"Probing the etic vs. emic nature of consumer ethnocentrism: cross-national evidence"

AUTHORS	Srinivas Durvasula Steven Lysonski

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Srinivas Durvasula (USA), Steven Lysonski (USA)

Probing the etic vs. emic nature of consumer ethnocentrism: cross-national evidence

Abstract

The consumer ethnocentrism concept and its measure, the CETSCALE, remain very popular in cross-national research chiefly because they serve as a means to understand consumer attitudes toward imports. But the usage of consumer ethnocentrism and its measure are based on the premise that they have universal or etic properties. Conflicting studies, however, find that the scale's structure is far more complicated than initially believed, and that it may not be uni-dimensional as originally proposed. Is it possible that the consumer ethnocentrism concept and its measure are culture bound? The goal of this study is to resolve this ambiguity.

Introduction

The field of consumer behavior is heavily dependent on measurement scales to quantify psychological characteristics of consumers. As globalization accelerates, researchers are keen to employ these measures for cross-national or multi-country research. Of concern, however, is that Western countries have been the primary source of these scales. Watters (2013) discusses a 2008 survey of the top psychology journals (often a source for consumer research) that shows that 96% of the subjects used in psychological studies from 2003 to 2007 were Westerners; 70% were from the USA. The goal of this paper is to explore the robustness of the consumer ethnocentrism concept and its measure regarding their application in diverse countries.

One issue that begs an answer deals with the etic vs. emic question concerning the relevance of these scales to foreign countries, particularly non-Western ones. Conceptually, an *etic* construct is a theoretical idea that is assumed to apply to all nations or cultures while an *emic* construct is one that applies to only one nation or culture. Recent research has found that aspects of human nature that are considered universal (i.e., etic) may in fact be culturally bound and a product of social learning in that culture (i.e., emic) (Henrich and Boyd, 1998; Henrich, Heine and Norenzayan, 2010). Indeed, one's culture may deeply shape human cognition and influence consciousness and decision making. Cultural bias arises when researchers assume that an emic construct is intrinsically etic. The result is referred to as an imposed etic where a culture specific construct is incorrectly imposed on a different culture. In fact, a number of scholars have argued that some scales developed in the USA may be irrelevant to foreign consumers (de Mooij, 2010; Douglas and Nijssen, 2003; Herche, Swenson, and Verbeke, 1996). In essence the argument deals with the etic vs. emic debate.

One such construct that was developed in North America and applied frequently in other countries is the *consumer ethnocentrism* concept and its corresponding measurement scale (CETSCALE). We use the consumer ethnocentrism construct as an exemplar to demonstrate how to probe the emic vs. etic nature of a concept and its measure. Etic deals with the universality of the consumer ethnocentrism concept and the psychometric applicability of the CETSCALE to other countries; in contrast, the notion of emic focuses on the concept or scale being relevant only to one culture. Since the CETSCALE has been administered to foreign consumers with an implied confidence a priori that it is as valid and reliable as it is in the USA, researchers have accepted the scale with a level of blind confidence (i.e., imposed etic) in its efficacy to capture the ethnocentrism property. More attention needs to be given to etic considerations regarding the concept per se and its scale.

The scale is also assumed to mirror ethnocentrism as a uni-dimensional construct which is again an imposed etic. But is this mirror more complicated? Are there more dimensions in the scale than believed and are these dimensions specific to different cultures? Douglas and Nijssen (2003) caution researchers that the scale may not be uni-dimensional as they found for the Netherlands. Hence, the faith that researchers have taken in the structure of the scale and its imposed etic may be overly optimistic. One foundation of the CETSCALE is its morality dimension; yet, Henrich, Heine and Norenzayan (2010) observed that the moral reasoning found in Western societies is different elsewhere.

Our research investigates the etic and emic properties of the consumer ethnocentrism construct and the CETSCALE, and examines if the scale is uni-dimensional. Specifically, is the consumer ethnocentrism construct equivalent cross-nationally or is it country specific? Correspondingly, is the CETSCALE invariant across cultures or should researchers be chided for ignoring the emic question as they confidently use the scale beyond North America? To achieve our goal, we choose two

culturally different countries for our examination: Singapore and New Zealand.

The rest of the paper is organized as follows. First, we discuss the origin and application of the ethnocentrism concept and its measure. Subsequently, we examine emic and etic issues relevant to this construct and scale followed by research questions and our methodology. The results are then discussed with conclusions and implications.

1. Background discussion

The concept of ethnocentrism was introduced in sociology by Sumner (1906) to distinguish between in-groups with which a person identifies and out-groups lacking this identification. Ethnocentric people prefer the in-group over the out-groups to such an extent that symbols and values of the in-group become an object of pride whereas symbols and values of the out-group are likely to become objects of contempt (LeVine and Campbell, 1972). Shimp and Sharma (1987) extended this concept to marketing and called it "consumer ethnocentrism," defined as "the beliefs held by American consumers about the appropriateness, indeed morality, of purchasing foreign made products". Based on this definition, purchasing foreign products is considered wrong because it hurts the domestic economy, causes loss of jobs, and is unpatriotic (Shimp and Sharma, 1987). To highly ethnocentric consumers, domestic products are viewed as superior while foreign made products are objects of contempt. Accordingly, Shimp and Sharma (1987) developed the consumer ethnocentric tendency scale, abbreviated as the CETSCALE with 17 items and a reduced 10-item version.

Empirically, studies show that consumer ethnocentrism negatively impacts consumer behavior. Specifically, consumer ethnocentrism related unfavorably to the following: attitudes toward the ad (Reardon, Miller, Vida and Kim, 2005), purchase intention of foreign brands (Suphellen and Rittenburg, 2001), attitudes toward imports (Sharma, Shimp and Shin, 1995), evaluations of foreign services (de Ruyter, Van Birgelen and Wetzels, 1998), preferences toward foreign products over domestic products (Klein, Ettenson and Krishnan, 2006), and attitudes toward outsourcing (Durvasula and Lysonski, 2009). Unless etic and emic issues are examined, we do not know if the observed mean differences in these studies on the construct's measure reflect true cross-national differences or measurement artifacts.

Most cross-national studies using the CETSCALE have focused on large economically developed countries with significant domestic and foreign competition. Because consumer ethnocentrism is associated with feelings of nationalism and the

superiority of one's own group, Douglas and Nijssen (2003) raised questions about the construct's relevance to smaller countries that have open economies, high levels of foreign trade, few major domestic manufacturers and dependence on imported products. Their concern, therefore, is rooted in the emic theme. Hence, we do not know whether consumer ethnocentrism and the CETSCALE can be applied reliably in such countries. Our study addresses this shortcoming by comparing the findings from the city-state of Singapore, which is at the hub of South East Asia, with those from New Zealand, which is relatively more isolated, but a developed economy nonetheless.

2. Emic vs. etic issues of the consumer ethnocentrism concept

Cross-culturally, a concept or its measure can be either emic or etic. Emic models view a specific behavior as specific to that culture; hence, consumer behavior must be understood in the context of a particular culture. In contrast, etic models view a specific behavior as universally generalizable, allowing for comparisons among consumers in varying cultures (i.e., cross-cultural) on that behavior. Hence, if it can be shown that the consumer ethnocentrism concept can be conceptually understood similarly by respondents and that its measure is equivalent (or invariant) across cultures, we have established some degree of etic proof of its universal application. Of the many issues regarding cross-cultural research methodologies, the equivalence of concepts and their measures is viewed as the single dominant one (cf., Albaum and Baker, 2005; Berry, 1980; Craig and Douglas, 2005).

For an imposed etic validity to be acceptable, there must be equivalence of consumer ethnocentrism and its measure between the source nation of the construct and the country where it is to be applied (Albaum and Baker, 2005). If foreign consumers construe a construct differently or respond in unique ways to its scales, Douglas and Craig (1983) warn us that "relevant constructs will be unique to a given country" and therefore lack this universal quality. If the concept can be universally understood, we can conclude that it is "culture free" and proceed to apply it in a pan-cultural sense (Craig and Douglas, 2005; Herche, Swenson and Verbeke, 1996). Sekaran (1983) cautions that unless we have established the etic characteristics of the construct, we face a "pseudoetic" (or imposed etic) dilemma in using the scale to make cross-cultural comparisons.

We expect that the consumer ethnocentrism concept has a universal understanding given its underlying theory discussed above. In this regard, we followed the approach of Herche, Swenson and Verbeke

(1996) by using qualitative field studies; these were conducted in Singapore and New Zealand to determine if the consumer ethnocentric construct existed in consumers' minds. We discussed the consumer ethnocentrism concept with over 300 consumers in their early 20s in university class settings to understand their conceptualization (or universality of the concept). In both countries, the authors did not discern any confusion in grasping the consumer ethnocentrism concept and its relevance to their country.

For Singapore, the government constantly promotes themes about "pride in being a Singaporean" which the young consumers recalled vividly, allowing them to comprehend the ethnocentrism idea effectively. Of special note, in New Zealand a "Buy New Zealand Made" campaign started in 1988 made the ethnocentrism concept and the obligation to buy domestically made goods palpable. To quote the web site concerning this campaign "When you buy a New Zealand produced product or service, you're helping to create jobs, promote growth. As every cricketer knows, a run saved equals a run scored – so you're giving our country a double whammy benefit when you buy New Zealand rather than from another country. We can be proud of the quality of our products" (http://www.buynz.org.nz/MainMenu). In sum, comparisons of the responses amongst the two sets of young consumers from both countries, who were similar in age and educational background, showed understanding of the concept and its measurement. Hence, we view our qualitative result at the conceptual level as evidence of the etic property; the concept was clearly not emic.

Given that we established the etic quality of consumer ethnocentrism concept qualitatively, the next step was to determine whether the CETSCALE also had the etic property regarding its purported universal uni-dimensional nature and defined factor structure. We now probe further into the etic vs. emic question about the CETSCALE using a series of tests for measurement equivalence. Herche, Swenson and Verbeke (1996) used a similar sequence of analyses to establish the etic qualities of the scales they examined.

3. Assessing the emic vs. etic nature of the CETSCALE

Cross-nationally, a concept such as consumer ethnocentrism may be etic but its measurement scale such as the CETSCALE may not be. In such a scenario, we cannot use the measure in comparative research. To certify that a scale has an etic quality, it is essential to establish that it has measurement equivalence (i.e., it is cross-nationally equivalent). Steenkamp and Baumgartner (1998) and others

prescribed a number of different hierarchically linked equivalence tests to establish measurement equivalence. Each successive test in the hierarchy assumes increasingly stronger measurement equivalence across cultures as discussed below.

3.1. Structural invariance. Also known as *construct equivalence* or *configural invariance*, this form of equivalence tests whether the set of scale items has the same pattern (structure or configuration) of factor loadings with the construct to be measured across cultures.

3.2. Metric invariance. This second test in the hierarchy assumes structural invariance and invariant relationships between observed indicators and the latent concept (i.e., factor loadings) across cultures. Also referred to as *measurement unit equivalence*, it implies that across-cultural groups there is equality of the measurement units or scale intervals. Metric invariance is necessary for the comparison of difference (i.e., mean-centered) scores across cultures (Steenkamp and Baumgartner, 1998).

In CFA (confirmatory factor analysis), metric invariance can be established by showing no significant drop in fit between the metric invariance model and the structural invariance model. In EFA, invariance of factor loadings can be established on the basis of the size of Tucker's phi index (or congruency coefficient) (Tucker, 1951). For any factor, this index is a measure of the degree of agreement between the factor loadings of items from two different cultures. When cross-cultural comparisons involve more than two countries, Tucker's phi index is computed for each factor and for each pair of countries. The formula for Tucker's phi index is as follows:

$$\Phi(x, y) = \frac{\sum_i x_i y_i}{\sqrt{\sum_i x_i^2 \sum x_i^2}},$$

where x_i and y_i are the loadings of variable i on factor x and y, respectively, $i = 1, . . ., n$. The Tucker's phi index is not sensitive to scalar multiplication of x and y, implying that it measures factor similarity independently of the absolute size of the loadings. Values of phi higher than 0.95 are recommended for assuming metric invariance (Van de Vijver and Poortinga, 1994).

3.3. Scalar invariance and item bias. As argued by Steenkamp and Baumgartner (1998), even after establishing metric invariance, scores on the latent variable can still be uniformly biased upward or downward, when the origin of the scale is not the same across cultures. It means that people who have the same level of a latent trait (but are from different

cultures) exhibit higher or lower scores on the measure. To perform mean comparisons across cultures, it is also necessary that the origins of the scale items (i.e., intercepts) are the same across those cultures (i.e., scalar invariance). In CFA, scalar invariance can be established when there is comparable fit between the scalar invariance model (invariant loadings and intercepts) and the metric invariance model (invariant loadings but not invariant intercepts).

Scalar invariance is closely related to the concept of item bias or differential item functioning (DIF) (Van de Vijver and Leung, 2011). Presence of scalar invariance implies that items do not exhibit bias cross-culturally. An item exhibits bias if respondents with the same level of latent trait (e.g., they are equally consumer ethnocentric) do not have the same mean score on the item across cultures (Van de Vijver and Leung, 1997), and the likely reasons include poor item translation, ambiguities in the original item, and inappropriateness or low familiarity of the item in certain cultures. Van de Vijver and Leung (2011) show two types of item bias (called uniform and non-uniform) that affect cross-national mean comparisons (see Figure 1).

To detect item bias, Van de Vijver and Leung (2011) recommend the following procedure for measures using interval scaled (e.g., 7-point rating scale) items administered in two cultures (A and B). First, for a set of items that represent the same dimension of the concept, the composite score across all those scale items is computed for each respondent. Then, the entire sample from cultures A and B is split according to the composite score – based on percentile or quartile scores. The number of score levels is determined arbitrarily, and they may range from "very low" to "very high". The number of participants for any score level should be neither too big nor too small; the recommended sample size for any score level is 50 (Van de Vijver and Leung, 2011). Next, an analysis of variance is performed for each scale item separately. In this analysis, *score level* and *culture* are treated as the independent variables and *item* score is the dependent variable. The mean item scores of the respondents in the two cultures are plotted against the score level.
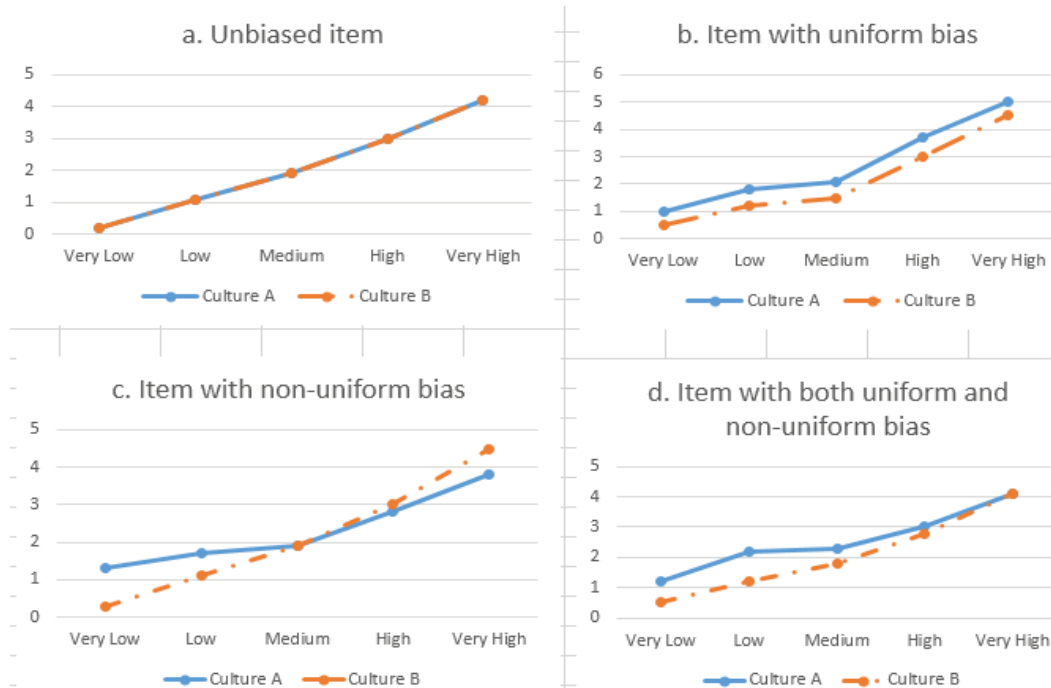

Fig. 1. Examples of biased and unbiased items

As shown in Figure 1, the items are unbiased if the curves for the two cultures are close to each other; in ANOVA, this means there is only a significant effect for score level. A *uniform bias* means that the item mean score is systematically higher or lower for one culture as compared to the other. In ANOVA, this bias can be detected when there is a significant *main effect* for culture. A *non-uniform bias* implies that the mean item score varies for various score levels, as evidenced by a *significant culture by score level interaction*. When the items show either uniform or non-uniform bias (or both), then it is futile to make cross-cultural comparisons based on composite scale scores. In this context, the question that researchers have to address is whether it makes sense (theoretically and practically) to delete those items from the scale that exhibit bias cross-nationally. In sum, to establish the etic nature of the scale and to perform cross-national mean comparisons, it is imperative to show that the scale possesses similar dimensionality, high reliability, cross-national measurement equivalence – structu-

ral, metric, and scalar – and the scale items do not exhibit any bias.

In the development of CETSCALE, Shimp and Sharma (1987) found the scale to have uni-dimensional factor structure and high reliability. Netemeyer, Durvasula and Lichtenstein (1991) established the scale's cross-national applicability based on data collected from larger nations: Germany, Japan, France, and the USA. They used an imposed etic in viewing the construct and scale as universal, but their study did show the scale's factor structure to be similar to the one conceptualized by Shimp and Sharma (1987). Subsequently, other studies validated the uni-dimensional nature of the scale in Russia (Durvasula, Andrews, and Netemeyer, 1997), Korea (Sharma, Shimp and Shin, 1995), Azerbaijan (Kaynak and Kara, 1996), and Spain (Luque-Martinez, Ibanez-Zapata, and del Barrio-Garcia, 2000). Contrarily, other studies have begun to question the scale's dimensionality (Supphellen and Rittenburg, 2001; Vida and Damjan, 2001). For example, Douglas and Nijssen (2003) found the scale to have two dimensions while Marcoux, Filiatrault, and Cheron (1997) found the scale to have three. Mavando and Tan (1999) even suggested that consumer ethnocentrism represents a higher-order dimension consisting of three first-order dimensions, which they labeled as morality, economic rationality, and economic animosity. Such divergent findings are problematic concerning etic assumptions of the scale. Given that there is no conclusive evidence one way or the other about the etic nature of the CETSCALE, we re-examine its cross-cultural applicability. We propose the following research questions regarding the etic quality of the CETSCALE. Failure to validate each question presents a red flag concerning the use of the scale in other countries.

4. Research questions

RQ1: As proposed by Shimp and Sharma (1987), is the CETSCALE uni-dimensional with high reliabilities for both Singapore and New Zealand?

RQ2: Does the CETSCALE have structural equivalence for both Singapore and New Zealand?

RQ3: Does the CETSCALE have metric (or measurement unit) equivalence for both Singapore and New Zealand?

RQ4: Does the CETSCALE have scalar equivalence for both Singapore and New Zealand?

RQ5: Do individual items of the CETSCALE exhibit non-differential functioning for both Singapore and New Zealand?

5. Method

Data was collected in New Zealand and Singapore. Both countries are economically developed, have a large middle class population with considerable purchasing power, and host competing multinational corporations. Differences do exist between them. Singapore, a small city-state, depends heavily on foreign trade since it has few domestic manufacturers of consumer goods. New Zealand's inhabitants are also largely Anglo unlike Singapore's multi-cultural population. As such, Singaporean consumers are less likely to be threatened by imports resulting in different ethnocentric tendencies compared to New Zealanders. The choice of these two countries allows investigation of Douglas and Nijssen's (2003) caveats regarding consumer ethnocentrism's universality.

The sample consisted of 127 young consumers in New Zealand and 145 in Singapore. To make cross-national comparisons possible, we matched sample demographics in the two countries in terms of educational background, age, and gender composition. The survey (written in English) consisted of the 17-item CETSCALE and other validation measures. Table 1 shows the alternative scale versions that we analyzed. Responses to individual scale items ranged from 1 (strongly disagree) to 7 (strongly agree). The results below are presented in a hierarchical order starting with the most rudimentary analyses proceeding to the most complex ones.

Table 1. Factor models of CETSCALE examined in this study

Model	Items (selected from the original scale as shown above)
17 – Item scale	
1-factor model (Shimp and Sharma, 1987)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17
Hierarchical (2nd order) model (Mavado & Tan, 1999) Factor 1 Factor 2 Factor 3 2nd order factor	5, 6, 11, 14, 17 (label: Morality) 1, 2, 3, 4, 7, 8, 9 (label: Economic rationality) 10, 12, 13, 15, 16 (label: Economic animosity) Related to the three first order factors
Bi-factor model	3 first order factors as in Mavado & Tan (1999) and one general factor for all items
10-item reduced scale	
1-factor model (Shimp and Sharma, 1987)	2, 4, 5, 6, 7, 8, 11, 13, 16, 17

Table 1 (cont.). Factor models of CETSCALE examined in this study

Model	Items (selected from the original scale as shown above)
2-Factor model (Douglas & Nijssen 2003) Factor 1 Factor 2	4, 5, 6, 7, 8, 11, 13, 17 (general ethnocentrism) 2, 16 (nuanced attitude towards imports)
Bi-factor model	2-factor model as above with one general factor for all items
6-item reduced scale	
1-factor model (Douglas & Nijssen, 1999)	4, 5, 6, 7, 8, 11
1-factor model (Klein, Ettenson & Krishnan, 06)	2, 4, 7, 11, 13, 17

Note: Shimp and Sharma (1987) provide the complete description of the 17-item CETSCALE; we presented the scale in the same order as they appeared in the original study.

6. Results

6.1. National level EFA of 17-item scale. Analysis of the 17-item CETSCALE revealed three factors in Singapore and two in New Zealand with the first factor explaining over 50% of the variance for both samples. All items exhibited high loadings (above 0.4) on the first factor while showing inconsistent loadings on the remaining factors. Hence, the scale appears to be uni-dimensional.

6.2. National CFA of the 17-item scale. To establish additional support for scale dimensionality, we performed CFA; Bagozzi and Yi (2012) described this technique as a "second generation" one that is superior to "first generation" techniques such as EFA. Table 2 presents results of CFA analysis of the one-factor model. The model fit is deemed reasonably good if SRMR (standardized root-mean-square residual) is close to or below .08 and CFI (comparative fit index), TLI (Tucker-Lewis Index), and IFI (incremental fit index) are close to or above 0.95 (Brown, 2006). For acceptable model fit, CFI and TLI values must be between 0.90 and 0.95 (Bentler, 1990). Based on these yardsticks, the one-factor model exhibits a reasonably good fit for both nations. All items also have reasonably high factor loadings (above 0.4).

Table 2. Analysis of the 17-item scale

Model	Fit statistic	New Zealand	Singapore
1-factor model	χ^2 (df)	317.15 (119)	274.31 (119)
	CFI	0.95	0.95
	TLI	0.95	0.94
	IFI	0.95	0.95
	SRMR	0.07	0.07
	Item Loadings	0.52-0.83	0.50-0.85
Second order model (Mavado & Tan, 1999)	χ^2 (df)	285.07 (116)	234.46 (116)
	CFI	0.96	0.96
	TLI	0.95	0.96
	IFI	0.95	0.96
	SRMR	0.07	0.07
	Item loadings (Fac 1)	0.59-0.84	0.57-0.83
	Item loadings (Fac 2)	0.59-0.84	0.53-0.84
	Item loadings (Fac 3)	0.51-0.82	0.61-0.85
	γ_1	1	1
	γ_2	0.92	0.88
	γ_3	0.95	0.95
Bi-factor model	χ^2 (df)	227.10 (104)	195.80 (104)
	CFI	0.97	0.97
	TLI	0.96	0.96
	IFI	0.96	0.97
	SRMR	0.06	0.06
	Item loadings (Fac 1)	0.04-0.39	0.05-0.62
	Item loadings (Fac 2)	0.11-0.55	0.05-0.56
	Item loadings (Fac 3)	0.03-0.55	0.09-0.56
	Item loadings (Gen Fac)	0.48-0.84	0.54-0.87

Does the hierarchical three factor model suggested by Mavado and Tan (1999) offer a better fit to the data? The χ^2 difference test reveals a better fit (vs. the one-factor model). However, given the sensitivity of χ^2 to sample size, Marsh (1994) suggested that alternative fit indices (e.g., CFI, TLI, SRMR) also be considered when comparing fit of alternative models. Table 2 shows that CFI and TLI for the hierarchical model are only marginally better than those for the one-factor model. SRMR remains unchanged. The path estimates from the second-order factor to the three first-order factors (γ_1, γ_2, γ_3) in Table 2 are very high and close to one. Collectively, these results mean that the three first order factors in the hierarchical model are highly correlated and indistinguishable from one another. Hence, the original one-factor model has better support than the alternative hierarchical model. The one-factor model is also more parsimonious and easier to interpret.

Next, we examined a bi-factor model. The bi-factor model retains the three first-order factors but adds a general factor that is related to all 17 items. Similar to the hierarchical factor model, this model too provides a better fit (vs. 1-factor model) based on the χ^2 difference test, but, like the hierarchical model, it too is indistinguishable from the 1-factor model based on CFI, TLI, and SRMR. In short, the one-factor 17-item scale provides a reasonably good fit and is preferred over other configurations because of its parsimony.

6.3. National level CFA of the 10-item and 6-item scales. Shimp and Sharma (1987) developed a reduced version of the CETSCALE with 10 items versus 17 for the full scale. Subsequently, others proposed shorter versions with 6 items (Nijssen, Douglas and Bressers, 1999; Klein, Ettenson and Krishnan, 2006). CFA analyses support the fit of the uni-dimensional model over its rivals for both the 10-item and 6-item scales. The composite reliability indices are also high in both New Zealand and Singapore. For the sake of brevity those analyses are not presented in this paper.

Conclusion to RQ1: The CETSCALE is uni-dimensional and possesses high reliabilities.

The results presented below examine the measurement equivalence of the 17-item uni-dimensional CETSCALE based on multiple group CFA.

6.4. Testing measurement equivalence of the 17-item scale. The high (above 0.4) and significant factor loadings and acceptable fit indices (CFI = 0.95, TLI = 0.95, IFI = 0.95) support invariant factor structure in the two samples.

Conclusion to RQ2: The CETSCALE has structural equivalence for both Singapore and New Zealand.

Next, we compared the structural invariance model to the metric invariance model. While the sample size sensitive chi-square difference test shows significant fit difference (χ^2 difference = 37.77, 16 df., $p < 0.05$), the values of CFI (0.95), TLI (0.95), and IFI (0.95) (which are the other fit indices recommended by researchers in such scenarios) are stable and acceptable. Also, the Tucker's Phi index for the one-factor model of 0.995 is well above the recommended level of 0.95 for invariance of factor loadings between the two samples.

Conclusion to RQ3: The CETSCALE does have metric (or measurement unit) equivalence for both Singapore and New Zealand.

In our next analysis, we compared the fit of the metric invariance model with the scalar invariance model (equal loadings and intercepts). The fit indices of this model (CFI, TLI and IFI) are all 0.95 and remained unchanged vs. those of the metric invariance model.

Conclusion to RQ4: The CETSCALE does have scalar equivalence for both Singapore and New Zealand.

Item analysis is the last step. We followed the procedure as described earlier in this manuscript and divided all respondents, irrespective of their country, into "high" (top 1/3 percentile), "medium" (middle 1/3 percentile), and "low" (bottom 1/3 percentile) *score level* groups based on each subject's composite CETSCALE score.

With *score level* and *country* as the independent variables and *item* as the dependent variable, we then performed 17 different analyses of variance, with one ANOVA per each scale item. The results of particular interest are the *main effect of country and the interaction between country and score level*. The main effect is significant for scale items 1 and 3, suggesting a possible uniform item bias for those two items only. The interaction effect is significant only for scale item 5, suggesting a possible non-uniform item bias. However, van de Vijver, Valchev, and Suanet (2009) suggest that an item is biased only if the proportion of variance accounted for by the main effect of country and the interaction effect of score level and country is at least 0.06. In our case, the effect size estimates are less than 0.06. Therfore, we conclude that there is no differential item functioning for any of the CETSCALE items.

Conclusion for RQ5: Individual items of the CETSCALE do exhibit non-differential functioning for Singapore and New Zealand.

Discussion and implications

The inexorable pace of globalization has led to significant interest in cross-national research, particularly in the field of consumer behavior. The typical research practice is to borrow measurement scales from countries (generally the USA) where the construct was developed and apply them cross-nationally to detect consumer differences. Unfortunately, use of these "borrowed" scales may be flawed without previous rigorous cross-national tests. These tests must examine etic issues looking at the concept's universal understanding and emic issues relating to the concept being understood only by one culture. Moreover, the measure of the concept must exhibit cross-culturally invariant psychometric properties.

For cross-national use of the CETSCALE measure, the lack of consensus on scale dimensionality hinders its psychometric credibility in making mean comparisons. Douglas and Nijssen (2003) presented a compelling argument that consumer ethnocentrism may be understood differently in smaller countries that are dependent on imports given the absence of domestic manufacturers. In sum, they are contesting: the scale's dimensionality, the premise that the ethnocentrism concept is understood universally by consumers, and if the concept and scale function similarly in so-called "smaller" countries.

Our study represents a systematic procedure to validate the cross-cultural validity of the consumer ethnocentrism construct and its CETSCALE scale. We chose this construct for our investigation of emic and etic issues since it is well established in the literature as demonstrated by its popularity. Indeed, the CETSCALE has been cited well over 1000 times since it was introduced in 1987. In our study of New Zealand – a commodity and agrarian based economy and Singapore – a trading country that has a growing services-oriented economy, the initial qualitative findings show that the consumer ethnocentrism concept was understood by consumers in both nations; hence qualitatively speaking, the concept passed the etic test regarding its conceptual understanding by consumers. The quantitative results answered all the research questions in a positive way, providing etic validity psychometrically. We found the CETSCALE to possess the following: uni-dimensionality with high reliabilities, structural equivalence, metric (or measurement unit) equivalence, scalar equivalence and individual items exhibiting non-differential functioning. These results collectively demonstrate that the CETSCALE is not narrowly relevant to just North America as it would be if it were an emic concept. Instead, it has an etic quality that allows it be used in cross-cultural studies with confidence.

Our findings offer several implications for researchers exploring consumer ethnocentrism in other cultures. Our central argument is that cross-cultural research needs to examine the emic and etic qualities of a construct and scale. This admonition is given strong credence by Henrich, Heine and Norenzayan (2010) who urge researchers to establish the construct's meaning in another culture before concluding that it is universal to human behavior. Several theorists have asserted that neither the etic nor emic perspectives are sufficient when used singularly (Segall et al., 1990; Herche, Swenson and Verbeke, 1996); instead, both must be investigated. Transferring instruments from one culture to another without exploring these properties may produce spurious cross-cultural conclusions. If cultures are deemed to be similar with similar consumer mindsets, the instruments or scales may be used across cultures with some degree of confidence in the findings. In essence, this assumption is pure etic since it is believed that the cultures are comparable. But if this assumption cannot be made, etic and emic analyses are essential. While we may assume that New Zealand and Singapore are similar to the USA regarding the ethnocentrism concept given their development, etic vs. emic analyses provide proof of this assumption.

Prudent verification of etic and emic seems necessary for other consumer behavior constructs and their measures prior to cross-cultural comparisons. Admittedly, verifying these properties seems a burden; yet in the absence of such diagnostic work, cross-cultural findings may be tenuous or patently incorrect. For example, the consumer decision-making styles instrument has been used in numerous cross-cultural studies, but there has been no investigation of the emic vs. etic considerations of the construct or the scale. Theory development and validation of cultural impacts of these psychological constructs is hindered if etic and emic analyses are not conducted. In sum, cross-cultural research that operates on the premise that scales developed in North America can be applied universally to other countries is fraught with serious shortcomings. If these concepts and scales are to be used to "unlock the mindsets" of consumers in other countries, preliminary etic and emic considerations cannot be overlooked. Cross-cultural researchers are encouraged to be on guard.

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