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Materialism among adolescents in urban China

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Advertising exposure and materialism among adolescents in urban China**Abstract**

Looks at attitudes of Chinese adolescents to materialism, including the effect of age on materialism and the influence of family and peers. Outlines the values of Chinese culture: thrift, respect for parents, group orientation, social harmony, good manners, face, and academic achievement; these values could impact both positively and negatively on endorsement of materialistic values. Points out that parental expectations of their children's material success have increased since the one child per family policy. Finds that older adolescents were more materialistic than younger ones, that more materialistic adolescents tended to communicate more with their peers and less with their parents, and that television (which now reaches 92 per cent of households) has no effect because the Chinese government's strict rules about TV programmes' content requires them to reflect traditional values.

INTRODUCTION

A concern about consumer socialization is the undesirable influence of advertising on young people's preference for material goods as a means of achieving success, happiness, and self-fulfillment. The adoption of materialistic values among young people will affect the balance between private and public choices children make throughout life (Goldberg, Gorn, Peracchio & Bomossy, 2003). Longitudinal studies among U.S. high school students from early 1970s to 1980s indicate a dramatic increase in private materialism as a life goal and a sharp decline in emphasis on personal self-fulfillment (Easterlin & Crimmins, 1991). Materialism has been treated as a negative value, connected to possessiveness, envy, lack of generosity, greed and jealousy (Belk, 1983). Developmental psychologists, marketers, and policy makers are interested in understanding how children develop materialistic values with age, and what factors are related to the adoption of materialistic values.

With the adoption of the 'Open Policy' in the late 1970s, Mainland China regained its entrepreneurship and consequently consumer culture had undergone rapid changes (Tse, Belk & Zhou, 1989). The purpose of this study was to examine how adolescents in China endorse these new materialist value orientations. Adolescents are defined as people aged 10 to 19 (World Health Organization, 2005). There are 354 million young people under 18 in China, comprising over one quarter of the total population. Due to the one-child policy, Chinese children and adolescents have become the focal point of the family, exerting tremendous influence on household purchases (McNeal & Yeh, 1997). Children and adolescents in China are increasingly exposed to mass media for information and entertainment. A national survey of 3,284 grade 5-9 urban school children found that they spent the most time reading books and watching television (Bu, 2001). A survey of grade 4-6 urban Chinese children found they used a variety of information sources to learn about new products, including parents, retail outlets, and

the mass media, and they considered television to be the most important medium (McNeal & Ji, 1999).

Television now reaches over 92 percent of China's households (Bu, 2001). A typical television schedule for the national television channel, China Central Television (CCTV) in January 2003 shows that programming for children and adolescents consists of one to two hours of cartoon entertainment in the morning, and one to two hours of entertainment after school. On average the national channels carry about 9.5 hours and the local channels carry about one hour of programs for children and adolescents every day. Of the ten hours of television programs for young audiences each day, about 80 percent target elementary school children and 11 percent target at secondary school students. CCTV launched a children and youth channel in December 2003 that carried 18 hours of broadcasting every day (Yu, 2004). Most of these television programs were locally produced, with few imported programs for children and adolescents. Children aged 12 and below liked to watch cartoons, children's drama series, games shows and variety shows. Adolescents, on the other hand, showed more interest in sports programs and news programs (Bu, 1998). Adolescents reported that they watched television mainly for getting news and for companionship (Bu, 2001).

A central factor in children's consumer socialization comes from culture. In the case of young children, the socialization process includes instilling in children the basic values and modes of appropriate behavior consistent with the host culture. Many children acquire consumer behavior norms by observing their parents and siblings, who function as role models. Adolescents, however, were more likely to look to their peers for models of acceptable consumption behaviors (John, 1999). Many scholars argue that mass consumption in China is different from Western societies because of China's long-standing values concerning families and human relations (Zhao, 1997). Characteristics of the Chinese culture include a strong cultivated habit of thrift, filial piety, group orientation, social harmony, good manners, face, and

emphasis on academic achievements (Chan & McNeal, 2003a; Yau, 1988). Traditional Chinese values suggest that they might impact both positively and negatively on the endorsement of materialistic values. For example, values such as thrift and frugality will discourage the possession of luxury goods while the value of face will encourage the owning of the same material goods that other people have. Because of the one child per family policy, parents have high expectation of their children. Born in the years of severe material shortage, Chinese parents want to compensate for their lost past by providing a material-rich future to their second generation (Zhao, 1996). Peer communication is important to Chinese adolescents because, in the absence of siblings, they seek approval from peers.

At issue then, is whether Chinese children become more materialistic when they grow up. Other questions include: how does television viewing and advertising exposure influence adolescents' materialistic values?; what are the factors influencing adolescents' endorsement of materialistic values? In the current study, adolescents' endorsement of materialistic values is viewed as a combination of a cognitive-psychological process of cognitive development as well as a psychological response to insecurity and social learning.

The objectives of this study are:

- a) to study whether Chinese adolescents endorse materialistic values;
- b) to examine whether materialism changes with age during adolescence;
- c) to examine the influences of family and peer communication, and media consumption on adolescents' materialistic value orientations.

The theoretical contribution of the current study is to enhance our understanding of materialism and its relationship to demographic, socio-economic, and media factors. In addition, educators and policy makers who are interested in social services marketing (for example, encouraging young people to participate in volunteer activity) will benefit from this study. Much research has been done on materialism and adolescents in the U.S. since the 1980s, but there are

very few similar studies conducted in the Chinese context and the current study attempts to fill this gap.

LITERATURE REVIEW

Theoretical framework and hypotheses

The current study adopts John's (1999) model of consumer socialization of children and Kasser, Ryan, Couchman and Sheldon's (2004) model of materialistic value orientation. The former model suggests that young people of different ages adopt different consumption motives and values. The second model suggests that consumers (including adolescents) developed materialistic value orientation through experience that induces feelings of insecurity and from exposure to materialistic models and values. When individual's psychological needs are not met, they will tend to move toward materialism as a type of compensatory strategy to lessen the distressing effects of feelings of insecurity. Individuals also learn to adopt materialistic values through social learning from family members, peers, and the materialistic messages frequently found in television programs and commercials (Kasser et al., 2004). Figure 1 shows the theoretical framework.

Age. Integrating Piaget's theory of cognitive development (1970) and Selman's theory of social developments (1980), John (1999) proposes a model of consumer socialization. In the model, consumer socialization is viewed as a developmental process that proceeds through different stages as children mature into adult consumers. During the perceptual stage (ages 3-7), children are characterized by a general orientation toward the immediate and readily observable perceptual features of the marketplace. The value of possessions is based on surface features, such as having more of something. During the analytical stage (ages 7-11), children are characterized by mastering some consumer knowledge and skills. Concepts such as product categories or prices are thought of in terms of functional or underlying dimensions. Children begin to understand the value of possessions based on social meaning and significance. As the children enter the reflective stage

(ages 11-16), they possess comprehensive knowledge about marketplace concepts such as branding and pricing. They fully understand the value of possessions based on social meaning, significance, and scarcity. Chan (2003) examined 246 Chinese children aged six to thirteen in Hong Kong and found that they do not endorse strong materialistic values. Contrary to John's (1999) model of consumer socialization, even the youngest children aged six to seven demonstrated an understanding of the value of possessions based on social significance. John's (1999) model does not specify whether materialism increases with age when children reach the reflective age. In the current study, we hypothesize that age has positive impact on materialism (H1). This is because older adolescents will more fully appreciate the value of possessions than younger adolescents.

Insecurity. According to Kasser et al.'s (2004) model, people in situations that do not support the satisfaction of their basic psychological needs will adopt materialistic values as a way of compensation.

Studies have found that the family environment has an impact on the endorsement of materialistic values. Parental styles and practices that did not fully meet children's needs are associated with materialism (Kasser et al., 1995; Williams, Cox, Hedberg & Deci, 2000). Adolescents who communicate less frequently with parents about consumption were more materialistic (Moore & Moschis, 1981). Chinese parents with children aged 6 to 14 held negative attitudes toward television advertising and children's advertising. They perceived that advertising was deceptive and annoying and they felt strongly that advertising should be banned from children's programming (Chan & McNeal, 2003b). Chinese parents often placed restrictions on the things children should or should not buy. At the same time, parents often asked their children's preference when buying things for them. Parental communication patterns about consumption were similar for parents with both younger and older children (Chan & McNeal, 2003a). Chinese parents' negative attitude toward advertising together with more communication within the family may reduce the

level of children's anxiety, and we therefore hypothesize that adolescents who communicate more frequently with parents will be less materialistic (H2).

Communication outside the family also contributes to the difference in the level of materialism among children. Studies showed that materialism is higher in children who communicate with peers more frequently (Churchill & Moschis 1979; Moschis & Churchill, 1978) and who are more susceptible to their influence (Achenreiner, 1997). We expect that children who communicate frequently with peers may reflect their status of anxiety and the need for peer approval. We therefore hypothesize that adolescents who communicate more frequently with peers will be more materialistic (H3).

Exposure to materialistic models and values. According to Kasser et al.'s (2004) model, materialistic values are frequently found in popular culture, the media and advertisements. People exposed to materialistic models will be more likely to take on the materialistic values through modeling (Bandura, 1971) and internalization of these values (Ryan & Connell, 1989). There is evidence from empirical data that there is a positive correlation between exposure to television and materialism, both in children and adolescents in Western societies (Buijzen & Valkenburg, 2003; Churchill & Moschis, 1979; Kapferer, 1986; Moschis & Moore, 1982) and Asian societies including China, Hong Kong and South Korea (Chan, 2003; Cheung & Chan, 1996; Kwak, Zinkhan & DeLorne, 2002; Yang & Ganahl, 2004). We therefore hypothesize that adolescents who watch television more will be more materialistic (H4).

Another pervasive source of materialistic models is found in advertising messages. Advertisements encourage consumption by using images of attractive and/or famous product users, demonstrating social reward by using the products, and associating the products with wealthy lifestyles (Kasser et al., 2004). There is empirical data that supports a positive correlation between exposure to advertising and materialism (Buijzen & Valkenburg, 2003). Moschis and Moore (1982) conceptualized advertising exposure according to both frequency of

watching advertisements and reasons for watching. The motives for advertising viewing appear to have two dimensions: seeking information about the products, and seeking images or talking points. A longitudinal study of adolescents found that television advertising exposure had long-term effects as well as short-term effects on adolescents' adoption of materialistic values (Moschis & Moore, 1982). We expect that watching advertising for different motives will have a different impact on materialism. We hypothesize that adolescents who view advertising for informative motives will be less materialistic (H5) while adolescents who view advertising for social motives will be more materialistic (H6). This is because adolescents who watch ads for social motives will pay more attention to the materialistic models and values shown in the advertisements while adolescents watching ads for informative motives will pay less attention to such models and values.

Gender has been included as factors in several studies but did not produce consistent results. For example, male adolescents reported higher levels of materialism than female adolescents (Achenreiner, 1997; Churchill & Moschis, 1979) while Chinese boys and girls in Hong Kong reported similar levels of materialism (Chan, 2003). We therefore do not propose a hypothesis about the impact of gender on materialism.

[FIGURE ONE ABOUT HERE]

Measures of materialism

Pollay (1986) summarizes the criticism made by scholars including Leiss (1976) and Skolimowsk (1977) that advertising promotes materialism as the means to happiness, status seeking, social stereotypes, short-sightedness, selfishness, preoccupation with sexuality, and conformity.

Children's materialistic values have been identified in a number of studies, including children aged four to five selecting playmates with or without a new toy (Goldberg & Gorn, 1978); motivation and enjoyment of collecting among first and fifth grade hobbyists (Baker & Gentry, 1996); and surveys using materialism scales developed for children (Heerey, Hunt, Lukey-Smith & Winter, 2002).

Belk (1984) conceptualized materialism as the importance a consumer attaches to worldly possessions, and whether such possessions assume a central place in the consumer's life. Belk's (1985) measure of materialism consisted of three personality traits (envy, nongenerosity, and possessiveness) and has been used in a number of studies (O'Guinn & Faber, 1989; Wallendorf & Arnould, 1988). Richins's (1987) measure of materialism for adults consisted of seven items like "It is important to have really nice things", "The things I own give me a great deal of pleasure". The measure demonstrated low to moderate Cronbach alpha reliability (0.3 for China and 0.5 to 0.7 for the other four countries) in a cross-cultural study of consumers and university students in five countries including United States, Canada, Australia, Turkey, and China (Sirgy et al., 1998). Richins and Dawson (1992) constructed the Material Values Scale consisting of three factors including success, centrality, and happiness, producing a Cronbach's alpha of 0.78.

METHOD

The data analyzed in this study were collected from a survey conducted in Beijing, China from February to March 2003. The target population was grade 7 to 11 students. The city was selected because it has a highly developed advertising industry. The advertising expenditure of Beijing accounted for 15 percent of the national advertising expenditure in 2000. A draft questionnaire was prepared based on previous studies (Moschis & Moore, 1982; Richins & Dawson, 1992). Back-translation was used where one of the authors translated the questionnaire from English to Chinese, and another author then translated it back into English to enhance

translation equivalence. The questionnaire was pre-tested for clarity and accuracy by personally interviewing six adolescents. The sample was a cluster design with a total of eleven secondary schools selected (based on district and type of school) in urban Beijing. Nine schools offered grade 7 to 12 programs while two were vocational training schools offering grade 10 to 12 only. Adolescents studying in vocational training schools usually have lower academic scores than adolescents studying in grammar schools, and are less likely to pursue further study in universities. For each sampled school, one to two classes of students were invited to participate in the survey. Altogether 788 close-ended structured questionnaires were distributed during regular class meetings by one of the authors. Students were asked to fill in the questionnaire in the absence of the teachers. The survey took about fifteen minutes to complete. A total of 730 questionnaires were collected. The overall response rate was 93 percent. The sample profile is summarized in Table 1. All the respondents aged 11 to 13 and 87 percent of respondents aged 14 to 16 were studying in grammar schools; while 52 percent of respondents aged 17 to 19 were studying in vocational training schools. The overall mean age was 14.9 years old.

[TABLE ONE ABOUT HERE]

Measures

The questionnaire consisted of fifteen statements on materialism, three statements on communicating with parents about consumption, three statements on communicating with peer about consumption, and seven statements on motivation of advertising viewing. Respondents were asked to indicate on a seven-point scale the degree to which they agree with the statements (1 = disagree very much, 7 = agree very much). Demographic and other variables such as household income, number of hours of television viewing in weekdays and weekends, and monthly personal expenses were also collected. Materialism was measured using Richins and Dawson's (1992) conceptualization of materialism as a mind-set of attitudes regarding possessions as symbols of success, possessions occupying a central part of lives, and the belief

that more possessions lead to more happiness. Eighteen items of Richins and Dawson's (1992) scale of materialism were used in the draft questionnaire.

Results from pretesting the questionnaire found that most of the respondents had difficulties reporting attitudes toward luxury goods. Most of them reported that they had no experience in buying luxury goods. As a result, three items in the centrality sub-scale that involved luxury goods were deleted. Inter-item reliability (Cronbach's alpha) for the remaining fifteen items was 0.66. It was similar to the Cronbach's alpha value of 0.63 reported in a recent study of Chinese college students (Yang & Ganahl, 2004). The mean formed the measure of materialism with higher scores indicating stronger endorsement of materialistic values.

Communication with parents/peers about consumption was measured by asking respondents to rate three items: "I always discuss advertisements with my parents/friends", "I always ask my parents/friends for purchase advice", and "I always go shopping with my parents/friends" on 7-point scales (1 = disagree strongly, 7 = agree strongly). These items were from Moschis & Moore's (1982) study. The inter-item reliability scores for family and peer communication were 0.51 and 0.52 respectively. Advertising viewing for different motivations was measured by asking respondents to rate seven statements such as "I watch advertisements to find out how good a product is" on 7-point scales (1 = disagree strongly, 7 = agree strongly). The seven statements were based on Moschis and Moore's (1982) study. The inter-item reliability was 0.74. Factor analysis generated a two-factor solution that accounted for 54 percent of the total variance of advertising viewing. The two factors were labeled as "informative motives" (to find out how good a product it is, to help decide what to buy, and to find out where to buy things I want) and "social motives" (to impress others, to talk about with others, to learn about the things to buy, and to see the images of the people that I wish to be). The inter-item reliability measures were 0.67 and 0.63 respectively.

Television viewing was recoded into three levels with nearly equal size based on the number of hours of television viewing in a week (low = 0 - less than 9 hours, medium = 9 - 16 hours, high = more than 16 hours).

RESULTS

On average, the respondents watched television for 1.4 hours on a weekday and 3.7 on a weekend. The mean hours of television viewing were 14.3 hours per week. Family communication was positively skewed (skewness = 0.17) while peer communication was negatively skewed (skewness = -0.09). The means of family communication and peer communication about consumption were 4.1 (s.d. = 1.3) and 3.8 (s.d. = 1.3) respectively. Adolescents in China more frequently communicated with family about consumption than with peers ($t = 6.0$, $df = 727$, $p < 0.001$). The means of informative and social motives of advertising viewing were 4.0 (s.d. = 1.4) and 3.6 (s.d. = 1.2). Adolescents in China were more likely to view advertisements to satisfy information needs than social needs ($t = 7.9$, $df = 729$, $p < 0.001$).

Table 2 summarizes adolescent's response to the statements about materialism. They are sorted in descending order of the mean scores. The statements that they agreed with most indicated that Chinese adolescents like to own things that impress people. They reported that the things they own are important to them. The statement with the lowest mean was 'I usually buy only the things I need', indicating that Chinese adolescents were mainly buying the necessities. The mean and the standard deviation for the materialism score was 3.9 and 0.7 respectively.

[TABLE TWO ABOUT HERE]

Materialism and age

In order to test John's (1999) model of consumer socialization, we analyzed results by age group. In John's (1999) model, children aged 11-16 belong to the reflective stage. John (1999) did not describe consumer behavior beyond 16 years. In the current study, we assumed that adolescents beyond 16 were early adults. For the purpose of data analysis, respondents were categorized into three age groups, i.e. 11 to 13, 14 to 16, and 17 to 19, representing the early reflective, late reflective stages of John's (1999) model of consumer socialization, plus the early adulthood stage. We split the reflective stage into two sub-stages as the school types were quite different. This distinction was possible to make by a relatively large sample size in this age range. Table 3 summarizes children's materialism scores by age group. One-way ANOVA F-tests were conducted to compare the means by age group.

Out of the fifteen statements, six statements yielded significant F-statistics between respondents of different age groups. Duncan pairwise tests indicated that in most of the cases with significant F-statistics, the age group 17 to 19 was the most materialistic. Older adolescents were more likely to associate material possessions with success, to admire people with expensive possessions, and to perceive they would be happier or better if they had more possessions. The materialism scores for respondents in the age groups 11 to 13, 14 to 16, and 17 to 19 were 3.8, 3.9, and 4.1 respectively (F-statistic = 6.2, $p < 0.001$). Again, Duncan pairwise testing indicated that respondents in the age group 17 to 19 were the most materialistic. There was no significant difference in materialism scores between respondents in the other two age groups. There was no significant difference among adolescents in early reflective and late reflective stages, and respondents beyond age 16 were more materialistic.

[TABLE THREE ABOUT HERE]

Testing the model

Hierarchical regression analysis is used to test the theoretical model discussed in Figure 1. Table 4 summarizes the Pearson correlation coefficients between the materialism scores and the predictors. The highest correlation coefficient was between informative and social motives of advertising viewing. Family and peer communication about consumption were strongly correlated. Peer communication about consumption correlated strongly with social motives of advertising viewing.

[TABLE FOUR ABOUT HERE]

Predictors were entered into linear regression equations in four steps to predict adolescents' materialism scores. In the first step, age group was entered to test John's (1999) model and to serve as a control. In the second step, communication with parents and peers about consumption were entered. In the third step, television viewing, informative and social motives of advertising viewing were entered. Table 5 shows the results of the hierarchical regression analysis and standardized beta values of various predictors. Results indicated that all three steps had significant F changes. This suggests that age, communication with family and friends, media exposure and motives for advertising viewing are all useful in predicting adolescents' endorsement of materialistic values. When these variables were controlled, there was no gender difference in materialism scores. F-statistic of the model at the end of the third step (with all predictors except sex) was 18.0 ($df = 6, p < 0.001$). R square of the model was 0.15 indicating that the model accounted for 15 percent of the variance of adolescents' materialism scores. As a result, the model in Figure 1 was supported. According to the standardized beta values, social motives for advertising viewing was the most important predictor, followed by peer communication, age group, and family communication (negative correlates). Materialism scores

were higher for those (a) most likely to view advertising for social motives, (b) those who engaged in more peer communication about consumption, and (c) older adolescents, and (d) those who engaged in less family communication about consumption. The regression model explained fifteen percent of variation in adolescents' materialism scores. As older adolescents were found more materialistic, H1 was supported. Adolescents who communicate more frequently with parents about consumption were less materialistic. Therefore, H2 was supported. Adolescents who communicate more frequently with peers about consumption were more materialistic. As a result, H3 was supported. Television viewing was found to have no impact on adolescents' materialism. Therefore, H4 was not supported. Adolescents who view advertising for informative motives were not less materialistic. As a result, H5 was not supported. Adolescents who view advertising for social motives were more materialistic. Therefore, H6 was supported.

When sex was added to the regression model, the change in R square is 0.004 and was not significant at the 0.05 level. In other words, when the predictors were controlled, female respondents and male respondents did not have any significant difference in materialistic value orientations.

[TABLE FIVE ABOUT HERE]

DISCUSSION AND CONCLUSION

In the current study, older adolescents tended to be more materialistic than younger adolescents. There are three possible explanations for this. First, according to John's (1999) model of consumer socialization, children at the reflective stage fully understand the value of possessions based on social meaning, significance, and scarcity. The higher materialism scores of older adolescents may simply reflect a stronger endorsement of these values. Secondly, the sample profile accounted for some of these differences between the older and younger

adolescents. Nearly half of the older adolescents were studying in vocational training schools that prepare them to enter the workforce. They are going to enter a new circle of unfamiliar people and may need possessions to reinforce self-identity. The third explanation is about exposure to materialistic models and values. We think that older adolescents are more likely to encounter people from a more diverse background, including ‘successful’ people with lots of luxury possessions. We expect that they will be more likely to compare themselves to those with wealth, and such comparison will encourage materialism.

Family communication was a negative predictor of the materialism score while peer communication was a positive predictor. It indicates that the contents and effects of family and peer communication are in the opposite direction. Parents are more likely to discourage materialism while peers are more likely to enhance materialism. It can also mean that those adolescents who scored higher in materialism tend to communicate less with their parents and communicate more with their peers. As Chinese parents and adolescents have grown up in very different economic environments, they would have much contrast in their attitudes toward material possessions. In our focus group interviews with parents of elementary school children in Beijing, parents reported that they often discourage endorsement of materialistic values at home. Parents reported that when they discussed consumption with children, they always reminded children “to live within means, to save as much as possible, and to refrain from buying luxury goods”.

In the current study, television exposure was found to have no impact on materialism. CCTV is owned by the state government and it has strict rules about the contents of television programming. A recent content analysis of children’s television programs in China indicated that 97 percent of the programs are produced domestically and 3 percent are imported. Children’s television programs in China are highly educational and they reflect mainly traditional values of collectivism, high power distance and masculine values (Chan & Chan 2004). Domestic

television programs often present model children performing unselfish deeds for the nation (Donald, 2002). We speculate that the prevalence of traditional values in television programs in China may explain why spending more time on watching television does not trigger more materialistic values.

Social motives of advertising viewing correlated positively with materialistic values while informative motives of television advertising did not have correlation with materialistic values. Among the seven predictors, watching advertising for social motives was the strongest predictor of materialism. Advertisements are the most persuasive models of materialistic models and values because advertisements show how products (material goods) are used to achieve different goals. Adolescents who watched advertisements for social motives are actively seeking for models of materialistic values. As a result, they are more likely to endorse materialistic values.

The current study found that Chinese adolescents in Mainland China do not endorse materialistic values strongly. Their materialism scores are almost the same as that of college students in Mainland China (Yang & Ganahl, 2004). Their materialism scores are lower than that of adults in Mainland China (Sirgy et al., 1998). So, our data suggest that Chinese adolescents and college students share similar level of materialism, and they become more materialistic when they enter adulthood. Further longitudinal study is required to verify this result.

The current study did not find gender differences regarding materialistic values. Young females were equally as materialistic as young males. This finding is similar to Chan's (2003) study of Chinese children in perceptual and analytical stages in Hong Kong. Previous suggestions that boys are more materialistic come mainly from studies of adolescents in western societies. As Chinese children's television commercials contained higher percentages of male models and spokespersons (Ji & McNeal, 2001), the finding was quite unexpected. It therefore provides evidence of a lack of correlation between the gendered media contents and the impact on the respondents' endorsement of masculine values about success and happiness. The lack of a

gender difference may also be attributed to the single-child policy and the lack of difference in the patterns of family communication for boys and girls (Chan & McNeal, 2003a). Future research should investigate why there is a lack of gender difference in materialistic values during the reflective and early adulthood stages, and whether gender difference may evolve in late adulthood.

To conclude, the study shows the extent of endorsement of materialistic values of adolescents in Mainland China and provides empirical support for a proposed theoretical model. The study also indicates that a measurement of materialism developed in a western society can be adapted to an acceptable level of inter-item reliability in a Chinese context. The current study has two limitations. The first limitation is that Cronbach alpha coefficients for family and peer communication were below 0.7 and efforts must be made to create scales with higher values. The second limitation is that the study was conducted in Beijing city alone. Further research is needed to investigate materialistic value orientations among adolescents in other cities and in rural parts of China. Further study is also needed to compare materialism among adolescents and adults to show whether there will be significant changes with important life events, such as entering into the work force or forming a new family. For parents and educators, the study indicates that, to safeguard adolescents from being materialistic, they can engage in more family communication about consumption, and encourage adolescents to consume advertising for information motives.

(5000 words for text)

Table 1 Sample profile (N=730)		
	N	%
Sex		
Male	332	46.2
Female	386	53.8
Age		
11-13	211	29.7
14-16	337	47.5
17-19	162	22.8
Single child		
Yes	608	83.3
No	122	16.7
Grade		
Low school	333	45.6
High school	397	54.4
Type of school		
Grammar school	596	81.6
Vocational training school	134	18.4
Monthly household income		
999 yuan or below (US\$119 or below)	70	10.0
1,000–2,999 yuan (US\$120–359)	263	37.4
3,000–4,999 yuan (US\$360–599)	169	24.0
5,000–7,999 yuan (US\$600–959)	109	15.5
8,000 yuan or above (US\$960 or above)	92	13.1
Father's education level		
Below high school	111	15.2
High school	298	40.8
College	116	15.9
University or above	194	26.6
Mother's education level		
Below high school	112	15.3
High school	309	42.3
College	143	19.6
University or above	152	20.8

Table 2 Adolescents' materialistic value orientations							
	Disagree/ strong disagree	Slightly disagree	Neutral	Slightly agree	Agree/ strongly agree	Mean*	s.d.
Statement	Percentage						
I like to own things that impress people.	8	7	21	14	50	5.2	1.6
The things I own aren't all that important to me. +	47	20	17	7	9	5.1	1.7
My life would be better if I owned certain things I don't have.	18	12	24	16	30	4.4	1.8
I have all the things I really need to enjoy life. +	34	16	21	9	20	4.4	1.9
Buying things gives me a lot of pleasure.	21	8	25	14	32	4.3	1.9
Some of the most important achievements in life include acquiring material possessions.	22	13	16	17	32	4.2	1.9
The things I own say a lot about how well I'm doing in life.	22	14	22	14	28	4.1	1.8
I wouldn't be any happier if I owned nicer things. +	20	19	27	12	22	4.0	1.7
I'd be happier if I could afford to buy more things.	30	11	20	13	26	3.9	2.0
I admire people who own expensive homes, cars and clothes.	31	11	27	13	18	3.7	1.8
I put less emphasis on material goods than most people I know. +	10	14	29	15	32	3.4	1.6
I don't pay much attention to the material goods other people own. +	9	15	26	14	36	3.3	1.6
I don't place much emphasis on the amount of material goods people own as a sign of success. +	10	9	20	13	48	3.0	1.8
It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.	49	13	15	11	12	3.0	1.8
I usually buy only the things I need. +	7	14	14	8	57	2.7	1.8
Materialism*						3.9	0.7

* 7-point scale, higher value means more materialistic

+ Reverse coded

	Age group				
	Mean#	11-13	14-16	17-19	F value
I like to own things that impress people.	5.2	5.3	5.0	5.2	1.2
The things I own aren't all that important to me.+	5.1	5.2	5.2	5.0	0.7
My life would be better if I owned certain things I don't have.	4.4	3.9a	4.4 b	4.8b	12.0***
I have all the things I really need to enjoy life.+	4.4	4.4	4.4	4.6	0.9
Buying things gives me a lot of pleasure.	4.3	4.5	4.2	4.4	1.4
Some of the most important achievements in life include acquiring material possessions.	4.2	3.6a	4.4b	4.7b	17.7***
The things I own say a lot about how well I'm doing in life.	4.1	4.0	4.1	4.3	0.9
I wouldn't be any happier if I owned nicer things.+	4.0	3.9	4.0	4.0	0.1
I'd be happier if I could afford to buy more things.	3.9	3.6a	3.9a	4.4b	7.7***
I admire people who own expensive homes, cars and clothes.	3.7	3.2a	3.7b	4.1c	13.7***
I put less emphasis on material goods than most people I know.+	3.4	3.3	3.4	3.5	0.7
I don't pay much attention to the material goods other people own.+	3.3	3.3	3.3	3.5	1.5
I don't place much emphasis on the amount of material goods people own as a sign of success.+	3.0	2.7a	3.1b	2.9a	3.0*
It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.	3.0	2.7a	3.2b	3.2b	6.3***
I usually buy only the things I need.+	2.7	2.8	2.8	2.8	0.0
Materialism	3.9	3.8a	3.9a	4.1b	6.2***

+ Reverse coded

Means of same subscript have no significant difference at 0.05 level

*p < 0.05; **p < 0.01; ***p < 0.001

Table 4 Pearson correlation of materialism score and predictors

Measure	Age group	Sex	Family communication	Peer communication	TV viewing	Informative motives of ad viewing	Social motives of ad viewing	Materialism score
Age group		0.07	-0.04	0.13***	0.18***	-0.07	0.01	0.14** *
Sex#			-0.16***	-0.11**	0.06	0.01	-0.02	-0.06
Family communication				0.37***	0.07*	0.30***	0.30***	0.04
Peer communication					0.17***	0.31***	0.35***	0.22**
TV viewing						0.15***	0.20***	0.08*
Informative motives of ad viewing							0.48***	0.13**
Social motives of ad viewing								0.33** *

1=Male, 0=Female

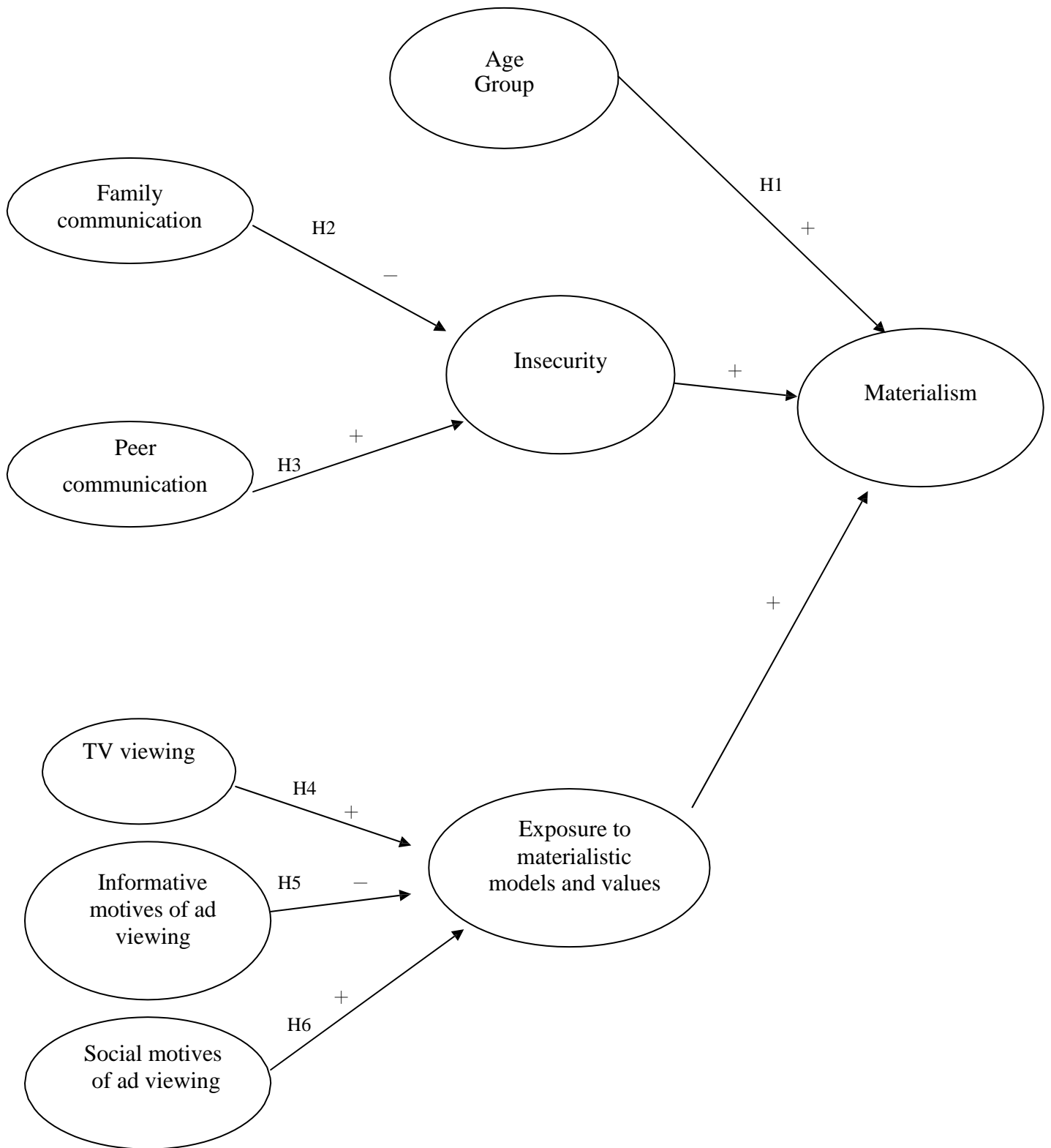
*p < 0.05; **p < 0.01; ***p < 0.001

Table 5 Summary of hierarchical regression analysis for variables predicting adolescents' materialism score

Factor	Model	
	Standardized beta	t-stat for beta = 0
<i>Step 1</i>		
Age group	0.11	2.9**
<i>Step 2</i>		
Family communication	-0.10	-2.3
Peer communication	0.14	3.4***
<i>Step 3</i>		
TV viewing	-0.02	-0.5
Informative motives of ad viewing	-0.02	-0.6
Social motives of ad viewing	0.32	7.3***

p < 0.01, *p < 0.001

R square = 0.017 (p < 0.001) for Step 1; change in R square = 0.047 for Step 2 (p < 0.001); change in R square = 0.085 for Step 3 (p < 0.01)



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