Materialism among young consumers in China and Thailand: An exploratory study

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Abstract

In spite of the apparent globalization of consumerism, materialism has received relatively limited cross-cultural research attention. This article reports an exploratory study of materialism among young consumers in China and Thailand. The Richins and Dawson (1992) Material Value Scale (MVS) is used to collect usable data from 207 Chinese respondents and 248 Thai respondents. Confirmatory Factor Analysis of the collected data generates new insights and directions for future research.

Introduction

Globalization of world markets in recent years has generated new levels of consumerism in many parts of the world, begging the question of whether there is an accompanying global rise in materialism. This value that has been associated primarily with capitalistic cultures such as the United States and Western Europe (Arnett, 2002; Fromm, 1976; O'Shaughnessy and O'Shaughnessy, 2002). Belk has stated that, "even third world consumers are often attracted to and indulge in aspects of conspicuous consumption before they have secured adequate food, clothing, and shelter" (Belk 1988, p. 104-105). It is surprising, then, given the apparent globalization of consumerism, that materialism has received relatively limited cross-cultural research attention (Eastman, Fredenberger, Campbell, and Calvert, 1997; Ger and Belk, 1996; Schaefer, Hermans, and Parker, 2004).

While practical observation supports the logic of a global rise in the levels of materialism, verification of such a phenomenon depends on the systematic investigation of materialism across a range of countries, especially developing ones, using the appropriate methodology. In response to the dearth of cross-cultural research on materialism and the need for a systematic approach to it, this research: (1) selected two East Asian countries-China and Thailand-where recent histories of suppressed materialism and recent surges in consumerism provided highly relevant settings for an assessment of materialism levels; (2) ad-

dressed the methodology issue by applying the most recognized scale used in making cross-cultural comparisons of materialism and analyzing the scale for measurement equivalence; and (3) focused on a relevant sample of young consumers who represent the population cohort that has probably been among the most affected by consumerism and any shifts in cultural values, including materialism.

To present the study, a review of the cross-cultural materialism literature is offered first, followed by the hypotheses suggested by that literature and consumerism in East Asia. The hypothesis development is followed by the methodology, analyses, and results generated in the testing of those hypotheses. The paper concludes with a discussion of the study results and their implications for future research on materialism.

Literature Review

Defining the Materialism Construct

Although materialism has been defined in a variety of ways (Belk, 1984; Mukerji, 1983), this study defined materialism as a personal value reflecting "a set of centrally held beliefs about the importance of possessions in one's life" (Richins and Dawson, 1992, p. 308). As recognized by Richins and Dawson (1992), the materialism construct has been conceptualized across the literature as being composed of three major dimensions: (1) success as defined by possessions (success equals the number and quality of possessions); (2)

acquisition centrality (possessions and their acquisition hold a central place in peoples lives); (3) acquisition as the pursuit of happiness (acquisition is central because it is essential to well-being) (subsequently, these dimensions will be referred to as success, centrality, and happiness). Researchers have commonly agreed that values such as materialism are cultural products that affect people's perceptions of objects, symbols, and rituals and influence variability in behavior and thought patterns, including consumer behavior (de Mooij, 1998; Phinney, 1992). Based on the above and Kluckhohn and Strodtbek's (1961) conceptualization of cultural values as sets of value orientations in response to common societal problems, this study views materialism as a multi-dimensional construct that represents a cultural value response to the common issue of market globalization and the resulting transition of countries into consumer societies.

Cross-cultural Research on Materialism

Progress in materialism research, to an important extent, depends on continuing the refinement and development of generally accepted scales that can provide comparable results and a platform for accumulating knowledge. Although a number of materialism scales have been developed in the literature (Belk, 1984; Campbell, 1969; Moschis and Churchill, 1978; Richins and Dawson, 1992), the Richins and Dawson (1992) Material Values Scale (MVS), a scale developed in the United States, was selected to assess materialism for this study, because it has been the most developed, best recognized, and most frequently applied materialism scale in major cross-cultural research. Table 1 presents the key studies that have applied the Richins and Dawson (1992) MVS in a cross-cultural setting. Several points should be noted about these studies. The majority have been conducted using university student samples, although the studies by Wong and colleagues (2003) and Griffin and colleagues (2004) used adult samples. The studies have assessed materialism in eight Western countries, Australia, Canada, Denmark, France, Germany, Mexico, Russia, and the United States, and five Eastern countries, China, Japan, Korea, Singapore, and Thailand. In three of the studies the samples were exclusively

Western, while two used samples from both the East and West. From a theory perspective, each of the studies has contributed to the development of materialism theory, although none has been specifically presented as a theory-building effort.

In addition to a generally accepted materialism scale, it has been recognized that successful cross-cultural research depends on measurement equivalence (Johnson, 1998), which refers to "whether, or not, under different conditions of observing and studying phenomena, measurement operations yield measures of the same attribute" (Horn and McArdle, 1992, p. 117). In each of the cross-cultural studies using the MVS, this issue has been approached in a slightly different manner. The earliest study by Eastman and colleagues (1997) did not investigate measurement equivalence at all, checking only for internal reliability and correlations. Clarke and Micken (2002) explored the measurement equivalence issue, but were only able to establish configural invariance (similar factor structures) based on internal consistency, factor analysis, and target rotation. Wong, Rindfleisch, and Burroughs (2003) explored measurement equivalence as well, but were only able to establish metric invariance (similar factor loadings) using multigroup confirmatory factor analysis. Griffin and colleagues (2004) attempted to establish measurement equivalence, but failed. Kilbourne and colleagues (2005) addressed measurement equivalence and established partial scalar invariance (similar item intercepts) through the use of multigroup confirmatory factor analysis (CFA).

Of the studies reviewed, the only two studies that included Eastern samples, Wong and colleagues (2003) and Eastman and colleagues (1997), have offered limited reliable insight into cross-cultural mean comparisons of materialism. This is because the purpose for the first study was not mean comparison. It looked instead at the MVS and measurement issues. The second study failed to establish measurement equivalence, calling its results into question. In fact, no study of either Western or Eastern cultures has established measurement equivalence with the MVS and successfully tested for the mean differences of the three dimensions of materialism. This review of the pertinent literature indicates a special need for further

Table 1

Cross-Cultural Research Using the Material Values Scale

RESEARCHERS	MATERIALISM MEASURE	CULTURAL VENUE	SAMPLE	THEORY BASE	MAJOR FINDINGS
Eastman, Fredenberger, Campbell, and Calvert (1997)	Richins and Dawson (1992) 18-item scale Overall measure of materialism (means of three dimensions provided)	China, Mexico, and the United States	800 subjects University students Average age of 22	Materialism theory	Status comsumption and materialism were significantly different constructs in all three countries. Materialism levels were different from country to country. The Chinese exhibited the highest levels and Mexicans the lowest.
Clarke and Micken (2002)	Richins (1987) 6-item scale Overall measure of materialism	Australia, France, Mexico, and the United States	1009 subjects University students Median age 21-24	Materialism theory	External values were associated with high materialists across cultures. Materialism differed across countries.
Wong, Rindfleishch, and Burroughs (2003)	Richins and Dawson (1992) 18-item scale Overall measure of materialism	Japan, Korea, Singapore, Thailand, and the United States	800 adults in 1st study (all countries represented) 400 adults in 2nd study (U.S. and East Asians)	Materialism theory	Cross-cultural application of the Richins and Dawson materialism scale was constrained by its mixed-worded scales (containing both positive-and reverse-worded items). Likert format.
Griffin, Babin, and Christensen (2004)	Richins and Dawson (1992) 18-item scale Three dimensions of materialism could not be measured.	Denmark, France, and Russia	352 subjects Adults ranging in age from 16-89	Materialism theory	Could not establish measurement equivalence. Could not make comparisons of the three dimensions of materialism.
Kilbourne, Grunhagen, and Foley (2005)	Richins and Dawson (1992) 9-item scale Overall measure of materialism	Canada, Germany, and the United States	404 subjects University students Median age 22	Materialism theory	9-item materialism scale was invariant across the three cultures as an overall measurement of materialism.

exploration of the MVS and the three dimensions of materialism-particularly in Eastern cultures.

Hypothesis Development

Mass media and advertising have both been viewed as key tools in encouraging cultural values that promote the acquisition and possession of material objects to consumers (Ger and Belk, 1993; Wong and Ahuvia, 1998). On a global level, global mass media and advertising, along with changing political and economic climates, have turned many Asian countries into societies where consumers can accumulate and consume products and services, that is, demonstrate materialism (Arnett, 2002; Ger and Belk, 1996; O'Shaughnessy and O'Shaughnessy, 2002; Wong and Ahuvia, 1998). China and Thailand because of their political, economic, and media pressures represent countries where materialism may be on the rise.

China, or the People's Republic of China (PRC), with a population of 1.4 billion people, is the most populous and fastest-growing country in the world (Chan and Cheng, 2002). The Chinese, a culturally diverse population with ethnic minorities in Western China and Chinese-speaking people of the Han nationality in Eastern China (Hook and Twitchett, 1991), have in recent years witnessed a shift from a command to a market economy. In this new "socialist market economy," as typified by the slogan made famous by Deng Xiaoping in 1979, "To get rich is glorious!" Chinese consumers are being encouraged to desire material objects in a way that would once have been unthinkable (Cheng, 1996). Tse and colleagues (1989) noted that China has gone from having no advertising (aside from propaganda slogans) "to having a contemporary advertising superstructure with all modern media in use and a rapidly increasing variety of consumer goods" (p. 457-458). Chinese consumers have responded, revealing a strong interest in luxury products such as cognac, a symbol that exemplifies luxury, affirms self-worth, and illustrates worldly success (Ram, 1994).

In 1991, Thailand was described by the *Wall Street Journal* as "among the world's fastest-growing economies" and "one of the world's newest newly industrializing countries" (NICs) (Lehner, 1991). With more than 95% of all Thais Buddhists and with an intact cultural identity as the only country in Southeast Asia that has never been colonized (Chirapravati, 1996), Thailand is unique within Asia. Thais focus on "the sacredness of the nation," "the Buddhist religion," and "monarchy-the King and his family" as the three central values that shape and influence their behavior. "The middle way," a strongly-held Thai Buddhist philosophy has taught Thais not to be greedy and to learn to accept what they have (or what they can have). However, it has been noted that this philosophical position may not mesh well with a modern, urban, and materialistic way of life (Fieg, 1989). In fact, the Thai people use wealth and status, among other things, to classify each other, reinforcing a hierarchical social structure. Additionally, Thailand's young consumers, Generations X and Y, are very receptive to Westernization and modernization, as evidenced by popular Thai advertisements, which heavily emphasize the use of English terms and Caucasian models.

Although China and Thailand have shared the experience of repressed materialism due to past politics and philosophical foundations, respectively, as well as sharing the more recent bombardment by Western-style media and advertising supporting materialistic consumerism (Arnett, 2002), the two countries may not have similar levels of materialism among their young consumers. Certainly, the Chinese have both strong political and media encouragement to focus on materialistic pursuits. The Thais, on the other hand, may face a conflict between the media encouragement for materialistic consumption and the Buddhist "middle way." This suggests that young Chinese consumers may have higher levels of materialism than their Thai counterparts. For example, Eastman and colleagues (1997) reported that compared with American and Mexican students, Chinese students were the most materialistic, whereas the Mexican students were the least materialistic. Also, using a different measure of materialism, Chung and Chow (1999) found that Chinese consumers had higher levels of materialism than Taiwanese consumers. It would be expected, based on the above and on Richins and Dawson's (1992) prediction that the level of overall materialism should be reflected consistently in the three dimensions of mate-

rialism, that young Chinese consumers should exhibit higher levels of overall materialism, as well as higher levels of each of the three individual dimensions of materialism. Thus, it is hypothesized that:

H1: Young Chinese consumers will have a higher mean level of overall materialism than young Thai consumers.

H2: Young Chinese consumers will have a higher mean level of materialism defined as success than young Thai consumers.

H3: Young Chinese consumers will have a higher mean level of materialism defined as centrality than young Thai consumers.

H4: Young Chinese consumers will have a higher mean level of materialism defined as happiness than young Thai consumers.

Methodology

Sample and Procedures

The study sample included young consumers who have experienced the economic, political, and media pressures in China and Thailand, that is, 455 undergraduate university students pursuing business-related majors in two large public universities in Beijing, China, and Chonburi, Thailand. Students were selected for their credibility as young consumers in reflecting meaningful social values in cross-cultural research (Clarke and Micken, 2002), especially as urban dwellers where globalization's reach is more intense (Arnett, 2002). These young educated adults represent the first generation to have reached adulthood under the heavy influence of global consumerism, making them a logical cohort group for materialism research (Gu, Hung, and Tse, 2005).

In total, 470 surveys, 210 in China and 260 in Thailand, were distributed, with 455 returned and usable, a response rate of 97%. Of the 207 Chinese respondents, 131 were male and 76 female, and of the 248 Thai respondents 71 were male and 177 female. Given the apparent demographic differences between the Chinese and Thai samples, the sample demographics were formally analyzed. Results indicated that the Chinese

sample had a significantly higher number of males than the Thai sample ($t = -4.96, p < .001$). In terms of income level it was also revealed that the Thai sample was found to have a significantly higher income level than the Chinese sample ($t = -2.49, p < .001$). These differences were subsequently integrated into the study's analysis approach, using multivariate analysis of covariance (MANCOVA) in order to control for any undue influence of demographics on the study results.

Instrument and Translation

To assess materialism, the study's survey used the Richins and Dawson (1992) MVS. The original scale included six items to measure the success dimension; seven items to measure the centrality dimension; and five items to measure the happiness dimension. The participants were asked to rate the extent to which they agreed or disagreed with the scale items, using a Likert-type scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). Translation equivalence for the survey was established by employing two bilingual individuals who independently translated the English version of the survey into Chinese and Thai. After the initial translation, bilingual graduate students from China and Thailand, native speakers respectively, reconciled any differences in the translations and back-translated the Chinese and Thai versions into English to ensure translation accuracy (Brislin, 1980). After comparison by the authors of the back-translation with the original scale, no major inconsistencies or differences were found and minor differences were reconciled. Both the procedures and results of the translation process indicated that the rigor used in translating the study survey met the standards expected for quality cross-cultural research (Douglas and Craig, 1983).

Analysis

The first step in the analysis was careful refinement and purification of the MVS. Cross-cultural researchers have suggested that scales employing reverse-worded items may impose a threat to measurement applicability (Babin and Griffin, 1998; Wong

et al., 2003). Accordingly, the reverse-worded items from the MVS were removed, leaving a final MVS of ten items (four items assessing success, three items assessing centrality, and three items assessing happiness). A descriptive analysis of the data and confirmatory factor analysis (CFA) was then conducted using maximum likelihood estimates through LISREL 8.54 to assess the composite reliability of the scales, analogous to Cronbach's alpha (Werts, Linn, and Joreskog, 1974) (see Table 2). T-tests were performed to examine differences in demographic characteristics between the two samples, identifying possible covariates for subsequent analyses. Third, multigroup analysis was performed via CFA to assess the fit of the materialism models simultaneously in both samples. Last, assuming measurement invariance of the materialism scales, the factor mean differences were examined using multigroup analysis for cross-cultural comparison.

Steenkamp and Baumgartner (1998) proposed that when the objective of a study is to compare means cross-culturally, measurement equivalence should be tested through a sequence of hierarchical nested models, establishing configural, metric, and scalar invariance. That is, the factor structure (configural) invariance must be established first, indicating that items loaded on the appropriate factors similarly across samples. This least restrictive model was used as a baseline model for comparisons with the subsequent models in the hierarchy. Then, the factor loading (metric) invariance was tested by examining the invariance of factor loadings of the scale items across samples. Once metric invariance was established, the item intercept (scalar) invariance was tested. Steenkamp and Baumgartner (1998) suggested that to conduct cross-cultural comparisons of mean scores, scalar invariance in particular must be established before cross-cultural differences in the means of the observed variables can be attributed to differences in the underlying constructs. Similarly, Meredith (1993) suggested that scalar invariance is a prerequisite given that its lack makes latent mean comparison highly ambiguous.

Results

Examining the Three-factor Structure of Materialism across Samples

Prior to testing H1 through H4, the hypothesized ten-item, three-factor model of materialism, was examined through CFA for each sample separately. Initial results of CFA revealed that one item capturing the success dimension had a non-significant factor loading ($p > .05$) in the Chinese sample, thus, this item was removed from further analysis. CFA was run again on the re-specified nine-item three-factor model of materialism for each sample (also see Table 2). For the Chinese sample, results showed a $\chi^2(24)$ of 66.71, a root mean square error of approximation (RMSEA) of 0.083, a comparative-fit-index (CFI) of 0.87, a goodness-of-fit index (GFI) of 0.94, and an adjusted goodness-of-fit index (AGFI) of 0.90. For the Thai sample, results revealed a $\chi^2(24)$ of 65.43, RMSEA of 0.085, CFI of 0.97, GFI of 0.94, and AGFI of 0.89.

Although the χ^2 goodness-of-fit statistic was highly significant in both samples (suggesting the probability of rejecting the hypothesized model), it was disregarded as the statistic is known to be sensitive to sample size. Thus, other indices were relied upon to assess the fit of the revised nine-item three-factor model of materialism, including χ^2/df, RMSEA, CFI, GFI, and AGFI. Regarding χ^2/df, Carmines and McIver (1981) suggest a ratio of 3.0 or less as an acceptable level of fit for confirmatory factor models, while Byrne (1989) suggests a ratio of 5.0 or less. The ratios found were acceptable for both samples. With respect to RMSEA, Browne and Cudeck (1993) suggested values smaller than 0.08 are indicative of acceptable fit. The RMSEA values revealed a marginally acceptable fit for both samples. In addition, while Hoyle (1995) suggested values greater than 0.90 for CFI, TLI, and GFI and values of 0.80 for AGFI as an indication of acceptable fit, others (Browne and Cudeck, 1993) suggest values of 0.80 or higher for CFI, TLI, and GFI as indicators of an adequate level of fit. Therefore, the CFI, TLI, GFI, and AGFI values were acceptable for both samples.

The reliability estimates of the re-specified nine-item three-factor structure were assessed using the composite reliability estimates. These estimates were higher for the Thai sample across the three dimensions

Table 2
Descriptive Statistics and Confirmatory Factor Analysis (CFA)

Items / Abbreviations	Descriptions	China (n = 207) Mean	China CFA Success	China CFA Centrality	China CFA Happiness	Thailand (n = 248) Mean	Thailand CFA Success	Thailand CFA Centrality	Thailand CFA Happiness
S1	I admire people who own expensive homes, cars, and clothes.*	4.33 (1.55)[a]	0.45 (4.96)[b]			2.88 (1.56)[a]	0.66 (10.25)[b]		
S2	Some of the most important achievements in life include acquiring material possessions.	4.30 (1.67)	0.63 (6.30)			3.72 (1.68)	0.71 (11.14)		
S3	I like to own things that impress people.	5.46 (1.42)	-			3.62 (1.63)	-		
S4	The things I own say a lot about how well I am doing in life.*	3.78 (1.59)	0.39 (4.37)			3.59 (1.67)	0.57 (8.63)		
C1	Buying things gives me a lot of pleasure.*	4.60 (1.73)		0.38 (4.86)		4.36 (1.58)		0.71 (11.77)	
C2	I like a lot of luxury in my life.*	3.19 (1.66)		0.94 (8.90)		3.30 (1.63)		0.85 (14.56)	
C3	I enjoy spending money on things that aren't practical.	2.49 (1.43)		0.53 (6.36)		2.66 (1.55)		0.52 (8.04)	
H1	My life would be better if I owned certain things I don't have.*	4.60 (1.64)			0.33 (3.82)	4.20 (1.70)			0.65 (10.62)
H2	I'd be happier if I could afford to buy more things.*	5.12 (1.56)			0.72 (7.44)	3.97 (1.67)			0.79 (13.67)
H3	It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.*	4.80 (1.42)			0.52 (6.02)	4.04 (1.65)			0.74 (12.56)
Variance extracted			0.25	0.43	0.30		0.42	0.50	0.53
Composite reliability			0.49	0.68	0.55		0.69	0.74	0.77
Phi matrix (Φ)	Success		-				-		
	Centrality		0.39 (3.82)	-			0.71 (12.36)	-	
	Happiness		0.61 (5.38)	0.38 (4.08)	-		0.81 (16.20)	0.76 (16.01)	-

Fit Indices

China: $\chi2(df) = 66.71\ (24),\ p < .001$; RMSEA = 0.083; CFI = 0.87; GFI = 0.94; AGFI = 0.89; TLI = 0.86

Thailand: $\chi2(df) = 65.43\ (24),\ p < .001$; RMSEA = 0.085; CFI = 0.97; GFI = 0.94; AGFI = 0.89; TLI = 0.96

Note: a – standard deviations, b-t-values, S-Success, C-Centrality, and H-Happiness

S3 was removed due to the insignificant factor loadings in the initial CFA in the Chinese sample.

* Indicates items in common with Richin's (2004) shortened, nine-item MVS.

of materialism than for the Chinese sample (also see Table 2). According to Hui (1988), all of these estimates were acceptable for a multidimensional construct (≥ 0.50), with the exception of the success dimension in the Chinese sample (0.49). In addition, a chi-square difference test indicated that the unconstrained model had a significantly lower χ^2 value than the constrained model, establishing discriminant validity. Results from confidence interval tests also indicated that discriminant validity of the re-specified nine-item three-factor model of materialism was established for both samples (Anderson and Gerbing, 1988). The correlation results of the re-specified materialism scale supported Richins and Dawson's (1992) findings that these three factors were distinct, yet correlated, factors for both cultures. Thus, the re-specified nine-item three-factor model of materialism adequately fit the data for each individual sample.

Establishing measurement equivalence

The nine-item three-factor model of materialism was then examined to determine measurement equivalence for both samples. Prior to testing for configural invariance, covariances and mean metrics were examined. If the equality of covariances and means exists, there is no need to establish measurement equivalence because full metric and scalar invariance models are automatically satisfied (Steenkamp and Baumgartner, 1998). If the covariance and means are not invariant, then measurement equivalence must be established. The results of the analysis of the equality of covariance matrices and mean vectors across samples indicated that the covariance and mean vectors were not invariant (see Table 3). The results also indicated that the source of invariance stemmed from the mean vectors, justifying a test of measurement equivalence through multigroup analysis.

Results of the analysis for configural invariance revealed $\chi^2(48)$ of 132.14, RMSEA of 0.085, AIC of 210.03, CFI of 0.95, and TLI of 0.93 (also see Table 2). Although the value of χ^2 was statistically signifi-

cant, the other fit indices revealed a satisfactory fit. In addition, all factor loadings were highly significant for both samples and 14 out of 18 (within-sample) standardized factor loadings exceeded 0.50 (the minimum loading was 0.35). Thus, it was concluded that the hypothesized nine-item three-factor correlated materialism model demonstrated *configural invariance* across both the Chinese and Thai samples.

Next, a more constrained model, full metric invariance, was analyzed by imposing the matrix of factor loadings to be invariant across samples. The test results revealed that the increase in the chi-square statistic was not significant as compared to the configural invariance model; $\Delta\chi^2 = 10.48$, $\Delta df = 6$, $p > .10$ (also see Table 3). In addition, the values of RMSEA and χ^2/df, and the other fit indices remained unchanged (CFI and TLI). Collectively, these fit indices indicated that the nine-item three-factor model of materialism demonstrated *full metric invariance* across the Chinese and Thai samples.

Last, the full scalar invariance model was analyzed by imposing item intercepts on the full metric invariance model. The fit of this model had deteriorated compared to the full metric invariance model with a significant increase of chi-square ($\Delta\chi^2(6) = 55.20, p < .001$), a decrease in values of CFI and TLI, and an increase in χ^2/df. Although full scalar invariance is a condition that researchers strive for, Horn (1991) noted that it is an ideal condition, rarely achieved, and partial scalar invariance is sufficient. The sources of invariance revealed by the Modification Indexes (MIs) and Expected Parameter Changes (EPCs) suggested a lack of invariance for the intercepts of S2, S3, C1, and H2 in both the Chinese and Thai samples. Once these constraints were relaxed and the model was re-run, the test results revealed a much improved fit compared to the full metric invariance model ($\Delta\chi^2(2) = 3.31, p > .10$). The partial scalar invariance model was also compared to the configural invariance model and revealed an insignificant increase in the chi-square statistic ($\Delta\chi^2(8) = 13.79, p > .10$). Therefore, *partial scalar invariance* was established.

Table 3

Cross-Cultural Analysis of the Materialism Scale: Factor Structure and Means

	$\chi 2$ value	df	RMSEA	AIC	CFI	TLI	$\chi 2$/df
	3-Factor Structure of Materialism						
Equality of Σ and μ	270.70	54	0.120	341.73	0.88	0.83	5.01
Equality of Σ	127.65	45	0.086	211.14	0.95	0.92	2.84
Equality of μ	141.25	9	0.230	317.71	0.92	0.39	15.96
Configural invariance	132.14	48	0.085	210.03	0.95	0.93	2.75
Full metric invariance	142.62	54	0.083	246.54	0.95	0.93	2.64
Full scalar invariance	197.82	60	0.100	286.92	0.93	0.91	3.30
Partial scalar invariance	145.93	56	0.082	245.71	0.95	0.93	2.61
	1-Factor Structure of Materialism						
Configural invariance	221.34	54	0.110	287.46	0.90	0.87	4.10
Full metric invariance	236.63	62	0.110	285.28	0.90	0.88	3.82
Full scalar invariance	357.96	70	0.130	424.10	0.83	0.83	5.11
Partial scalar invariance	240.89	65	0.100	318.69	0.90	0.89	3.71

	Means				
Dimensions of Materialism	Partial scalar invariance: Base model			$\Delta\chi 2(1)$	Prob.
	Means			Mean values invariant	
	China		Thailand		
Success	4.14		3.39	89.09	< .001
Centrality	3.43		3.44	0.79	> .50
Happiness	4.84		4.07	55.61	< .001
Overall materialism	4.13		3.64	11.59	< .001

Results of Hypothesis Testing: H1-H4 (Different Mean Levels of Materialism)

Based on having established configural, full metric, and partial scalar invariance, the data satisfied the criterion of measurement equivalence, enabling valid cross-cultural mean comparisons. As with other studies latent mean differences of overall materialism were examined between the Chinese and Thai participants. Prior to examining the latent mean differences for overall materialism, CFA was performed to assess the composite reliability by combining the nine materialism items into one factor model. Results revealed an acceptable level of composite reliability for the Chinese sample (0.69) and the Thai sample (0.86), suggesting that the overall materialism construct was adequately captured by its indicators in both samples (Nunnally, 1978). Measurement invariance was examined for the one-factor model of materialism, using multigroup analysis of nested models. Results revealed support for partial scalar invariance of a one-factor model of materialism, $\Delta\chi^2(3) = 4.26, p > .100$, indicating that the comparison of the latent mean of overall materialism is appropriate. Results of the latent mean comparison showed a signif-

icant difference between the two samples, $\Delta\chi^2(1) = 11.59, p < .001$. Thus, Chinese participants were generally more materialistic overall than their Thai counterparts ($M_{Chinese} = 4.13$ vs. $M_{Thai} = 3.64$), and H1 was supported.

To examine the latent mean differences of the three dimensions of materialism, the factor means were imposed to be invariant across the two samples. The results revealed an inferior fit of the model when compared to the partial scalar invariance model, indicating that differences existed between the means of the two samples on the three dimensions. To determine which of the subscale means was different between the two samples, latent means analysis was performed on the individual dimensions of materialism. Table 3 shows that for the success scale, the results demonstrated an inferior fit of the model compared to the partial scalar invariance model ($\Delta\chi^2(1) = 89.09, p < .001$), indicating that the success scale mean was significantly different between the two samples, that is, Chinese participants were more likely to conceive materialism as a sign of success than their Thai counterparts ($M_{Chinese} = 4.14$ vs. $M_{Thai} = 3.39$), and H2 was supported. Likewise, when comparing the factor means of the happiness scale, the results revealed an inferior fit compared to the partial scalar invariance model ($\Delta\chi^2(1) = 55.61, p < .001$), indicating that the mean of the happiness scale was significantly different between the two samples, that is, Chinese participants were more likely to view materialism as an indication of happiness than their Thai counterparts ($M_{Chinese} = 4.84$ vs. $M_{Thai} = 4.07$), and H4 was supported. However, no significant difference in the factor means for centrality was found between the two samples ($\Delta\chi^2(1) = 0.79, p > .05$), indicating that the two samples viewed materialism as central to their life in a similar fashion ($M_{Chinese} = 3.43$ vs. $M_{Thai} = 3.44$). Thus, H3 was not supported.

Due to the significant difference in terms of gender and income level of the Chinese and Thai samples, these two variables were treated as covariates in order to control for confounding effects. MANCOVA results revealed a significant country effect on overall materialism and its three dimensions (Wilk's lamda $F = 17.20, p < .001$), as well as a gender effect on overall materialism and its dimensions, (Wilk's lamda $F = 2.71, p < .05$). No income effect was found (Wilk's lamda $F = 1.30, p < .19$), suggesting that income was not a factor in the study's materialism results. However, the results on gender indicated otherwise. Interestingly, Tukey's HSD post hoc tests revealed that men scored significantly higher on the centrality and the happiness dimensions than women (3.56 vs. 3.28, 4.57 vs. 4.30, respectively). Although the gender variable did not have a significant effect on overall materialism or the success dimension, the mean scores showed that men still displayed higher scores than women on these two variables (overall materialism: 3.91 vs. 3.83; the success dimension: 3.86 vs. 3.63).

Related to overall materialism, the analysis of covariance (ANCOVA) results revealed a country effect ($F(1, 447) = 27.57, p < .001$), and results of the Tukey's HSD post hoc tests showed that Chinese participants were more materialistic than their Thai counterparts (4.13 vs. 3.64). Related to the dimensions of materialism, ANCOVA results revealed a country effect on the success dimension ($F(1, 447) = 35.11, p < .001$) and the happiness dimension ($F(1, 447) = 31.78, p < .001$), but not the centrality dimension ($F(1, 447) = 1.22, p = 0.270$). Tukey's HSD post hoc tests revealed that while Chinese participants scored significantly higher on the success and happiness dimensions than their Thai counterparts (4.14 vs. 3.39; 4.84 vs. 4.07, respectively), they did not differ significantly from each other on the centrality dimension (3.44 versus 3.43). These results reconfirmed the latent mean differences identified by multigroup analysis and provided additional support for H1, H2, and H4.

Discussion

In order to explore the global rise in levels of materialism, this study used relevant venues for the research, China and Thailand, applied the Richins and Dawson (1992) MVS and tested it for measurement equivalence to ensure valid results in a cross-cultural setting, and selected an appropriate sample of young consumers. In carrying out this exploration, the study proposed and tested four hypotheses. The first hypoth-

esis tested for mean differences on overall materialism between young Chinese and Thai consumers. As was predicted, the Chinese mean level was significantly higher. The remaining three hypotheses addressed a major gap in the literature by testing mean differences for the three dimensions of materialism recognized throughout the literature-success, centrality, and happiness. The Chinese sample was also found to have significantly higher mean levels for materialism defined as success and happiness. The mean difference of materialism defined as centrality, however, was found to be non-significant. Overall, three of the four hypotheses proposed and tested were supported by the data.

The contributions to the materialism literature made by this study are important. First, this research has noted that the advancement of materialism research depends on developing a generally accepted materialism scale that will enable researchers to make comparisons across studies and to build a valid body of knowledge. The closest extant scale to meeting this goal is Richins and Dawson's (1992) MVS because of its broad application in materialism research, including cross-cultural applications. This study applied the MVS and is among the first to act on previous researchers' recommendations for eliminating reverse-worded items in the scale (Wong, Rindfleisch, and Burroughs, 2003). This, combined with further rigorous scale refinement and purification, resulted in a 9-item materialism scale, a refined MVS that can be applied with confidence in at least two East Asian countries.

Second, the findings themselves represent major contributions. It should be noted that the means for the two samples indicated that young Chinese and Thai consumers in general exhibited moderate levels of materialism, that is, means that ranged primarily in the mid-3 to low-4 levels on a 7-point scale. The means for the happiness dimension, however, were noticeably higher for both samples. The mean comparison results indicated that young Chinese consumers were more materialistic than young Thai consumers for overall materialism, the success dimension, and the happiness dimension, making this the first cross-cultural study to assess both overall materialism and

its three dimensions based on demonstrated measurement equivalence. The marketing implications are strong. In developing marketing and advertising campaigns for young Chinese consumers, practitioners may want to focus heavily on providing direct, clear messages and visuals that reflect success and happiness, with a focus on happiness perhaps being the more effective of the two. Such marketing efforts in Thailand, however, may need to be adjusted by making the consumption message more subtle. Marketers may want to find a way to tie the consumption message in with a concern for others and social responsibility. Care should be taken to avoid offending the "middle way."

Third, the study carefully selected two chosen canvases, China and Thailand, as the study venues. These countries provided interesting places to investigate young consumers' levels of materialism because of the clear contrast between pasts where non-materialistic approaches were encouraged by political or philosophical agendas and a present where there is a new, open push for materialistic consumption. In particular, the establishment of measurement equivalence for the refined MVS suggests that this study may have provided a reliable baseline for the levels of materialism among young consumers in these two countries. Future materialism studies can use this baseline as a reference point in conducting longitudinal research in China and Thailand.

Fourth, the study has contributed significantly by focusing on young consumers. Young consumers are especially important because they represent a primary target for media consumerism efforts and because the influence of materialism on young consumers can affect their public and private choices throughout life (Goldberg, Gorn, Peracchio, and Bomossy, 2003; Gu, Hung, and Tse, 2005; Tse, Belk, and Zhou, 1989). However to date, research on Generation Y (Gen Y) consumers has primarily been done by commercial concerns and published in popular business publications. As a result, such research lacks the breadth and depth of research available on other generational cohorts (Halstead, 2006). Simply put, much of the Gen Y research suffers from: (1) proprietary sources that may publish only positive results; (2) a lack of conceptual

depth; (3) incomplete explanations of methodology; and (4) a lack of peer, or expert, review. This study has contributed by addressing an under-researched population within the academic consumer behavior literature and providing reliable new knowledge.

The results also raised two issues for research in the materialism area. First, the non-significant finding on centrality challenges Richins and Dawson's (1992) view that the dimensions of materialism should reflect the same relationships as the overall materialism assessment. The centrality dimension, in fact, has been problematic before. Griffin and colleagues (2004) tested the MVS using data from Denmark, France, and Russia, and reported that, after scale purification and refinement, the centrality dimension of materialism did not emerge in the French sample. Although Eastman and colleagues (1997) reported the existence of three interrelated dimensions of materialism in their Mexican, Chinese, and American samples, the reliability of the centrality dimension of materialism in the Chinese sample was extremely low (Cronbach's $\alpha = 0.31$). These problems may stem from language issues in the measurement items (centrality) where wording seems to reflect an *individualistic value-orientation* (that is, a focus solely on self), versus items (success and happiness) that reflect more of a *collectivist value-orientation* (that is, a focus on social comparison). It is also possible that the language for the centrality items may have been awkward to young consumers, resulting in similar responses. Of course, it is likewise possible that in East Asian societies materialism may not yet have a strong central place in young consumers' views of the world, given the more recent impact of global consumerism there. Whatever the case, further investigation of the centrality dimension is clearly needed.

Due to unexpected skewness in the samples, the second research issue that emerged was that of gender. The study results clearly showed that males in the Chinese and Thai samples were in general more materialistic than females. Although gender has been addressed from time to time in the materialism literature, in most instances it has not been a major focus and results have been mixed. For example, Griffin, Babin, and Christensen (2004) found insignificant correlations between levels of materialism and a variety of demographic factors, including gender. Kamineni (2005) and Lipacomb (1988), however, found males to have higher levels of materialism than females. Perhaps more attention needs to be paid to gender in future research, even to the point of assessing materialism for males and females independently. Addressing the gender issue could lead to important new understandings of materialism.

Future Research

As in all research, some concessions were made that have created opportunities for future research. Although there are strong advantages in using a university student sample to assess the impact of globalization on cultural values due to the highly relevant position that young people hold in cultural change, care should be taken in generalizing the study findings beyond this generational cohort, and future research should expand our understanding of materialism by including other populations of interest. The unexpected skewness of our samples led to conducting analyses that found an association between gender and the levels of materialism. While this must be taken into account in interpreting this study's results, it also suggests that this issue should be taken into account in future research-perhaps by segregating samples in materialism research by gender. Also, the centrality dimension of materialism, based on the previous literature and the results of this study, appears to need further development either conceptually or in terms of the measurement items in the MVS. Last, given that levels of materialism were of interest in this study, longitudinal studies in China and Thailand might provide important information about levels of materialism in these two countries as their societies and economies progress.

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