

Discovering a Cultural System Using Consumer Ethnocentrism Theory

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Abstract Culture and consumer behavior are systems worthy of research and exploration. Consumer behavior is an element of a multifaceted system of supply and demand; with stakeholders engaged to varying degrees within the dynamics of the system. The systemic practices of the stakeholders of a particular system can be varied; in this research, the CETSCALE developed by Shimp and Sharma *J Mark Res* 24:280–289 (1987) was modified to test Wisconsin residents' loyalty to local vs. imported beer. The research showed not only ethnocentric tendencies of the study participants, but also their cultural behavior as part of the system for these products in Wisconsin, USA. This manuscript is inspired by Orth and Firasová *Agribusiness* 19(2):137–153 (2003), *The Role of Consumer Ethnocentrism in Food Product Evaluation*.

Keywords Ethnocentrism · Consumer ethnocentrism · Craft brewery industry · Microbrewery industry · Craft beer systems · Wisconsin

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Introduction

The system of a culture can influence a region's norms and consumer preferences. In this research, the CETSCALE developed by Shimp and Sharma (1987), and refined by Orth and Firtbasová (2003) was adapted to test Wisconsin residents' loyalty to local vs. imported beer. The area's cultural system of regional loyalty and pride for and of local products was put to the test. The research shows not only ethnocentric tendencies of the study participants, but also their cultural behavior as part of the system for these products. Systems research within industry-specific cultures and in consumer behavior provides rich opportunities to understand the deep implications of overall business operations. Consumer behavior is an element of a multifaceted system of supply and demand; with stakeholders engaged to varying degrees within the dynamics of the system.

Sociological Foundation of Wisconsin Craft Breweries and Consumers

Wisconsin is rich in history, culture, and heritage shaping the lives of people who carry on these traditions today. Many immigrants were drawn to Wisconsin in the mid to late 1800s to escape the economic and social changes in Europe (Turning Points 2017). Germans were by far the most sizable population of the immigrant groups to migrate to Wisconsin looking for a better life (Turning Points 2017). Wisconsin, particularly the city of Milwaukee, was easily accessible by boat, railroad, horseback, or wagon. Because of the location, rich agriculture, farming, and job opportunity, the city of Milwaukee and surrounding communities, known as southeast region, was attractive to many immigrants (More than curds 2012).

By the 1880s, German immigrants made up 27% of the city's population and their know-how for making cheese, sausage, bratwurst, and beer was part of the growing economy (More than curds 2012). Even though German immigrants committed to ethnicization in American society (Conzen 1991), most retained many aspects of their original ethnicity, including home brewed beer. Wisconsin's German home brews were the foundations of the well-known brands Miller, Schlitz, Pabst, and Blatz (History of Beer 2014). German immigrants were influential in developing local communities throughout Wisconsin particularly in the southeast region of the state, giving rise to the local tavern, a place to develop and sell home brewed craft beer, connect with friends, and socialize with neighbors over a friendly *libation* (More than curds 2012). Today, entrepreneurs who develop new craft beers draw on many of the traditions of the German brewers of the nineteenth century.

The German culture continues to be an important part of social integration in Wisconsin, especially consumerism and tourism. Wisconsinites strongly support local ethnic food and beverage products that have become synonymous with many rooted family, social, and cultural traditions. Local meat markets found in many small and large communities still carry on the traditions of sausage making specializing in bratwurst "brats" (German), Belgian Trippe (Belgian), Potato Sausage (Irish), and Italian Sausage (Italian) (Maplewood Meats 2017; Marchant's Foods 2017; Olson's 2017). As an example, it would be socially and culturally unheard of to go to a Green Bay Packers game and tailgate without a cooler full of locally crafted beer [or beer in general], brats, cheese curds, locally smoked fish, or a favorite family recipe (Die Hard Packer Fan 2017). Wisconsinites' are passionate about food and culture, drinking beer, crafting recipes with beer ingredients such as beer dip, beer cheese soup, beer battered fish, beer brats, beer braised ribs, and even beer canned chicken. Whether at a community event, sports event, or an evening at home with family and friends, Wisconsinites

identify with and expect to see certain locally produced products, brats, cheese, and craft beer is no exception. The behaviors today continue to be rooted by sociological norms created from heritage and history.

Whether it's artisan cheese, specialty sausages, or craft brewing, Wisconsinites capitalize and find ways to be innovative and creative with ethnic traditions (Travel Wisconsin 2017a, b). Wisconsinites flock to the outdoors, come together to celebrate community events such as cranberry harvests, cheese and wine festivals, brat and beer festivals, fishing derbies, hunting, snow skiing, sports, or heritage festivals. Wisconsinites support and purchase local beer, cheese, smoked fish, and other indigenous foods and beverages that have strong ethnic and family-friendly values steeped in rich heritage and culture (Travel Wisconsin 2017a, b).

People identify with Made in Wisconsin products that anchor consumers socially, culturally, and locally (WEDC 2016). Locally-crafted beer is making a major mark throughout the Wisconsin region. Marketing efforts are often channeled through local events, community grocers, and retailers who sponsor *tastings* of locally crafted Made in Wisconsin craft beer products (WEDC 2016). Illustrating the system and culture at work in areas of the beer industry, Toro-Gonzalez et al. (2014) described consumers who enjoy craft beer and who would rather not drink than to consume mass-produced beer.

Place theory examines neolocal movements, which emphasize local culture in place of national homogeneous culture (Quintana 2016). Wisconsin craft breweries purposefully use local connections and targeted marketing strategies emphasizing local identities and distinctiveness. Quintana (2016) concluded, "Craft beer labels... reflect and elucidate a sense of place to the consumer with the hope of connecting products with places, and by proxy, the consumer culture. Understanding the commodification of place in a tangible and mobile good, allows for further understanding of how place-specific perceptions can be used to market and sell products based on emotions tied to place" (p iii). As a whole, many Wisconsin craft brewers have been using social and cultural references for place-based marketing of their beer. Use of cultural references and personal values in the process of product development humanizes or makes the product appear more relatable (Quintana 2016). Wisconsin craft brewers typically use local identity, rootedness, and place attachment to foster emotional attachments to product (Quintana 2016). Projecting authenticity of brand or product through manufacturing and labeling is important when culturally and socially embedding products (Quintana 2016).

Iconic elements are important to marketing and labeling products to evoke cultural and social identity with consumers (Dunn 2008). Wisconsin craft breweries purposefully cater to local connections through targeted marketing strategies that emphasize local identity and distinctiveness (Quintana 2016). Local connections through labeling conveyed by the brewery location and graphic elements portraying indigenous Wisconsin icons, contribute to the brand identity or humanize the brand (Quintana 2016). Iconic elements such as humans, historical figures, farming, landforms, or agricultural elements are used as descriptive images with the intent of humanizing the brand and pairing a story for textual information. These images are typically local and would not be familiar to people outside the community (Quintana 2016).

As in the nineteenth century, the rise of the small craft breweries today has tremendous potential to create more consumer choices, advance product innovation, create employment opportunities, attract tourism, and grow the economy (Carroll & Swaminathan 2000). Despite higher costs for raw materials, production, packaging, and market entry, craft breweries have found their place in growing the local economies across Wisconsin. The Brewers Association (2015a, b) determined in 2012 that the economic impact of the craft brewing industry in

Wisconsin was \$856 million (Brewers Association 2015a, b). Accounting for growth since that time, that figure is likely to have surpassed \$1 billion. Craft beer in Wisconsin can benefit from place and the neolocal movement (Quintana 2016). Quintana (2016) focused on the idea that place is used in craft beer marketing in Wisconsin. Place identity is so important to the marketing of Wisconsin craft beers that the Wisconsin Craft Beer Coalition actively advocates to protect Wisconsin craft beer industry in order to keep up with the growing demand for craft beer produced in local communities (US Senator 2015).

“Wisconsin’s brewers have been at the center of our culture and anchor of local communities since our state’s beginning” (US Senator 2015). In the US beer market where sales growth has been flat (0.5%), craft brewers’ share of sales grew by 19.4% (Brewers Association 2015a, b). In 2015, there were more than 3200 small and independent breweries in the United States, 121 in Wisconsin, and approximately 1.5 more opening every day (Brewers Association 2015a, b). Positioning craft breweries for the future, the Small BREW Act would enable Wisconsin’s craft breweries to reinvest over \$1.5 million into their businesses each year, which would facilitate additional hiring to keep pace with the growing demand for craft beer produced in local communities (US Senator 2015). Wisconsin craft breweries already attract well over a million visitors to their facilities every year and tourism dollars fueled by the growth of craft brewing may provide economic opportunities in communities all across the state of Wisconsin (US Senator 2015).

Literature Review

Systems Approach

The systems approach to analyzing business activities provides a tool to understand how they work. A systems perspective is the view of the dynamics and drivers of systems, their responses to internal and external stimuli, and pressures (Boesch et al., 2013). A systems dynamic can include the interaction of one system upon another and the changes and adaptations of those systems. The systems perspective dynamic can consider man-made systems as they interact with natural systems, such as the system jolt of a man-made or natural disaster.

Systems theory can also be part of or can help explain other theory. Romm (2013) utilized systems theory in part to explain social dominance theory, including, in part, the role of culture in theory development. Boesch et al. (2013) illuminated the vastness of the systems approach in general, including research based upon “constructivist realism and transdisciplinarity, different stakeholders participate in all stages of the research, offering not only different views on results and interpretations, but also on research design and methods” (p 235). Dominici and Palumbo (2013) in their analysis of impacts to lean Japanese production systems, addressed the socio-psychological complexity as a having an impact, writing that it “refers to the social behavior of the consumer” (p 154), with the consumer having a role in the overall business system. They used two system theories: viable system model (VSM) and viable system approach (VSA) “We integrate the VSM with the VSA, to better emphasize the relations with the suprasystems in the environment” (Dominici and Palumbo 2013 p 169).

Singh (2010) identified the fact that a society’s culture is itself a system. This can also be applied to the culture of an individual business, a business sector, or industry. Alfred and Lambert (2012) identified the system of the culture of the film industry. Both Singh (2010) and Alfred and Lambert (2012) advocated the use of action research to uncover and explore those

cultures. These cultures are often quite complex. Ottmann et al. (2011) wrote “...an ‘organic meeting of minds’ often cast in simplistic dyadic relationships obscure the fact that group and inter-organisational dynamics can be very complex” (p 415).

The use of systems theory in the food industry identifies the matrix of the supply chain and consumer influence upon the food system, as well as internal business dynamics. Prusty et al. (2014) used it to explore the shrimp industry in India, writing that their method can “explain any growth-decline-revival behavior of an industry or organization” (p 397). Kocher et al. (2011) wrote, “how systemic action research as a method can be applied on the organisational level in the private sector” (p 17). Watts (2014) examined the systems of a UK based snack-food business as perceived by managers as well as their workers. Lambert et al. (2012) used this systems approach coupled with action research to describe the implications of the 2010 BP oil spill upon the US (Gulf of Mexico) gulf shrimp industry’s supply chain and consumers.

There can also be an anti-system reaction by consumers to feel a revulsion toward anything familiar, local, or domestic while embracing unfamiliar and foreign products and concepts. Josiassen (2011) wrote, “If national tension can lead to riots and violence, it is feasible that such a disidentification with the national group also affects consumers’ willingness to purchase products produced either in their domestic country or by domestic firms” (p 124). Alden et al. (2013) referenced Riefler and Diamantopoulos (2007) writing, “Several studies have found that negative feelings associated with a given country’s political, economic, and social past reduce some consumers’ willingness to purchase products from that country” (p 19).

Validation of the CETSCALE

After Netemeyer et al. (1991) demonstrated the reliability and validity of the CETSCALE across the four countries of West Germany, France, Japan, and United States, the scale became a popular assessment of consumer sentiment and specifically CET. Research between 2010 and 2015 continued this popularity and extended use of the CETSCALE to more countries. The scale was extensively validated in the USA (Lumb and Kuperman 2012; Lambert et al. 2008; China (He and Wang 2015; Lumb and Geib 2011); Iran (Sepehr and Kaffashpoor 2012); Poland and Romania (Wolanin-Jarosz 2013); and across other countries (Durvasula et al. 1997; Hult et al. 1999; Luque-Martinez et al. 2000, Shoham and Brenčić, 2003). Researchers used demographics to explore combinations of characteristics: income, age, and gender (Josiassen et al., 2011), age and gender (Pentz et al., 2014), native language (Luthy 2007), and acculturation to the global consumer culture [AGCC] (Carpenter et al., 2013). The CETSCALE also provides valuable understandings of the influence of demographic consumer characteristics on willingness to buy.

In a comprehensive review of the consumer ethnocentrism and the CETSCALE, Shankarmahesh (2006) summarized the research on the socio-psychological, economic, political, and demographic antecedents of consumer ethnocentrism. The following mediators were identified by researchers as; perceived equity (–), empathy (+), perceived cost (–), responsibility (+), country of origin (COO) (–), and product evaluation (–). Moderators of CET explored in previous research are; perceived product necessity (–), perceived economic threat (+), and cultural similarity (–). Other key CET outcomes identified by Shankarmahesh (2006) in past research included attitude toward foreign product (–), purchase intention (–), and support for foreign product (–). Shankarmahesh (2006) developed a model of these influences on CET and on consumer outcomes (See Fig. 1).

Shankarmahesh (2006) wrote, “domestic marketing managers should take advantage of prevalent ethnocentric tendencies by promoting the ‘native’ image so international competitors can be

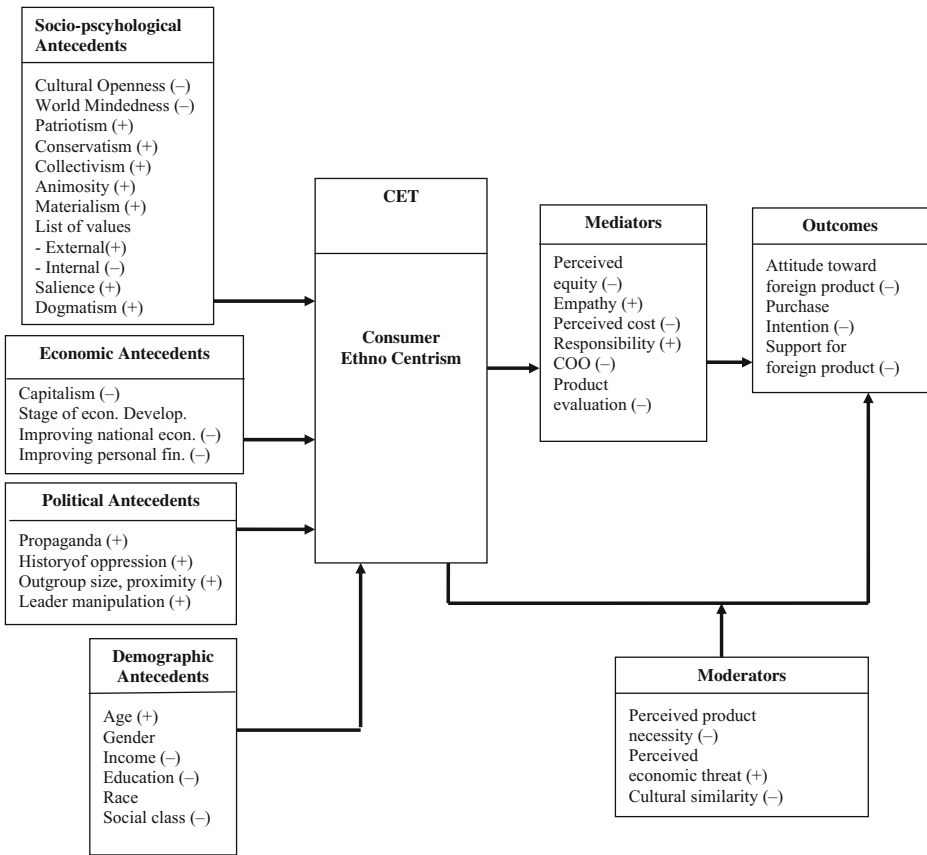


Fig. 1 CET, its antecedents and consequences (Shankarmahesh 2006 p 161)

held at bay” (p 168). Additionally, co-creation (Zwass 2010) can be seen in the many Internet and other consumer-focused events hosted by micro-breweries creating the craft beer phenomenon. These strategies are proving effective for small domestic companies like microbrewers.

This study follows a previous study using CETSCALE theory within the same sampling region of another product that demonstrates the cultural system of the area. Research by Weber et al. (2015) explored the ethnocentrism of Wisconsin cheese purchasers. They found that Wisconsin consumers exhibited consumer ethnocentric tendencies toward protecting Wisconsin cheese products (Weber et al. 2015). They further found that Wisconsin consumers’ ethnocentric opinions expressed the desire to protect national products from foreign competitors (Weber et al. 2015).

Methodology

Participants

The researchers used convenience sampling to obtain participants. Twelve students in the University of Wisconsin-Oshkosh senior level Applied Data Gathering and Analysis

Course distributed surveys to 833 adults in Wisconsin over a period of two weeks during fall semester 2015. Each student randomly selected participants to complete the survey. The WI¹ CRAFT BEER datum were collected from a sample ($n = 833$) of consumers solicited in Wisconsin by means of a secure online website (SurveyMonkey®). After data cleaning to eliminate missing data and outliers, 771 consumers remained with complete data sets.

Each student completed the Collaborative Institutional Training Initiative (CITI) training through the University prior to data collection. All students used an identical solicitation template to recruit a minimum of 30 participants electronically. Students were instructed on criteria prior to participant recruitment. Participant selection employed the following criteria; age 21 or older, resident of Wisconsin by zip code, a consumer of craft beer, and a personal email address. The instructor monitored student procedures to ensure consistent and ethical practices during the recruitment and data collection phases.

All students used a participation template to direct participants who met criteria to the SurveyMonkey® website. The participation template included the website address, access instructions, and the individual student's assigned identification (ID) number. Additionally, the ID was used to validate the number of participants who completed the survey for each student. Upon logging on to the SurveyMonkey® website, each participant received an introductory message that included the informed consent form, volunteer information, and contact information.

The instructor met with students during the participant recruitment and data collection phases to ensure procedures were followed. After the data collection phase was completed, there were no procedure irregularities or ethical practice issues by any student. At the end of the course, the instructor secured all electronic data records and student access to data was denied.

Hypotheses

The aim of this study is to advance literature of consumer ethnocentrism by understanding consumer purchase behavior of craft beer. The researchers of the Wisconsin craft beer study investigated how local ethnocentrism influences consumer attitudes to not purchase craft beer produced outside of Wisconsin (β_1); how consumer ethnocentrism influences on purchasing craft beer from Wisconsin (β_2); and, finally, Wisconsin consumers' attitude toward purchases of craft beers not available in Wisconsin (β_3). The null hypothesis for the model claims no significant correlations meaning that none of the three components belong in the model. The alternative hypothesis is that not every one of the three belongs in the model but that at least one does. We used a p -value of 0.000 and will reject the null if there is no correlation leading us to conclude the model is accurate for prediction. Considering the literature the following hypotheses guided the study:

Hypotheses related to WI CRAFT BEER CETSCALE Multiple Regression Structural model:

$$H1_0: \beta_1 = \beta_2 = \beta_3 = 0$$

H1_a: At least one β is not zero

¹ WI is the common abbreviation in the United States of America for the State of Wisconsin.

Null Hypotheses related to WI CRAFT BEER CETSCALE and demographics:

H2: WI Craft Beer Ethnocentrism is not significantly related to Wisconsin consumers' marital status.

H3: WI Craft Beer Ethnocentrism is not significantly related to Wisconsin consumers' age.

H4: WI Craft Beer Ethnocentrism is not significantly related to Wisconsin consumers' employment status.

H5: WI Craft Beer Ethnocentrism is not significantly related to Wisconsin consumers' educational level.

H6: WI Craft Beer Ethnocentrism is not significantly related to Wisconsin consumers' household income.

H7: WI Craft Beer Ethnocentrism is not significantly related to Wisconsin consumers' ethnicity.

H8: WI Craft Beer Ethnocentrism is not significantly related to Wisconsin consumers' gender.

Measures

The CETSCALE is among the most used scales in marketing studies. Adaptation of the CETSCALE has occurred many times (Jiménez-Guerrero et al., 2014). Jiménez-Guerrero et al. (2014) demonstrated factor analytic research using the full 17-item scale that consistently yielded two underlying factors. Factor 1 contains items reflecting consumers' negative attitude toward foreign products and accounts for 48% of the variance. Factor 2 contains items reflecting consumers' positive attitude toward domestic products and accounts for 19% of the variance. Jiménez-Guerrero et al. (2014) analyzed 64 studies that applied the CETSCALE. Twelve studies were conducted in the United States and the remaining 52 studies were conducted in other countries; most of which required translation of the CETSCALE to the native language and some wording changes to adapt the items to the consumer product of interest. In addition, Jiménez-Guerrero et al. (2014) found evidence for the two factors in 7 of the 11 studies that used a full 17-item version of the scale. Luque-Martinez et al. (2000) refined the scales and validated the scale on representative samples from consumers in five US cities. Their confirmatory factor analysis demonstrated the CETSCALE was unidimensional and had construct validity. Carifio and Perla (2007) demonstrated such scales were accurate reflections of individual response preferences. Lumb and Kuperman (2012) reviewed many studies that used the CETSCALE between 1994 and 2008 and found ethnocentrism levels were very stable over time. In addition, Weber et al. (2015) confirmed the factor structure of the CETSCALE in their study with the closely similar WI CHEESE CETSCALE.

With the original authors' (Shimp and Sharma 1987) permission, we followed the techniques used by previous investigators who adapted the CETSCALE to local populations. We reworded the Country of Origin (COO) location information in the original Shimp and Sharma CETSCALE (1987) to reflect specificity of Wisconsin craft brewed beer products. The revised items specifically reflected Wisconsin craft beer consumption preferences. This created the WI CRAFT BEER CETSCALE (see Appendix 1). We validated the new scale as a reliable, construct valid adaptation of the 17-item original Shimp and Sharma CETSCALE (1987) measuring tendency rather than attitude in consumer preferences. We used the five-point Likert-type scales

previously shown to accurately capture the consumer preferences of individuals (Lambert et al. 2012). Each item in the revised scale satisfied the .5 reliability criterion (Shimp and Sharma 1987).

The WI CRAFT BEER CETSCALE research instrument was pilot tested by students in an Applied Data Gathering and Analysis course. Based on the responses and the comments provided by the 12 students, the instrument had face validity. All questions were assessed for clarity, readability, and reliability. Age, gender, home zip code, marital status, education, household income, ethnicity, and employment status were demographic variables of interest. Statistical analysis of data included descriptive statistics, factor analysis, Cronbach's alpha, and Spearman's correlational coefficients. Statistical program used was SPSS Version 21. The measures used in this study were administered in two sections of the survey. The first section consisted of 20 WI CRAFT BEER CETSCALE items. The second section collected information describing the demographic characteristics of the participants.

We used principal component factor analysis to assess the discriminant validity of the resulting 20 item WI CRAFTBEER CETSCALE. Three factors with eigenvalues greater than 1 accounted for 68.31% of the variance. The Cronbach alpha coefficient was .952 for the scale. The factor analysis confirmed the underlying two factor structure adaptation (Factor I and Factor II) and a small added factor (Factor III) reflecting craft beers not available in Wisconsin. The factors were:

Factor I – Clear Consumer Preferences for WI Craft Beer over Non WI Craft Beers (16 items - 53.7% of Variance)

Factor II – Consideration of Economic Impact of Non WI Craft Beer Purchases (2 items - 19.9% of variance)

Factor III – When Certain Craft beers are Unavailable in WI (2 items - 7.6% of variance)

The model fit for our WI sample was acceptable Bartlett's test of sphericity (Kaiser-Meyer-Olkin = .950, $\chi^2(16, N = 771) = 11,819.509$, $p < .000$). We retained all questions since deleting none in the adapted scale would improve the reliability of the total scale. Our results were consistent with those of previous investigators and confirmed that the WI CRAFTBEER CETSCALE was an appropriate, reliable, and accurate adaptation of the original CETSCALE.

Data Analysis and Research Results

We conducted the survey using the WI CRAFTBEER CETSCALE with associated demographic questions in a local geographic area within the state of Wisconsin in order to analyze the role of selected consumer demographic characteristics. In their review of the consumer ethnocentrism literature, Josiassen et al. (2011) found unclear and even conflicting results related to demographics. We included seven key demographic variables (marital status, educational level, income, ethnicity, employment status, and gender) to clarify the role of these characteristics in Wisconsin craft beer consumer ethnocentrism. Of the 771 consumers who remained with complete data sets, 370 were male (48%) and 401 were female (52%). Additional demographics included marital status presented in Table 1; education levels presented in Table 2; income levels presented in Table 3; ethnicity presented in Table 4; and employment status presented in Table 5.

Table 1 Participant characteristics: marital status

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Married	445	51.4157	13.75772	0.65218	50.1340	52.6975	19.00	88.00
Living with another	81	51.6667	13.21836	1.46871	48.7438	54.5895	23.00	86.00
Widowed	11	60.8182	16.36348	4.93378	49.8250	71.8113	40.00	95.00
Divorced	72	54.5556	13.92120	1.64063	51.2842	57.8269	21.00	85.00
Separated	6	62.3333	23.02752	9.40095	38.1674	86.4992	33.00	95.00
Never married	149	53.0067	14.07533	1.16510	50.7281	55.2854	27.00	95.00
Total	764	52.2696	13.97830	0.50498	51.2783	53.2609	19.00	95.00

Descriptive Statistics of Sample Population Demographics

The additional hypotheses (numbered 2–8) investigated the various relationships of major demographic variables to consumer ethnocentrism as measured by the WI CRAFT BEER CETSCALE SYSTEM. The research extended the results of Josiassen et al. (2011) attempting to unconfound the relationships of key demographic characteristics of Wisconsin craft beer consumers on consumer ethnocentrism in the Wisconsin craft beer market. The null hypothesis testing the structure of the WI CRAFT BEER CETSCALE was rejected. Our confirmed model is illustrated in Fig. 2.

Demographic Predictors of WI CRAFT BEER CETSCALE SYSTEM

Using all seven demographics as predictors of the WI CRAFT BEER CETSCALE in a simple linear regression yielded an R of .275 and an R² of .075. Given this, we can see that 27.5% of the variance in the WI CRAFT BEER CETSCALE can be explained by the seven associated demographic items (see Table 6).

ANOVA shows that this model provides a significant prediction (F ratio of $F(7, 707) = 8.241, p > .000$) of WI CRAFT BEER consumer ethnocentrism (see Table 7). The accuracy of this model is illustrated in the plot in Fig. 3.

Table 2 Participant characteristics: education level

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
No schooling completed	2	38.0000	1.41421	1.0000	25.2938	50.7062	37.00	35.00
High school graduate	180	56.3889	13.51490	1.00734	54.4011	58.3767	23.00	95.00
Associate Degree	199	54.4221	14.14973	1.00305	52.4441	56.4001	19.00	95.00
Baccalaureate Degree	284	48.9366	13.23862	.78557	47.3903	50.4829	19.00	88.00
Master's Degree	72	49.3194	13.20673	1.55643	46.2160	52.4229	22.00	79.00
Professional Degree	12	51.9167	12.97171	3.74461	43.6748	60.1585	20.00	76.00
Doctoral Degree	19	53.7368	17.05495	3.91267	45.5166	61.9571	20.00	95.00
Total	768	52.2773	13.96662	.50398	51.2880	53.2667	19.00	95.00

Table 3 Participant characteristics: annual household income

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Less than \$10,000	22	55.0455	15.36997	3.27689	48.2308	61.8601	31.00	83.00
\$10,000 – \$19,999	15	51.6000	12.18195	3.14537	44.8539	58.3461	32.00	74.00
\$20,000 – \$29,999	30	57.4333	11.69640	2.13546	53.0658	61.8008	37.00	85.00
\$30,000 – \$39,999	78	54.2949	14.08887	1.59525	51.1183	57.4714	23.00	95.00
\$40,000 – \$49,999	94	55.2340	14.62170	1.50811	52.2392	58.2289	27.00	95.00
\$50,000 – \$59,999	75	56.6667	14.83270	1.71273	53.2540	60.0794	29.00	95.00
\$60,000 – \$69,999	68	52.8824	13.42033	1.62745	49.6339	56.1308	21.00	81.00
\$70,000 – \$79,999	67	51.4030	14.21380	1.73649	47.9360	54.8700	22.00	86.00
\$80,000 – \$89,999	65	54.2462	13.36276	1.65745	50.9350	57.5573	31.00	86.00
\$90,000 – \$99,999	45	48.7111	11.64166	1.73544	45.2136	52.2087	19.00	76.00
\$100,000 or more	197	47.9645	12.97540	0.92446	46.1413	49.7876	20.00	84.00
Total	756	52.3704	13.92317	0.50638	51.3763	53.3645	19.00	95.00

We were now able to compute the parameters for the WI CRAFT BEER CETSCALE SYSTEM (see Table 8) model and create the multiple regression equation as:

$$\begin{aligned}
 \text{WI CRAFT BEER CETSCALE} = & b_0 + b_1 \text{ age} + b_2 \text{ gender} + b_3 \text{ marital status} \\
 & + b_4 \text{ education} + b_5 \text{ income} + b_6 \text{ race} \\
 & + b_7 \text{ employment}
 \end{aligned}$$

$$\begin{aligned}
 \text{WI CRAFT BEER CETSCALE} = & 59.71 + (0.14 \text{ age}) \\
 & + (1.688 \text{ gender}) - (0.251 \text{ marital status}) \\
 & - (0.99 \text{ education}) - (.881 \text{ income}) - (1.273 \text{ race}) \\
 & + (0.297 \text{ Employment})
 \end{aligned}$$

Table 4 Participant characteristics: ethnicity

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
American Indian or Alaska Native/Native American	42	56.5952	10.78857	1.66471	53.2333	59.9572	27.00	79.00
Asian	10	56.1000	21.53782	6.81086	40.6928	71.5072	20.00	85.00
Black or African-American	22	56.0455	14.68228	3.13027	49.5357	62.5552	35.00	76.00
Native Hawaiian or other Pacific Islander	11	56.9091	12.52561	3.77661	48.4943	65.3239	36.00	79.00
White/Caucasian	668	51.5838	13.84560	0.5357	50.5320	52.6357	19.00	95.00
Total	753	51.5838	13.87108	0.50549	51.1391	52.0285	19.00	95.00

Table 5 Participant characteristics: employment status

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Employed for wages or commissions	617	51.2869	13.6843	0.55091	50.205	52.3688	19.00	95.00
Self-Employed	42	57.1667	14.9306	2.30384	52.514	61.8194	29.00	85.00
Out of work	8	51.25	10.30603	3.64373	42.6339	59.8661	38.00	71.00
A homemaker	18	58.6111	11.5562	2.72382	52.8643	64.3579	32.00	76.00
A student	36	55.3056	13.8581	2.30968	50.6167	59.9945	31.00	95.00
Retired	42	55.381	16.13503	2.48969	50.3529	60.409	22.00	95.00
Unable to work	6	58.8333	5.19294	2.12001	53.3837	64.283	52.00	64.00
Total	769	52.2497	13.89919	0.50122	51.2658	53.2336	19.00	95.00

The model has only four significant dimensions. They are:

Age (b = 0.142): This statistically significant value indicates that as the age of a respondent increased by one unit, the WI CRAFT BEER CETSCALE score increases by 0.142 units. This holds true only if the effects of all the other variables remain constant. The standardized value indicates that as age changes by one standard deviation the WI CRAFT BEER CETSCALE *increases* by 0.134 standard deviations.

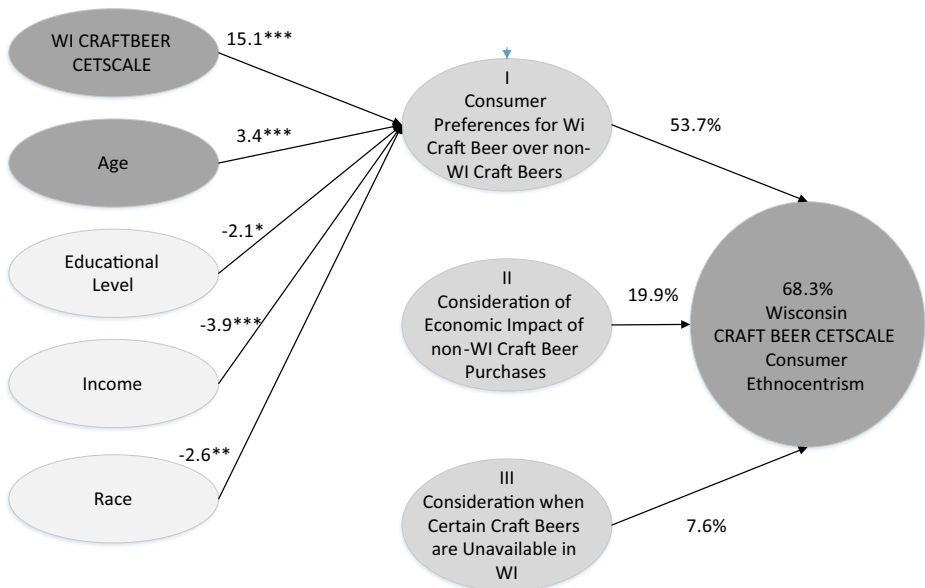


Fig. 2 Structural model of the WI CRAFT BEER CETSCALE SYSTEM showing statistically significant components for age, educational level, household income, and race. Confirming the two underlying CETSCALE Factors (I and II) and Factor III capturing items added to describe consumer consideration when certain craft beers are unavailable in Wisconsin

Table 6 Simple regression model of seven demographic predictors with WI CRAFT BEER CETSCALE

Model	R	R Square	Change Statistics							
			Adjusted R Square	Std. Error of the estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.275 ^a	0.075	0.066	13.28544	0.0750	8.2410	7	707	0.000	1.758

^aPredictors: (Constant), Employment status: Are you currently working...?, Race: Please specify your race, Education: What is the highest degree or level of school you have completed? If currently enrolled, marked the previous grade or highest degree received, Your gender, Your marital status, Age, Household income: What is your total annual household income? Dependent Variable: WI CRAFT BEER CETSCALE TOTAL

Education (b = -0.99): This statistically significant value indicates that as the education level of a respondent increased by one unit, the WI CRAFT BEER CETSCALE score decreases by 0.99 units. This holds true only if the effects of all the other variables remain constant. The standardized value indicates that as education changes by one standard deviation the WI CRAFT BEER CETSCALE decreases by 0.083 standard deviations. The standard deviation for education is 13.967 so for each increase of 1 standard deviation in years of education the WI CRAFT BEER CETSCALE score declines by 1.159 points.

Income (b = -0.881): This statistically significant value indicates that as the income of a respondent increased by one unit, the WI CRAFT BEER CETSCALE score decreases by 0.881 units. This holds true only if the effects of all the other variables remain constant. The standardized value indicates that as income changes by one standard deviation the WI CRAFT BEER CETSCALE decreases by 0.190 standard deviations. The standard deviation for income is 13.923 so for each increase of 1 standard deviation of income the WI CRAFT BEER CETSCALE score declines by 12.266 points.

Race (b = -1.273): This statistically significant value indicates that as the race of a respondent increased by one unit, the WI CRAFT BEER CETSCALE score decreases by 1.273 units. This holds true only if the effects of all the other variables remain constant. The standardized value indicates that as race changes by one

Table 7 ANOVA Reflecting Overall Significant Prediction of WI CRAFT BEER Consumer Ethnocentrism by the Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	10,181.440	7	1454.491	8.241	.000 ^a
Residual	124,787.525	707	179.503		
Total	134,968.965	714			

^aDependent Variable: WI CRAFT BEER CETSCALE TOTAL. Predictors: (Constant), Employment status: Are you currently working? Race: Please specify your race, Education: What is the highest degree or level of school you have completed? If currently enrolled, marked the previous grade or highest degree received, Your gender, Your marital status, Age, Household income: What is your total annual household income?

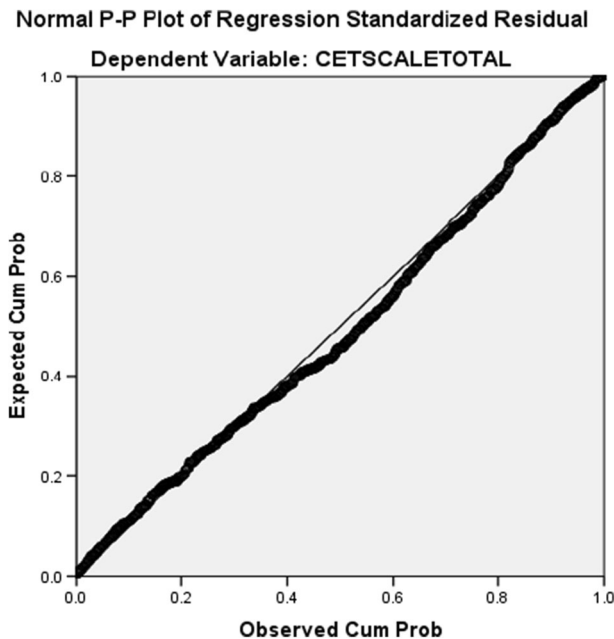


Fig. 3 Plot displaying the accuracy of the simple linear regression model of the WI CRAFT BEER CETSCALE prediction using the 7 key demographic variables

standard deviation the WI CRAFT BEER CETSCALE decreases by 0.095 standard deviations. The standard deviation for education is 13.967 so for each increase of 1 standard deviation in years of education the WI CRAFT BEER CETSCALE score *declines* by 1.159 points.

Discussion

This research demonstrates the characteristics of the systemic loyalty within Wisconsin for Wisconsin-made beer. While previous CETSCALE testing within other contexts and venues has demonstrated the dexterity and adaptability of this theoretical concept, this research demonstrates its adaptability to testing a system of consumer behavior.

Our results revealed differences in the system of consumer ethnocentric behavior as measured by the WI CRAFT BEER CETSCALE for different key demographic segments of craft beer consumers. This demonstrates that within this system, there are variables that influence the system. In this study, the only positive relationship was for employment status. This is likely an anomaly since the employment status was a nominal scale not a ranked one. All other scales had low, but significant, negative relationships to the WI CRAFT BEER CETSCALE. This indicated that individual key demographic variables are at best a weak negative predictor of consumer ethnocentrism. When combined in a simple regression equation to predict the value of the WI CRAFT BEER, CETSCALE captured 27.5% of the variance. Our results confirmed the findings of

Table 8 Details and significance of W1 CRAFT BEER CETSACLE system model parameters

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95.0% Confidence Interval for B		Correlations		Collinearity Statistics	
	B	Std. Error	Beta	Partial			Lower Bound	Upper Bound	Zero-order	Partial	Tolerance	VIF
1 (Constant)	59.711	3.955			15.096	0.000	51.946	67.477				
Age	0.142	0.042	0.134		3.358	0.001	0.059	0.224	0.084	0.125	0.121	0.817
Your gender	1.688	1.005	0.061		1.680	0.093	-0.285	3.662	0.083	0.063	0.061	0.979
Your marital status	-0.251	0.301	-0.036		-0.834	0.404	-0.841	0.339	0.049	-0.031	-0.030	0.690
Education: What is the highest degree or level of school you have completed?	-0.99	0.465	-0.083		-2.130	0.034	-1.903	-0.077	-0.142	-0.080	-0.080	0.867
If currently enrolled, mark the next previous grade or highest degree received.												
Household income: What is your total annual household income?	-0.881	0.225	-0.190		-3.923	0.000	-1.323	-0.440	-0.184	-0.146	-0.146	0.555
Race: Please specify your race	-1.273	0.489	-0.095		-2.606	0.009	-2.233	-0.314	-0.108	-0.108	-0.098	0.985
Employment status: Are you currently...?	0.297	0.355	0.033		0.837	0.403	-0.400	0.995	0.114	0.114	0.030	0.851
												1.175

Josiassen et al. (2011) about the importance of studying demographic characteristics of buyer behavior and specifically ethnocentrism. Demographic characteristics have a significant advantage in being easy to assess. Our results show the influence of various consumer groups on ethnocentrism, and thus the existence of a system of consumer behavior. This information could help craft brewers with market segmentation and target marketing. We did not confirm Josiassen et al. (2011) finding that older consumers tended to be more ethnocentric. Instead we found a small, but significant, trend for older consumers to be less ethnocentric. We found similar small, significant negative trends for educational level, household income, ethnicity, and gender (see Fig. 2).

Limitations and Recommendations

There are several limitations to this study. This is a single test of one kind of beverage using consumer ethnocentrism theory as the basis for showing a cultural system attribute. Other theoretical constructs may either reinforce or conflict with this study. There is also a geographic limitation due to the clustering of respondents from one portion of the state of Wisconsin. This clustering, however, provided an area demographic which reinforced the premise of the behavior of the culture being studied. There is also an assumption here, that cultural practices of one country or global region are carried by immigrants to their new homes. While some may argue that this infers a bias, others may see this as maintaining a familiar cultural norm; this too provides territory for further exploration.

Future cultural system studies using CETSCALE as the theoretical basis, theory as the basis could be performed in other geographic areas or areas with different cultural norms, and may provide different results. This research is a snapshot of one product within a narrow timeframe. Supply and demand changes in the future may change the reality of the status of the market for this product.

The recommendations coming out of this research are: (1) Future research on Wisconsin craft beer consumer understanding of the tie to employment and local beer production. While this research clearly demonstrates a system of consumer loyalty to Wisconsin beer, the survey participants did not seem to tie that loyalty to employment in Wisconsin. (2) Additional adaptive domestic testing of CETSCALE can demonstrate affinity and loyalty to locally produced products. This can be meaningful to business managers, economic development entities, and political entities, as they can measure support for, or lack of support for, local or regional products or services. (3) Longitudinal studies (such a study repeating annually) can demonstrate emerging trends, product or service loyalty, and change in consumer behavior that can assist forecasting product lifespan. (4) Cultural systems are worthy of future research, as they demonstrate regional loyalties, ties, and affinities that may not exist outside of a specific geographic area. (5) Connection of human social and cultural systems to human creature norms; the norms of foods, music, beverage, housing, transportation, and other implements of human development that are not shared homogeneously by all people.

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Appendix 1

WI Craft Beer Survey Instrument

Consumer Ethnocentrism: A Willingness to Protect Craft Beer

Please circle the answer that most suits your response, from strongly agree = 5 to strongly disagree = 1.

[Strongly Agree=5, Agree=4, No Opinion=3, Disagree=2, to Strongly Disagree=1]

1. Wisconsin consumers should always buy Wisconsin craft beers instead of imports.	5	4	3	2	1
2. We should buy craft beers made outside Wisconsin only when the same style or type of craft beer is unavailable.	5	4	3	2	1
3. Buy Wisconsin craft beers. Keep Wisconsin working.	5	4	3	2	1
4. Wisconsin craft beers first, last, and foremost.	5	4	3	2	1
5. It is not right to purchase craft beers not made in Wisconsin because it puts Wisconsin citizens out of jobs.	5	4	3	2	1
6. Foreigners should not be allowed to put their craft beers in Wisconsin markets.	5	4	3	2	1
7. Curbs should be put on all craft beer imports to Wisconsin.	5	4	3	2	1
8. It may cost me in the long run, but I prefer to support Wisconsin craft beers.	5	4	3	2	1
9. A real Wisconsin consumer should always buy Wisconsin craft beers.	5	4	3	2	1
10. Craft beers made outside Wisconsin should be taxed heavily to reduce their entry into Wisconsin.	5	4	3	2	1
11. Purchasing craft beers made in other countries is un-Wisconsin.	5	4	3	2	1
12. We should purchase craft beers made in Wisconsin instead of letting other countries get rich off us.	5	4	3	2	1
13. Craft beers that are unavailable in Wisconsin should come from other countries.	5	4	3	2	1
14. Wisconsin should limit the trade of craft beers from other countries.	5	4	3	2	1
15. Wisconsin consumers should not buy craft beers made in other countries because this hurts Wisconsin business and causes unemployment.	5	4	3	2	1
16. Purchasing craft beers made in other states is un-Wisconsin.	5	4	3	2	1
17. We should purchase craft beers made in Wisconsin instead of letting other states get rich off us.	5	4	3	2	1
18. Craft beers that are unavailable in Wisconsin should come from other states.	5	4	3	2	1
19. Wisconsin should limit the trade of craft beers from other states.	5	4	3	2	1
20. Wisconsin consumers should not buy craft beers made in other states because this hurts Wisconsin business and causes unemployment.	5	4	3	2	1

21. Age: _____
22. Gender: Circle answer: Male Female
23. ZIP Code: _____
24. Marital Status: What is your marital status?
- Married
 - Living with another
 - Widowed
 - Divorced
 - Separated
 - Never married
25. Education: What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received.
- No schooling completed
 - High school graduate
 - Associate degree
 - Bachelor's degree
 - Master's degree
 - Professional degree
 - Doctorate degree

26. Household Income: What is your total household income?
 - o Less than \$10,000
 - o \$10,000 to \$19,999
 - o \$20,000 to \$29,999
 - o \$30,000 to \$39,999
 - o \$40,000 to \$49,999
 - o \$50,000 to \$59,999
 - o \$60,000 to \$69,999
 - o \$70,000 to \$79,999
 - o \$80,000 to \$89,999
 - o \$90,000 to \$99,999
 - o \$100,000 or more
27. Race: Please specify your race.
 - o American Indian or Alaska Native
 - o Asian
 - o Black or African American
 - o Native Hawaiian or Other Pacific Islander
 - o White
28. Employment Status: Are you currently...?
 - o Employed for wages
 - o Self-employed
 - o Out of work
 - o A homemaker
 - o A student
 - o Retired
 - o Unable to work

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