

Measuring Consumer Xenocentrism: A Comparative Analysis of Four Multi-Item Scales

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Abstract

Contributing to the emerging literature on consumer xenocentrism (CX), we systematically compare the theoretical foundations and psychometric properties of four CX scales: CXENO (Lawrence, 2012), C-XENCALE (Balabanis and Diamantopoulos, 2016), XEN (Cleveland and Balakrishnan, 2019), and X-Scale (Rojas-Méndez and Chapa, 2020). Our results, based on a survey of Brazilian consumers (N=400), reveal that CXENO and C-XENSCALE are the most psychometrically robust scales, with the latter also possessing stronger theoretical grounding. The other two scales (XEN and X-Scale) exhibit theoretical and/or psychometric weaknesses and should thus be used with caution in substantive research endeavors.

Keywords: *Consumer xenocentrism, measurement, psychometrics*

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1. Introduction

In the past ten years, there has been increasing research attention to the construct of *consumer xenocentrism* (CX) which seeks to explain “why consumers prefer foreign products even when domestic products are qualitatively and/or functionally similar or better” (Mueller et al., 2016, p.74). In addition to conceptual discussions of the similarities and differences of CX to other consumer dispositions such as ethnocentrism, cosmopolitanism, and xenophilia (e.g., Bartsch et al., 2016; Papadopoulos et al., 2018; Riefler, 2017), several empirical studies have sought to investigate the antecedents and consequences of CX as well as its role as a mediator or moderator variable (for a systematic review of CX research see Vardarsuyu et al., 2025). Importantly, such studies have often been based on different measures of CX thus adversely affecting the comparability of research findings and the generalizability of the conclusions drawn. Furthermore, to date, there has been no effort to compare the different CX scales in terms of theoretical underpinnings, psychometric properties, and ability to explain domestic and foreign product preferences. As Vardarsuyu et al. (2025, p.925) observe, “a systematic comparative study of the different scales ... would help establish their relative explanatory power in relation to managerially important outcomes ... Such a study would also offer evidence on other psychometric properties of the compared scales such their dimensional stability, internal consistency, and cross-national invariance”.

In this paper, we respond to this research call by carrying out a comparative analysis of four multi-item CX scales, namely those by Lawrence (2012), Balabanis and Diamantopoulos (2016), Cleveland and Balakrishnan (2019), and Rojas- Méndez and Chapa (2020).¹ Our analysis covers five key areas, namely (1) construct definition and content validity, (2) dimensionality, (3) reliability, (3) convergent and discriminant validity, and (5) predictive validity. Based on this analysis, we then offer some guidelines regarding scale choice when operationalizing the CX construct.

2. Data

A total of 400 Brazilian consumers (48.2% female, $M_{age} = 36.85$ ($SD = 11.67$)) participated in an online self-administered survey via Qualtrics. The questionnaire was first designed in English and then uploaded in Portuguese after back-translation procedures (Behling & Law,

¹ Note that one dimension of the Cleveland and Balakrishnan (2019) measure is the scale by Prince et al. (2016).

2000). Respondents were randomly exposed to one of two versions of an advertisement for a fictitious sneaker brand originating either in Brazil (domestic country) or USA (foreign country). The two ads were identical, differing only in the stated country of origin (COO) of the brand. The ads also contained information on other product attributes so as not to unduly sensitize consumers to the COO (Samiee and Leonidou, 2011).

A fictitious brand name (“D2R”) was selected to eliminate potential confounds related to brand equity and familiarity (Dimofte, Johansson, and Ronkainen, 2008). Shoes were chosen as the focal product category due to its social signaling value and consumption visibility; both domestic and foreign (including American) are widely available in the Brazilian market.

Following ad exposure, participants reported their brand attitude (Spears and Singh, 2004, $\alpha = 0.89$) and indicated their purchase probability on a slider scale (0%-100%; Juster, 1966). Next, they answered questions on product involvement (Mittal and Lee, 1988, $\alpha = 0.86$) and completed the four CX scales as well as the short (5-item) consumer ethnocentrism scale (CETSCALE – Verlegh, 2007, $\alpha = 0.89$). Standard demographic data were also obtained (gender, age, education, income).

3. Construct Definition and Content Validity

Kent and Burnight (1951, p. 256) described xenocentrism as “a view of things in which a group other than one's own is the center of everything, and all others, including one's own group, are scaled and rated with reference to it”. In a marketing context, xenocentric consumers are individuals who tend to evaluate domestic products/brands as inferior compared to those of other countries, often idealizing foreign alternatives, and perceiving them as more desirable, advanced, or prestigious. Over time, several definitions of CX have emerged, and different scales have been developed to measure the construct, varying in their conceptual foundations, dimensional structures, and item content (Table 1).

Table 1 - Overview of Consumer Xenocentrism Scales

Scale	Construct definition	Theoretical basis	Dimensionality/Items	Country
CXENO (Lawrence, 2012)	“An individual’s preference for the products or services of a society other than their own. A propensity to rate and scale all products and services in reference to this foreign	Not explicitly anchored on a specific theory; conceptually rooted in the general xenocentrism	Unidimensional 6 items	USA

	society and not their own” (p.18).	concept (Kent and Burnight, 1951).		
C-XENSCALE (Balabanis and Diamantopoulos, 2016)	“A consumer’s internalized belief of the inferiority of domestic products and a corresponding propensity to prefer foreign products for social aggrandizement purposes” (p.61).	System justification theory (Jost and Banaji (1994)	Second-order, two-dimensional: (1) <i>Perceived Inferiority</i> – 5 items (2) <i>Social Aggrandizement</i> – 5 items	Greece
XEN (Cleveland, and Balakrishnan 2019)	“Refers to the admiration or preference of a specific cultural outgroup or outgroups over the cultural ingroup to which one belongs” (p. 717)	Social identity theory (Tajfel, 1974)	First-order, three-dimensional: (1) <i>Group comparison</i> – 4 items (2) <i>Group identification</i> – 3 items (3) <i>Consumption bias</i> – 3 items	Canada/USA
X-Scale (Rojas-Mendez and Chapa, 2020)	“Refers to a consumers’ preference for imported products, rejecting one’s domestic goods, based on the perception that foreign products are superior to homemade products (e.g. Kent and Burnight, 1951; Stier, 2010).” (p.354).	Not explicitly anchored on a specific theory; social comparison theory (Festinger, 1954) and system justification theory (Jost and Banaji (1994) are mentioned.	First-order, two-dimensional: (1) <i>Foreign admiration</i> – 5 items (2) <i>Domestic rejection</i> – 5 items	Mexico

Inspecting the items that comprise the CX scales against the corresponding theoretical definitions in Table 1, raises several content validity concerns. Specifically, the items comprising CXENO reference multiple foreign countries and products, whereas Lawrence’s (2012) definition implies preference for a single (albeit unspecified) foreign country. Similarly, Rojas-Méndez and Chapa (2020) draw on Kent and Burnight’s (1951) sociological definition, but their X-Scale dimensions and items do not reflect this definition. Cleveland and Balakrishnan (2019) explicitly conceptualize xenocentrism as a *general* (i.e., not consumer-focused) orientation, but the third dimension of XEN (*Consumption Bias*) is clearly consumption-specific; notably, the items of this dimension were borrowed from Prince et al. (2016), who simply reversed Shimp and Sharma’s (1987) CETSCALE; Shimp and Sharma, (1987). Overall, the C-XENSCALE scale shows the strongest content validity, as both its dimensions and its items were purposely designed to reflect system justification theory.

4. Dimensionality

4.1. Exploratory Factor Analysis (EFA)

Following Netemeyer et al. (2003), an EFA using principal axis factoring with oblique rotation was performed, given that dimensions of CX were expected to be correlated. A single-factor solution (explaining 72.1% of the variance in the items) was obtained for CXENO, confirming its unidimensional structure. Also consistent with expectations, the C-XENSCALE scale produced a two-dimensional structure (explaining 62.7% of the variance) – *Perceived Inferiority* and *Social Aggrandizement* – with all items loading on their original dimensions. Similarly, the X-Scale revealed two dimensions—*Foreign Admiration* and *Domestic Rejection*—accounting for 58.2% of the variance but with one item loaded on both factors (with both loadings below 0.50). Finally, the XEN scale produced a three-factor structure – *Group Comparison* (GC), *Group Identification* (GI), and *Consumption Bias* (CB) – and explained 54% of the variance. However, two items did not align with their original dimensions (i.e., loaded on the “wrong” factor) and a further item loaded separately as a single-item factor.

In summary, CXENO and C-XENSCALE demonstrate the highest factorial consistency with their proposed theoretical structures.

4.2. Confirmatory Factor Analysis (CFA)

Following the specifications used by the original scale developers, CXENO was specified as a first-order unidimensional measurement model; the C-XENSCALE was specified as a second-order factor model, with its two hypothesized dimensions as first-order factors; and the XEN and X-Scale scales were specified as first-order models with correlated factors corresponding to their respective dimensions.

Overall, the CFA results were in line with those observed in the EFA. The CXENO scale was confirmed as a first-order unidimensional structure, with high item loadings and fit indices well above recommended thresholds ($\chi^2 = 45.9$ df = 9; CFI = 0.98; TLI = 0.97; SRMR = 0.02; RMSEA = 0.01). Similarly, the C-XENSCALE demonstrated very good fit as a second-order model ($\chi^2 = 93.7$ df = 34; CFI = 0.98; TLI = 0.97; SRMR = 0.03; RMSEA = 0.07), with high item loadings and significant paths from the higher-order factor to the first-order factors, *Perceived Inferiority* ($\beta = 0.92$, $p < 0.001$) and *Social Aggrandizement* ($\beta = 0.90$, $p < 0.001$).

The X-Scale confirmed its two highly correlated dimensions – *Foreign Admiration* and *Domestic Rejection* ($r = 0.84, p < 0.001$) – with high item loadings but somewhat marginal fit ($\chi^2 = 165.5$ df = 34; CFI = 0.94; TLI = 0.92; SRMR = 0.05; RMSEA = 0.10). In contrast, measurement model for XEN resulted in poor fit ($\chi^2 = 489.19$ df = 33; CFI = 0.70; TLI = 0.59; SRMR = 0.23; RMSEA = 0.19) and weak factor loading (0.42) for one item. Furthermore, while the *Group Comparison* (GC) and *Group Identification* (GI) dimensions were highly correlated ($r = 0.88, p < 0.05$), *Consumption Bias* (CB) showed only a moderate correlation with GC ($r = 0.33, p < 0.001$) and was almost not related to GI ($r = 0.04, p > 0.05$). As also noted by Vardarsuyu et al. (2025), it is thus questionable whether *Consumption Bias* should be part of XEN.

In summary, the CFA results favor CXENO and C-XENSCALE in terms of dimensional stability/coherence.

5. Reliability

To evaluate the internal consistency of the four CX scales, we initially calculated Cronbach's alpha (α) coefficients. The latter exceeded the recommended 0.70 threshold in all cases thus indicating satisfactory reliability: CXENO ($\alpha = 0.94$), C-XENSCALE ($\alpha = 0.92$ - *Perceived Inferiority*: $\alpha = 0.91$, *Social Aggrandizement*: $\alpha = 0.87$), X-Scale ($\alpha = 0.91$ - *Foreign Admiration*: $\alpha = 0.90$, *Domestic Rejection*: $\alpha = 0.82$) and XEN ($\alpha = 0.87$ - *Group Identification*: $\alpha = 0.67$, *Group Comparison*: $\alpha = 0.78$, *Consumption Bias*: CR = 0.66).

We next assessed composite reliability (CR). CXENO (CR = 0.94), C-XENSCALE (*Perceived Inferiority*: CR = 0.91, *Social Aggrandizement*: CR = 0.87) and the X-Scale (*Foreign Admiration*: CR = 0.90, *Domestic Rejection*: CR = 0.82) all produced values well-above the recommended 0.70 threshold. XEN showed somewhat weaker reliability across its dimensions (*Group Identification*: CR = 0.69, *Group Comparison*: CR = 0.77, *Consumption Bias*: CR = 0.63).

6. Convergent and Discriminant Validity

6.1. Convergent validity

We first examined within-scale convergent validity through the average variance extracted (AVE) values obtained in the CFAs (see Section 4.2). CXENO (AVE = 0.72), C-XENSCALE (*Perceived Inferiority*: AVE = 0.66, *Social Aggrandizement*: AVE = 0.58) and the X-Scale

(*Foreign Admiration*: AVE = 0.64, *Domestic Rejection*: AVE = 0.47) displayed acceptable values with only one dimension of the X-Scale falling marginally below the recommended threshold (>0.50). In contrast, none of the dimensions of XEN met minimum standards (*Group Identification*: AVE = 0.43, *Group Comparison*: AVE = 0.45, *Consumption Bias*: AVE = 0.37).

We next examined between-scale convergent validity by correlating the four CX scales. As expected, and shown in Table 2, all resulting correlations were positive; XEN displayed the lowest correlations with the other scales, reinforcing its distinct conceptual orientation. Note that the correlations in Table 2 also highlight discriminant validity between the scales, since the 95% confidence intervals of the relevant coefficients (not shown in Table 2) do not include 1.

Table 2 – Correlations Between Consumer Xenocentrism Scales

Scale	CXENO	C-XENSACLE	XEN	X-Scale
CXENO	1			
C-XENSACLE	0.72***	1		
XEN	0.71***	0.81***	1	
X-Scale	0.46***	0.60***	0.57***	1

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

6.2.Discriminant validity

We used Fornell and Larcker's (1981) criterion to check the discriminant validity of the dimensions of the three multidimensional scales (C-XENSACLE, X-scale, XEN). Discriminant validity was confirmed only for the C-XENSACLE, as this was the only scale that the square roots of the AVEs exceeded inter-factor correlations (see Table 3).

Table 3 – Discriminant Validity

Scale	Square root of AVE	Correlation between the constructs
C-XENSACLE	Sqrt-AVE _{PERCEIVED-INFERIORITY(PI)} = 0.81 Sqrt-AVE _{SOCIAL-AGGRANDIZEMENT(SA)} = 0.76	$r_{PI-SA} = 0.73$
XEN	Sqrt-AVE _{GROUP-COMPARISON(GC)} = 0.67 Sqrt-AVE _{GROUP-IDENTIFICATION(GI)} = 0.65 Sqrt-AVE _{CONSUMPTION-BIAS(CB)} = 0.61	$r_{GC-GI} = 0.88$ $r_{GC-CB} = 0.33$ $r_{GI-CB} = 0.04$ <i>ns</i>
X-Scale	Sqrt-AVE _{FOREIGN-ADMIRATION(FA)} = 0.80 Sqrt-AVE _{DOMESTIC-REJECTION(DR)} = 0.69	$r_{FA-DR} = 0.84$

To further examine discriminant validity, we correlated the four scales with the CETSCALE to rule out that they might capture “reverse ethnocentrism” (Balabanis and Diamantopoulos, 2016). As Table 4 shows, the latter correlated negatively and significantly

with CXENO and X-Scale and was uncorrelated with C-XENSCALE and XEN. These results confirm that CX and consumer ethnocentrism are distinct constructs, rather than opposite ends of the same continuum.

Table 3 – Correlations Between Consumer Xenocentrism Scales and CET Scale

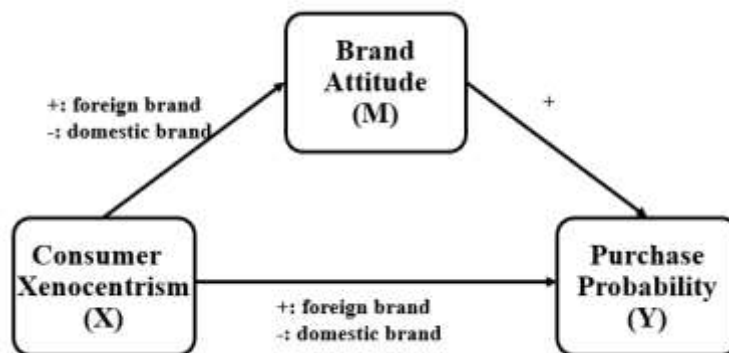
Scale	CXENO	C-XENSCALE	XEN	X-Scale
CETSCALE	-0.25***	-0.06 ns	-0.212***	0.03 ns

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, ns = non-significant

7. Predictive Validity

We assessed predictive validity by focusing on two widely used outcomes in CX research, namely brand attitudes and purchase intentions (Vardarsuyu et al., 2025). Specifically, and drawing from Diamantopoulos et al. (2019), we specified a model with each CX scale as the independent variable (X), brand attitude as mediator (M), and purchase probability as the dependent variable (Y); gender, age, income, and product category involvement were added as control variables. This specification corresponds to Model 4 in the PROCESS routine (Hayes, 2022) and is shown in Figure 1. For each CX scale, we estimated two model versions, one with the purchase probability of the domestic brand as the dependent variable and one with the purchase probability of the foreign brand as the dependent variable.

Figure 1 – Predictive Validity Model



For CXENO, the model accounted for 50.4% of the variance in purchase probability of the domestic brand and 45.6% for the foreign brand. For the domestic brand, higher CXENO scores reduced brand attitude ($\beta = -0.17$, $p < 0.001$) and indirectly decreased purchase probability ($\beta = -2.12$, $p < 0.001$, 95% CI [-3.64, -0.94]); the direct effect was not significant. For the foreign brand, CXENO produced both a positive indirect effect via brand attitude (β

=1.12, $p < 0.001$, 95% CI [0.20, 2.37]) and a positive direct effect ($\beta = 2.59$, $p < 0.01$, 95% CI [1.32, 4.00]) indicating complementary mediation (Zhao et al, 2010).

The C-XENSCALE yielded similar patterns, respectively explaining 50.1% and 43.5% of the variance in purchase probability of the domestic and foreign brand. High C-XENSCALE scores reduced domestic brand attitude ($\beta = -0.11$, $p < 0.05$) and indirectly lowered purchase probability ($\beta = -1.51$, $p < 0.05$, 95% CI [-3.16, -0.31]); the direct effect was not significant. For the foreign brand, only a direct positive effect on purchase probability was observed ($\beta = 1.77$, $p < 0.05$ ($\beta = 1.77$, $p < 0.05$, CI [0.15, 3.51])); the path from C-XENSCALE to brand attitude was not significant, indicating no mediation.

Explanatory power was comparable for the X-Scale too (50% for the domestic brand and 43.6% for the foreign brand). The results revealed an indirect negative effect on domestic brand purchase probability through weaker brand attitudes ($\beta = -2.07$, 95% CI [-3.91, -0.72]) and a direct positive effect on foreign brand purchase probability ($\beta = 2.06$, $p < 0.05$).

Finally, the XEN scale (Cleveland et al., 2019) showed $R^2 = 0.502$ (domestic) and $R^2 = 0.427$ (foreign). However, neither the direct nor indirect paths of XEN were significant. Thus, the XEN scale failed to predict brand attitudes or purchase probabilities, providing no evidence of predictive validity.

In summary, apart from XEN, all other CX scales demonstrate predictive validity with none being materially superior to the others.

8. Final remarks

Our comparative analysis reveals that the CXENO (Lawrence, 2012) and C-XENSCALE (Balabanis and Diamantopoulos, 2016) scales possess the most robust psychometric properties in terms of dimensionality, internal consistency, and predictive validity. However, while CXENO is not explicitly based on a specific theory, the C-XENSCALE is theoretically grounded in system justification theory and displays consistency between the conceptual specification of the CX construct and its operationalization (see Table 1 earlier). The X-Scale (Rojas-Méndez & Chapa, 2020) shows reasonable psychometric performance, however item-level inconsistencies and model fit problems suggest that some further refinement may be needed; its major shortcoming, however, is the lack of a clear theoretical foundation. Finally, the XEN scale (Cleveland & Balakrishnan, 2019) reveals notable weaknesses (e.g. poor measurement model fit, low convergent validity, and lack of predictive power), implying that a re-examination of the dimensional structure and item content of the scale is in order.

Given that our study is the first formal attempt at comparing CX scales, our findings are suggestive rather than conclusive and in need of further research. In addition to replication efforts in different countries and with different brands/product categories as stimuli, future studies should contrast the cross-national invariance/stability of different CX scales, expand the range of outcomes used for predictive validity assessment (e.g., brand loyalty, word-of-mouth, willingness-to-pay), and examine other aspects of reliability (notably test-retest reliability) and validity (e.g., known-groups validity).

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