”, “What do television commercials want you to do?” and “Why do television stations broadcast commercials?” For each question, usually five to six answers were presented (see Appendix I). The children were asked to check one answer that they thought most appropriate. Among all the answers presented in the first question, only one indicated participants’ awareness of the persuasive intent of television advertising (i.e. television commercials are messages “to promote products”). For the second question, two of the five answers indicated participants’ awareness of the persuasive intent of television advertising (i.e. television commercials want us “to tell our parents about it” and “to buy the products”). For the third question, two of the six answers indicated participants’ awareness of the profit intent and the notion of program sponsorship (i.e. television stations broadcast commercials in order “to make money” and “to subsidize the production of programs”). These answers were classified as ‘demonstrating understanding’ of television advertising (coded as one). All other answers were classified as ‘not demonstrating understanding’ of television advertising (coded as zero). As a result, understanding of commercial communications is measured by a set of three dichotomous

variables. This method has the limitation that it may over-estimate children's understanding due to the correct answer being given by mere guessing.

Television viewing was measured by asking children how many hours they watched television on weekdays and weekends. The total number of hours of watching per week was compiled and classified into nearly three equal groups of low (did not watch any television to watch 3.5 hours or less per week), medium (more than 3.5 hours to less than 11 hours per week) and high (11 hours or more per week) levels of television viewing.

Attention to television commercials was measured by asking children how often they pay attention to television commercials on a 4-point scale (1=switch to other channels nearly every time; 4 = watch nearly every time).

Questionnaire for parents

Family communication about consumption consisted of two dimensions. The socio-oriented communication dimension contained five items used by Moschis et al. (1984). The concept-oriented communication dimension contained five items used in Moschis et al.'s (1984) concept-orientation scale and three items from Ward et al.'s (1977) family communication scale. Both dimensions were measured on a 5-point scale (1=very seldom; 5=very often). Inter-item reliability (Cronbach's alpha) was 0.71 for socio-oriented communication and 0.66 for concept-oriented communication respectively. *Discussion about commercials* was measured by asking how frequently parents talked with their children about the contents of television commercials on a 5-point scale (1=very seldom; 5=very often). *Co-viewing* was measured by asking how frequently parents watched television with their children on weekdays and weekends on a 5-point scale (1=very seldom; 5=very often) and the mean value was compiled as a measure. *Parents' perceived influence* on children's attitudes was measured by asking respondents to rate the statement, 'parents have influence on children's attitudes toward television advertising' using a 5-point scale (1=disagree strongly; 5=agree strongly). *Negative attitude toward television advertising* was measured by a 7-item scale

([Rossiter, 1977](#)). The scale measured respondents' general scepticism toward television advertising ([Boush et al., 1994](#)), and their overall beliefs and reactions regarding advertising tactics. *Negative attitude toward children's advertising* was measured by seven items ([Crosby and Grossbart, 1984](#)) and an additional statement about the influence of advertising on children's ability to think independently. Respondents were asked to rate them on a 5-point scale (1=disagree strongly; 5=agree strongly). The mean formed the measure of attitudes toward advertising with higher scores indicating more negative attitudes. Inter-item reliability (Cronbach's alpha) for the measures of *Negative attitude toward television advertising* and *Negative attitude toward children's advertising* were 0.63 and 0.53 respectively. As expected, we found a strong positive linear correlation between the two scales ($r=0.55$, $p<0.001$), thus enhancing our confidence in the validity of two measures.

5. Results

The sample profiles for children and parents are summarized in Table 2. Fifty one percent were boys, and 49 percent were girls. The average age of the respondents was 9.6 years (SD=1.8 years). As part of the family planning policy in China is to encourage late marriage and late bearing of children, a majority of the sampled parents fell within the age group of 30-39.

[TABLE TWO ABOUT HERE]

In order to test the theoretical model, a series of logistic regression analyses was conducted. Results on understanding of television advertisements (what they are, what they want you to do, why television stations broadcast commercials) were used as dichotomous dependent variables. Mean values of the dependent variables and the predictive variables are displayed in Table 3.

[TABLE THREE ABOUT HERE]

In the first part of the analysis, ten variables related with the cognitive developmental

model and the social learning model were used as predictive variables. These variables entered into the regression equation in three steps. The age variable entered in the first step, followed by five variables related with parents as socializing agent, and then followed by two variables related with television as socializing agent. Changes in the R-square values for each step are also reported in Table 4. In the second part of the analysis, sex of children, family socio-economic variables and the media environment variables were added simultaneously. Table 4 summarizes the results of the first part of the logistic regression analysis while Table 5 summarizes the results of the second part of the regression analysis.

In addition, having identified possible variables that are important in explaining children's understanding of commercial communications, odds ratios are compiled to compare the likelihood of understanding within sub-groups of respondents.

[TABLE FOUR ABOUT HERE]

[TABLE FIVE ABOUT HERE]

Theoretical model

The cognitive developmental model was statistically significant for the understanding of 'What are television commercials' and 'What do television commercials want you to do'. The R-square values for the cognitive developmental models alone were .37 percent and 0.4 percent respectively. The cognitive developmental model was not statistically significant for the understanding of 'Why do television stations broadcast commercials'. The mean scores of understanding of 'what are television commercials' were 0.12, 0.26, 0.45 and 0.47 for the age groups 6-7, 8-9, 10-11, and 12-14 respectively. Using the group of children ages 6-7 as reference, the odds ratios for the three groups 8-9, 10-11, 12-14 for the understanding of 'What are television commercials' were 2.1, 3.7 and 3.9 respectively. This means that children in the older age groups were two to three times more likely than children in the age group 6-7 to understand 'What are television commercials'. Similarly, the mean scores of understanding of 'what do television commercials want you to do' were 0.59, 0.48, 0.80 and 0.75 for the age

groups 6-7, 8-9, 10-11, and 12-14 respectively. The odds ratios for the three groups 8-9, 10-11, 12-14 for the understanding of 'What do television commercials want you to do' were 0.8, 1.4 and 1.3 respectively. This means that children in the older age groups were only 30 percent to 40 percent more likely than children in the age group 6-7 to understand 'What do television commercials want you to do'.

The social learning model with parents as socializing agent did not make any significant contribution in all three predictions as the change in R-square values were not significant at 0.05 level. The social learning model with television as socializing agent was statistically significant for the understanding of 'What are television commercials' and 'Why do television stations broadcast commercials'. Contrary to what we expected, children's attention to television commercials had a negative impact on understanding of commercial communications. When age factor was controlled, children who reported that they seldom watched commercials had a higher understanding of commercial communications. The odds of understanding 'What are television commercials' decreased by a factor of 0.79 for one unit increase of attention to television commercials. Similarly, the odds of understanding of 'Why television stations broadcast commercials' decreased by a factor of 0.72 for one unit increase of attention to television commercials.

Additional variables

Table 5 summarizes the results when additional variables are added simultaneously into the regression equation with the cognitive developmental and social learning model variables as predictors. The change in R-square values with the added variables for the three understanding questions 'What are television commercials', 'What do television commercials want you to do', and 'Why do television stations broadcast commercials' were 0.02 ($p < 0.001$), 0.01 (n.s.), and 0.04 ($p < 0.001$) respectively. No single variable was found significant in all three regression equations. Sex was significant in the predicting of 'What are television commercials'. The odds ratio for girls was 1.4. This indicates that when other variables are

controlled, girls are 40 percent more likely to understand that television commercials are messages to promote products. Household income had positive impact on children's understanding of 'What do television commercials want you to do' and 'Why television stations broadcast commercials'. Using children with low household income as a reference, the odds ratios for children in families with medium and high household income for the understanding of 'What do television commercials want you to do' were 1.4 and 1.6 respectively. Similarly, the odds ratios for children in family with medium and high household income for the understanding of 'Why television stations broadcast commercials' were 1.3 and 1.6 respectively. This indicates that children in families with higher household income are more likely to understand commercial communications. Using children with parents engaged in unskilled occupations as a reference, the odds ratio for children with parents engaged in skilled occupations was 1.4. In other words, children with parents engaged in skilled occupations were more likely to understand that television stations broadcast commercials in order to make money or sponsor programs. Using children living in cities with no PSAs as a reference, the odds ratio for children living in cities with PSAs was 0.5. In other words, children living in cities with PSAs are 50 percent less likely to understand 'why television stations broadcast commercials'. All the additional variables with significant Beta values had impact on children's understanding of commercial communications in the predicted direction as stated in Table 1.

6. Discussion

Using a sample survey of 1,751 children and 1,665 parents, we found evidence that the cognitive developmental model made a greater contribution in predicting children's understanding of commercial communications than the social learning model. There was evidence that Chinese parents did not play an important role in children's consumer socialization. Television played some role in children's consumer socialization but the evidence was in the opposite direction to what the model predicted. The following paragraphs attempts

to explain why parents were not significant socializing agents in collective Chinese culture.

First, the current generation of singletons' parents, men and women born in the late 1960s and 70s, are not competent consumers. They have suffered from severe material shortages and political turmoil ([Davis and Sensenbrenner, 2000](#)). These parents lag behind in the progress of the consumer revolution in China introduced in the 1990s. In a survey in Beijing, Chinese children considered television to be the most important information source to learn about new products; not their parents, as once was the case ([McNeal and Ji, 1999](#)). Thus, there is substantive evidence that Chinese parents are ineffective consumer socializing agents.

Second, we speculate that Chinese parents are not motivated to take an active role in educating their children about commercial communications. Chinese parents are highly motivated to exert control over their children because of their intense concern for their children to attain high academic achievement ([Zhao, 1996](#)). Chinese parents are very concerned about the school achievement and moral behaviours of their children. So, we speculate that education will be the main focus in parent-child interaction, and all other issues, including consumer socialization, will be of secondary importance. In the current study, we found that watching television with children was not common on weekdays but was common on weekends. Further, over half of the parents reported that they seldom or very seldom discuss television commercials with their children. Due to the time pressure on parents, and to some extent on the children too, the discussion of television commercials with children may be too little to create any significant influence.

The survey indicates that television plays a role in predicting children's understanding of television advertising. Contrary to what the model suggests, children who less often attended to commercials showed a higher understanding of television advertising. As the proposed theory is not a causal model, the results can be interpreted as suggesting that those children who developed a higher understanding of commercial communications are not interested in them. They turn away from commercials.

The media environment plays a role in children's understanding of television advertising. There is evidence that the presence of PSAs has a negative impact on children's understanding of commercial communications. In the city where there is a relative strong presence of PSAs, children are more likely to perceive that television stations carry commercials in order to help the audience, which is the intent of public services advertising. This suggests that children may fail to identify PSAs as a special type of communication that is different from commercial communications. Further study using experimental design may shed light on children's identification of commercial and non-commercial television messages.

The overall assessment of the 'advertising literacy' of Chinese children indicates that 37 percent of the sample demonstrate understanding of "What are television commercials"; 66 percent demonstrate understanding of "What do television commercials want you to do"; and 54 percent demonstrate understanding of "why television stations broadcast commercials". This result means that children are better at getting the right answers on the intent and commercial system than getting the right answer on what television commercials are. This is opposite to most of other studies where children, even younger ones, can recognize the form of a commercial but not its intent or the economic context in which it exists. As young children are supposed to be egocentric, they should be unable to see how advertising is related with other social systems such as the television stations. Perhaps what triggered their responses was the mention of 'making money'. This may be attributed to the drastic change in the media economy in the past two decades. Television stations that used to be the communists party's mouthpieces, began to broadcast mass entertainment and import programs to satisfy their audiences. Also, advertising on television has been growing rapidly, with expenditures doubling twice between 1996 and 1999 (ACNielsen Media International, 2000). To the mass audience, including children, there is an awareness of the sharp increase in the amount of commercials. We speculate that in emerging consumer societies such as China, children develop some understanding of the economic aspect of advertising as a result of public debates

about the economic cost of advertising that logically arise in a quickly changing economic system. Age does not explain why respondents understand that television stations broadcast commercials for money. The result may suggest that Chinese children's understanding of economic context in which commercials exist is not learned through cognitive development and the ability to adopt a different perspective, but is learned from other socializing agents such as parents.

For the cognitive developmental model, we found some inconsistency in development of understanding of commercial communications with age. The age factor was significant in two of the three prediction models. The higher proportion of children who demonstrate understanding to the third question on "why do television stations broadcast commercials" and the relatively lower proportion of children who demonstrate understanding to the other two questions may suggest that the comprehension of television stations broadcasting commercials for money does not imply an understanding of the persuasive intent of commercials. In other words, children have an awareness of the existence of an advertiser who needs to pay money to deliver messages on television. But they may not be able to understand who the advertiser actually is and what the advertiser wants them to do. That is, they may not be able to assume the perspective of the advertiser in a meaningful way. Further research is needed to explore how Chinese children learn about advertising, and why there are cognitive gaps in their learning. The findings that girls and children from families with higher income have better understanding of commercial communications seem to suggest that consumption experience may have a positive impact of children's understanding. Further research is needed to test it.

The current study has a limitation that peer influence is not measured and included in the model. Bachmann, John and Rao's (1993) study found that older children recognize peer influence in publicly consumed products, but not in privately consumed products. Further research is needed to empirically test the peer influence in children's understanding among children of different age groups.

To conclude, the current study found that age, gender, attention to television commercials, household income and the presence of PSAs have significant effect on children's understanding of television commercials. The cognitive developmental model was superior to the social learning model in predicting children's understanding of television advertising. Children's understanding of television advertising also depends on the environment. So, it's not just age, but age and the advertising market environment together that determine children's understanding of advertising.

Figure 1 Logistic model of predicting children's understanding of television commercials

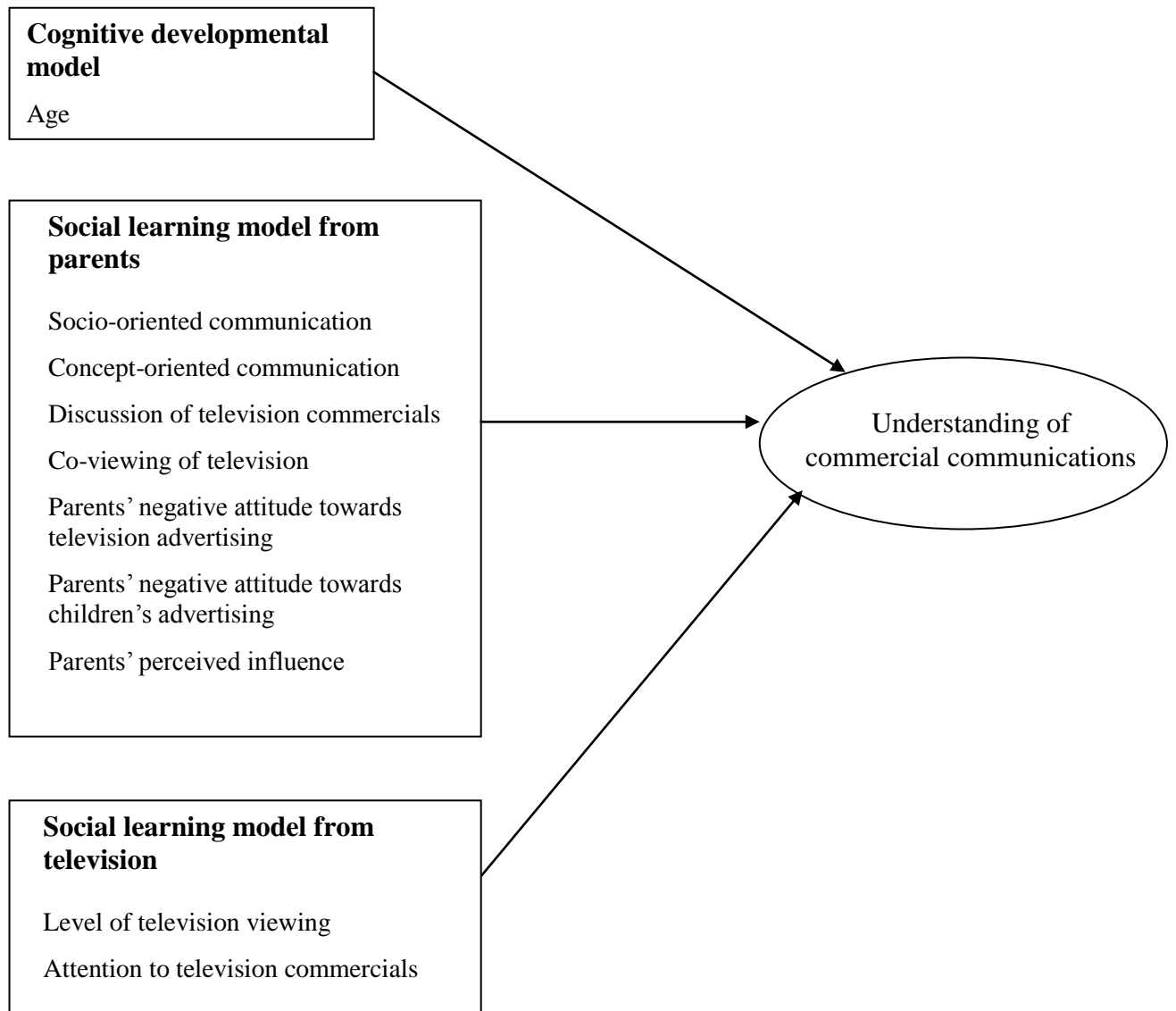


Table 1 Hypothesized direction of prediction

Predicting variable	Impact on children's understanding of commercial communications	Justification
Step 1: Cognitive developmental model		
1. age		Cognitive development
Step 2: Social learning model from parents		
2. socio-oriented communication	+	discourage cognitive development
3. concept-oriented communication	+	encourage cognitive development
4. discussion of television commercials	+	opportunity for exerting parental influence
5. co-viewing of television	+	opportunity for exerting parental influence
6. parents' negative attitude towards television advertising in general	+	motivation to encourage cognitive defence
7. parents' negative attitude towards children's advertising	+	motivation to encourage cognitive defence
8. Parents' perceived influence	+	motivation to exercise influence
Step 3: Social learning model from television		
9. level of television viewing	+	more leaning taking place
10. attention to television commercials	+	more learning taking place
Step 4: Additional variables		
Demographic		
11. sex	unknown	Not sure whether boys and girls have different cognitive development
Socio-economic status		
12. household income (three levels: low, medium, high)	+	motivation to spend money → demand for marketing communication
13. allowance (three levels: low, medium, high)	+	motivation to spend money → demand for marketing communication
14. parents' educational level (four levels: junior high or below, high /technical school, college, university)	+	encourage children's cognitive development
15. parents' occupation (two levels: unskilled, skilled/professional)	+	encourage children's cognitive development
Media environment		
16. level of advertising development (three levels: low, medium, high)	+	higher chance of exposure to marketing communication
17. presence of PSAs (two levels: absence, presence)	-	confusion of commercial and non-commercial communication

Table 2 Sample profiles (N of the children sample=1751, N of the parent sample=1665)

Demographic	Frequency	%
Sex of children		
Male	890	51.2
Female	849	48.8
Age of children		
6-7	298	17.2
8-9	509	29.3
10-11	637	36.7
12-14	293	16.9
Sex of parents		
Male (Fathers)	684	41.8
Female (Mothers)	953	58.2
Age of parents		
20-29	30	1.8
30-39	1337	80.9
40-49	224	13.6
50-59	61	3.7
Education of parents		
Junior high or below	324	19.5
High/Technical School	569	34.2
College	360	21.6
University or above	412	24.7
Occupation of parents		
Unskilled	937	56.9
Skilled	709	43.1
Monthly household income		
Low (1000 yuan or below)	489	30.4
Medium (1001 to 2500 yuan)	735	45.6
High (2501 yuan or above)	387	24.0

Cells may not add up to total due to missing cases

Table 3 Descriptive statistics of dependent and predictive variables

Variable	Scale	Mean	S.D.
Understanding of ‘What are television commercials’	0,1	0.34	0.47
Understanding of ‘What do television commercials want you to do’	0,1	0.66	0.47
Understanding of ‘Why television stations broadcast commercials’	0,1	0.54	0.50
Social learning model from parents			
Socio-oriented communication	1-5	3.59	0.67
Concept-oriented communication	1-5	3.03	0.59
Discussion of television commercials	1-5	2.40	1.05
Co-viewing of television commercials	1-5	2.80	0.93
Parents’ negative attitude towards television advertising in general	1-5	3.60	0.49
Parents’ negative attitude towards children’s advertising	1-5	3.32	0.48
Parents’ perceived influence	1-5	3.37	0.83
Social learning model from television			
Level of television viewing	1-3	1.95	0.81
Attention to television commercials	1-4	1.99	0.87

Table 4 Summary of regression analysis for models predicting children’s understanding of commercial communications (N=1751)

Models	Understanding of ‘What are television commercials’		Understanding of ‘What do television commercials want you to do’		Understanding of ‘Why television stations broadcast commercials’	
	B	S.E.	B	S.E.	B	S.E.
Step 1: Cognitive developmental model						
Age	0.45***	0.06	0.16**	0.06	0.04	0.06
Step 2: Social learning model from parents						
Socio-oriented communication	0.04	0.10	0.03	0.09	0.01	0.09
Concept-oriented communication	-0.02	0.11	0.08	0.11	0.10	0.11
Discussion of television commercials	0.00	0.06	-0.05	0.06	-0.04	0.06
Co-viewing of television commercials	-0.06	0.06	-0.02	0.06	-0.07	0.06
Parents’ negative attitude towards television advertising in general	0.07	0.14	0.07	0.14	0.09	0.13
Parents’ negative attitude towards children’s advertising	0.04	0.14	0.01	0.14	0.05	0.14
Parents’ perceived influence	0.05	0.07	0.03	0.07	0.05	0.07
Step 3: Social learning model from television						
Level of television viewing	-0.01	0.07	-0.07	0.07	0.05	0.07
Attention to television commercials	-0.23**	0.07	-0.09	0.06	-0.33***	0.06

Notes: (1) for understanding of ‘What are television commercials’, $R^2 = 0.037$ for Step 1 ($p < 0.001$); $\Delta R^2 = 0.002$ for Step 2 (n.s.); $\Delta R^2 = 0.008$ for Step 3 ($p < 0.01$);
 (2) for understanding of ‘What do television commercials want you to do’, $R^2 = 0.004$ for Step 1 ($p < 0.05$); $\Delta R^2 = 0.002$ for Step 2 (n.s.); $\Delta R^2 = 0.002$ for Step 3 (n.s.);
 (3) for understanding of ‘Why television stations broadcast commercials’, $R^2 = 0.001$ for Step 1 (n.s.); $\Delta R^2 = 0.004$ for Step 2 (n.s.); $\Delta R^2 = 0.019$ for Step 3 ($p < 0.001$).

** $p < 0.01$; *** $p < 0.001$

Table 5 Summary of regression analysis with additional variables for predicting children's understanding of commercial communications (N=1751)

Understanding of commercial communications	Understanding of 'What are television commercials'		Understanding of 'What do television commercials want you to do'		Understanding of 'Why television stations broadcast commercials'	
	B	S.E.	B	S.E.	B	S.E.
Demographic						
Sex	0.33**	0.12	-0.03	0.12	0.02	0.12
Socio-economic status						
Household income	0.09	0.10	0.23*	0.10	0.25**	0.10
Allowance	-0.01	0.11	0.04	0.10	-0.02	0.10
Parents' educational level	0.15	0.08	-0.10	0.08	-0.08	0.08
Parents' occupation	0.19	0.15	0.21	0.15	0.36*	0.15
Media environment						
Level of advertising development	0.03	0.15	0.04	0.14	-0.10	0.14
Presence of PSAs	-0.33	0.27	-0.07	0.27	-0.66*	0.26

Notes: (1) for understanding of 'What are television commercials', $\Delta R^2 = 0.020$ ($p < 0.0005$);
 (2) for understanding of 'What do television commercials want you to do' $\Delta R^2 = 0.007$ (n.s.);
 (3) for understanding of 'Why television stations broadcast commercials', $\Delta R^2 = 0.038$ ($p < 0.001$)

** $p < 0.01$; *** $p < 0.001$

Appendix 1

Q1. “What are television commercials?”

Answers not demonstrating an understanding:

- ‘some funny messages’;
- ‘some messages for us to take a break’;
- ‘introducing products’;
- ‘don’t know’

Answer demonstrating an understanding:

- ‘promoting products’

Q2. “What do commercials want you to do?”

Answers not demonstrating an understanding:

- ‘evaluate which commercial is good and which is poor’;
- ‘check the products at stores’;
- ‘don’t know’

Answers demonstrating an understanding:

- ‘want people to buy the products’;
- ‘tell parents about it’

Q3. “Why do television stations broadcast commercials?”

Answers not demonstrating an understanding:

- ‘not to waste time’;
- ‘help the audience’;
- ‘care the public’;
- ‘don’t know’

Answers demonstrating an understanding:

- ‘subsidizes the programs’;
- ‘make money’

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