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Italian and U.S. Consumers of Local Foods: An Exploratory Assessment of Invariance

Jeffrey Campbell Elisa Martinelli Ann Fairhurst

ABSTRACT. The exploratory study reviews locally produced foods and sustainable retailing via grocery outlets across two distinct consumer groups, Italian and U.S. consumers. Survey methodology and structural equation modeling were used to test for measurement and structural invariance across the groups. Results suggested that groups varied across measures of perceived consumer effectiveness and purchase intentions; and constructs of subjective norms, perceived consumer effectiveness, connectedness, and purchase intentions reflected factor mean differences across groups. Tests of structural paths were found to be partially invariant. Implications to retail grocers who source sustainable products are provided, as well as future research directions for academics.

KEYWORDS. Locally produced foods, grocery, sustainable retail, invariance test

INTRODUCTION

The worldwide agri-food system continues to be dominated by large industrial operations, as evidenced by the fact the "the ten largest U.S. based multinational corporations control almost 60% of the food and beverage sold in the U.S." (Lyson 2007, 21). In spite of this, in the last few years an interest in local food has been increasing worldwide (Vecchio 2010). Research conducted in the UK, U.S., Italy, and other European countries have identified local food products as a choice that consumers are appreciating and willing to pay higher prices for (Giraud, Bond, and Bond 2005). Consumers now demand food that comes from a source other than industrialized processing plants (Henseleit, Kubitzki, and Teuber 2007). Additionally, research has suggested that consumers purchasing food produced in their local areas experience a wide variety of benefits (Guptill and Wilkins 2002) related to health and the environment.

In Italy, for example, the concept of "Slow Food," or a pushback to this proliferation of small farms by larger multinational companies, has supported a more traditional and environmentally friendly form of producing, growing,

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and preparing food (Gaytan 2003; Martínez et al. 2010). This movement, thought to have begun in the 1980s, argued for a slow and oppositional view to the current fast-paced lifestyle that was emerging throughout Europe and in relation to food issues was creating a homogenized and standardized food system that impacted small farms, artisans, and farmers (Leitch 2003).

While limited research on locally produced foods has considered group differences such as Hispanic and Caucasian shoppers across a number of consumer behavioral variables (Campbell 2013a, 2013b), lifestyle segmentation (Nie and Zepeda 2011), or food chain analysis of products across various countries within the European Union and beyond (Edwards-Jones et al. 2008), there is a paucity of research regarding consumer behavioral responses to sustainable production within the locally produced food category across worldwide countries. The closest recent attempt was made through research by Fonte (2008) and Holloway and colleagues (2007), which considered local food perspectives within North American and Europe, and as noted by Vecchio (2010, 124), "There is a fairly clear distinction between the North American and European perspectives on local food, the former being based on the principles of social justice and environmental sustainability, the latter focused mainly on incorporating small rural farms and marginal agricultural economies into economic development." Yet, the role of attributes such as attitudes, normative influences, connections to producer and/or environment, and perceptions of behavioral effectiveness relating to purchase behavior were not addressed within these studies. To this end, our study fills a gap by considering two distinct countries where local foods are prevalent: Italy and the U.S. The goal of our study is to address the following research question:

> RQ: Will consumer factors such as attitudes, normative influences, connectedness, perceived consumer effectiveness, and purchase intentions vary across Italian and U.S. consumers of locally produced foods?

Using the contextual framework of the theory of planned behavior (Ajzen 1985), our study will provide a first step in reviewing how consumers view and respond to environmentally friendly/sustainable foods in two countries where local foods are at different points of acceptance and the level of socially responsible retailing varies: in Italy, where locally produced foods are the norm and have been widely accepted since the Slow Food movement in the 1980s as part of a push toward agriculture sustainability, and in the U.S., where locally produced foods have been becoming more mainstream over the past decade throughout retail grocery, farmers' markets, and community-supported agriculture. By reviewing group differences of local food consumers in various parts of the world, marketers can better understand the particular drivers to local food acceptance and create more targeted messages for consumers, while also considering how consumers view sustainable production and environmentally friendly categories such as locally produced foods as more or less important. Finally, the study will help to determine which factors are positively related to purchase intentions, thereby creating opportunity for businesses to highlight their commitment to social responsibility through support of small local farms while creating an even higher level of interest in locally produced products moving forward by consumers.

LITERATURE REVIEW

Food and the Italian Consumer

Italian consumers place a high importance on food and have been identified throughout the world with a sophisticated culture of food (Brunori, Malandrin, and Rossi 2013). The relevance of food for Italians is also evidenced by the acknowledgement that the Slow Food movement was created in Italy in 1989 by Carlo Petrini and Folco Portinari. The Slow Food Movement focuses on the enjoyment of quality food and supports traditional, local, and artisanal foods. The Italian Ministry of Agriculture recognized local food, artisanal manufactured and traditional products as priorities, and they have become extremely relevant to the Italian food system

(Ventura et al. 2006). Italians also believe their local produce and dishes are superior (Fort 2010) and are culturally devoted to local products. This sensitivity toward local food production, very related to a specific territory, is also highlighted by the number and development of geographical indications (GIs) reached in Italy. Compared to other European countries, Italy has the largest number of geographically identified products both in food (248) and wines (more than 500), equal to 22% of the overall European Union geographically identified food market in 2012 (Ismea 2013). This is also supported if we examine the knowledge that Italians possess regarding these types of products compared to other European Union countries (European Commission 2012). The Eurobarometer on food shows that Italians possess a degree of knowledge of GIs, namely Protected Destination of Origin (PDO) and Protected Geographical Indication (PGI), across products that is more than double (36%)compared to the average European citizen (14%)(European Commission 2012). Additionally, this report provided evidence that the importance Italians give to food origin is one of the highest in the EU (88%) versus a 71% average for other EU consumers.

According to the Census Report (2013), the current economic slump has fueled the spread of outdoor and farmers' markets in Italy, which now include more than 36,000 food vendors spread across 234 farmers' markets. These numbers have grown by 13% since 2008 (Mingozzi and Bertino 2013), and 15 million Italian consumers purchased through farmers' markets in 2013, reflecting an increase of 67% of sales within this channel (Fondazione Campagna Amica, 2014). Moreover, a recent Nielsen (2013a) survey noted that Italians buy and consume more fresh food than the rest of EU citizens and tend to buy more from greengrocers (20%) compared to the EU average (11%), with the main reason being cited as freshness (38%).

The U.S. Local Food Consumer

With the increase in purchasing channels for locally produced foods, consumers now more

than ever in the U.S. have choices on where to spend their money. The local food market, expected to produce more than \$11 billion in revenue annually (Jones-Ellard 2011), includes over 8,100 farmers' markets (United States Department of Agriculture [USDA] 2013) and retail food companies such as Safeway, Delhaize, and Ahold that include the purchasing of locally produced items within their corporate social responsibility reports and company frameworks (Martínez et al. 2010). Walmart has pledged to source and sell over \$1 billion from small and medium-sized farms in what they determine as emerging markets and also help with the marketing and production of various local produce from these farms (Clifford 2010). Other companies such as Whole Foods Market have continued to leverage practices such as organic, locally produced sourcing, and the ethical treatment of animals as a way to create a sustainable competitive advantage over other grocery retailers and gain the consumers' trust and patronage (Johnston 2008). U.S. consumers are seeking local products for a number of reasons. Citing higher quality, a desire to support local economies and small farms, health and food safety benefits, effectiveness that their personal efforts can help solve social or environmental problems, and a push toward greater environmental stewardship (Maretzki and Tuckermanty 2007; Thilmany McFadden 2012), U.S. local food demand is helping to push these items into the mainstream culture. Grocers, restaurateurs, and other providers therefore have an opportunity to capture a growing segment of the population that seeks to better understand where the products are coming from and perceive this category as safer to eat (Darby et al. 2008).

Defining "Locally Produced"

While the Slow Food Movement has included over 40 participating countries with over 70,000 members (Jones et al. 2003), the concept of "locally produced" across nations continues to remain abstract. Within the U.S., an attempt was made by the Department of Agriculture to assign a geographic boundary in

2008 by suggesting a total transport distance of less than 400 miles from origin or the state in which it is produced (Martínez et al. 2010). Yet, research by Campbell (2011) determined that U.S. consumers often confuse the concept of "local" with "organic" production. The USDA has also defined local food as including various marketing channels such as direct-toconsumer (farmers' markets or communitysupported agriculture) and intermediated (direct-retail grocers/restaurant-consumer) channels (Low and Vogel 2011). Prior research has generally considered the concept of local through the lens of sustainable agriculture (Gottlieb and Fisher 1996) and agri-food systems that included concepts of community embeddedness and social relations (Jarosz 2000), yet a universal definition of how consumers interpret and process the concept of local remains unknown and provides researchers an opportunity to explore definitional variations by country. We can suppose that in Italy, a country where foods and even dialects change within a few kilometers, "local" means food produced in the area of a given township, whereas in the U.S. "local" often means foods originating in a given state. To frame the current research, therefore, consumers across both countries were allowed to determine their own interpretation of what "local" means to them and use this interpretation in answering questions.

Theoretical Foundations and Hypotheses Development

Theoretical foundations from the theory of planned behavior (Ajzen 1985) help to frame the current study on consumer traits of attitudes, normative influences, and connections as they relate to purchase intention outcomes. Across food-related research, particularly in the locally produced and organic categories, studies by Bissonnette and Contento (2001), Robinson and Smith (2002), and Vermeir and Verbeke (2006, 2008) all suggested a significant positive relationship between attitudes and normative influences on sustainable product choices like those locally produced. Therefore we posit that:

- H1: There is a significant relationship between consumer attitudes toward locally produced foods purchasing and purchase intentions across the Italian and U.S. samples.
- H2: There is a significant positive relationship between subjective norms relating to locally produced foods purchasing and purchase intentions across the Italian and U.S. samples.

Perceived consumer effectiveness was first conceptualized by Kinnear, Taylor, and Ahmed (1974) as a person's belief that an individual's actions can have an effect on environmental issues such as pollution. Subsequent research by Roberts (1996), Thilmany, Bond, and Bond (2008), and Vermeir and Verbeke (2008) suggested that consumer effectiveness can lead to various positive behavioral outcomes such as motivations and purchase intentions for buying local food items. Provided that consumers believe they are making a difference with their purchases for locally produced items, we believe that behavioral intentions will also be affected. Therefore, we posit that:

> H3: There is a significant positive relationship between perceived consumer effectiveness relating to locally produced foods purchasing and purchase intentions across the Italian and U.S. samples.

Connectedness has been defined within the literature as "An attribute of the self that reflects cognitions of enduring personal closeness with the world" (Lee, Draper, and Lee 2001, 310). As a function of local food consumers, connectedness describes the actor involvement in agri-food system networks that can include relationships with the environment, other food consumers, the place of purchase, or the product itself (Campbell 2013a). The effects of connectedness on behavioral outcomes, however, remain mixed and relatively

underexplored. Research by Holloway and Kneafsey (2004) suggested that connectedness brings people, process, product, and consumption into one integrated framework to positively affect demand. While Campbell (2013b) found that Hispanic and Caucasian consumers reflected different mean levels of connectedness with respect to local food purchasing, Campbell (2013a) determined that with respect to actual purchase intentions, connectedness was not a significant predictor. Overall, it is generally believed that local food consumers who see themselves as connected to the environment (Feagan 2007), to places such as farmers' markets (Hinrichs 2000), or the individual growers/farms (Groc 2008) will exhibit greater purchase intentions for locally produced foods. Therefore we posit that:

> H4: There is a significant positive relationship between connectedness relating to locally produced foods purchasing and purchase intentions across the Italian and U.S. samples.

Multigroup Comparisons of Local Food Consumers

Limited within much of the prior research on locally produced foods has been group comparisons or cross-cultural perspectives. Chen (2007) considered sustainable food choice in Taiwanese consumers, Vermeir and Verbeke (2006, 2008) utilized a Belgian sample, and both Bissonnette and Contento (2001) and Campbell (2011) utilized a U.S.-based sample in evaluating locally produced food consumers across various attributes and determined that a significant relationship occurred among attitudes, subjective norms, and purchase intentions. However, these approaches did not address potential effects related to cultural differences. Oreg and Katz-Gerro (2006), in a multicountry study on predicting pro-environmental behaviors, did suggest that constructs such as attitudes and intentions could be successfully validated as invariant and found that in general the theory of planned behavior could be useful in cross-national research across

multiple countries. Italy, however, was not one of the countries reviewed within the study and provides a new context in which local food research could be extended.

Given the identification with, and integration of, food within the Italian culture (Brunori et al. 2013), the cultural experience with the Slow Food Movement relating to local products over a number of years and the relevance of local foods to the entire Italian food system (Ventura et al. 2006), and the previously noted sensitivity of Italian consumers toward local products and geographical identifiers of food (Ismea 2013), we suggest that Italian consumers of local foods will exhibit significantly different attitudes, subjective norms, perceptions of consumer effectiveness, and level of connectedness with outcomes such as purchase intentions than other consumers such as those from the U.S., where local food systems are still evolving. Therefore, we posit that:

- H5: Italian consumers reflect different effects than U.S. consumers on the following proposed path relationships:
- H5a: Attitudes (AT) \rightarrow Purchase Intentions (PI)
- H5b: Subjective Norms (SN) → Purchase Intentions (PI)
- H5c: Perceived Consumer Effectiveness (PCE) \rightarrow Purchase Intentions (PI)
- H5d: Connectedness (CON) \rightarrow Purchase Intentions (PI)

METHODOLOGY

Within our conceptual framework, the aim of our study was to investigate potential group differences between Italian and U.S. consumers, relative to locally produced foods, across factors relating to attitudes, subjective norms, perceived consumer effectiveness, connectedness, and purchase intentions. Two versions of the survey were created: one in Italian for the European sample and one in English for the U.S. sample. The English version of the survey was translated by researchers into Italian and then back-translated into English. Differences between the Italian and English versions were vetted by the researchers in both locations, with changes to questions made as necessary. The sample included consumers in the U.S. who indicated they had purchased locally produced food at a grocery store during the past 12 months and in Italy during the past 6 months.

Data Collection

For the current study, data were collected in two ways. For the Italian consumers, surveys were hand administered and collected by researchers approaching interviewees in the main streets of a number of different Italian towns, as Internet surveys are not customarily utilized in the country. For U.S. consumers, given that a national sample was desired for generalizability purposes, Internet surveys were created and administered through the partnership with C&T Marketing, a U.S.-based market research company.

Measurement Development

Measures for the exploratory study were derived using prior academic literature within the marketing, psychology, sociology, agricultural, and retail disciplines. Seven measures of attitudes were created from prior work by Vermeir and Verbeke (2008) and Bissonenette and Contento (2001) relating to sustainable food consumption and food choice behavior. Four of the seven were adapted using a 7-point Likert scale of 1 (strongly disagree) to 7 (strongly *agree*). Three of the seven used semantic differential scaling adapted from Vermeir and Verbeke (2008) for the question, "Purchasing locally produced foods is:" with responses including Negative/Positive, Useless/Meaningful, and Unwise/Wise. The remaining constructs and corresponding measures all utilized a 7-point Likert scale of 1 (strongly disagree) to 7 (strongly agree). These included five measures for subjective norms adapted from Vermeir and Verbeke (2008), nine measures of perceived consumer

effectiveness from the Roberts (1996) study on green consumers and adapted to fit the current context of locally produced food purchasing, three measures of connectedness that resulted from prior literature on alternative food networks and relationships between participants (Coit 2008; Holloway and Kneafsey 2004), and three measures for purchase intentions also adapted from Vermeir and Verbeke (2008) and Bissonenette and Contento (2001). Overall, the initial model included 25 measures for five independent latent constructs.

Sampling Frame

The sampling frame included respondents in Italy and the U.S., 18 years of age or older. A total of 1,055 responses were collected between the two groups, with 304 Italian consumer responses and 751 U.S. respondents. Within the sample, 738 (70%) were female, while 317 (30%) were male. Over half of the respondents (N = 620) were married, and 49.2% (N = 520)were employed full-time. Many within the two groups (N = 587) had attained a bachelor's degree graduate/professional degree. or Respondents also indicated having more than one person in their household, with two persons (N = 321) and three persons (N = 245) being the largest responses. From the large U.S. -based sample, a randomly generated subsample of N = 304 using SPSS statistical software was created for further group analysis within the study to match the Italian sample. A comparison of the two initial groups across demographic variables is provided in table 1.

ANALYSIS AND RESULTS

Within the study, analysis was completed using SPSS 20.0 statistical software with AMOS structural equation modeling and maximum likelihood estimation. A two-step process outlined by Anderson and Gerbing (1988) included the completion of confirmatory factor analysis and subsequent measurement model creation, followed by a structural model. Invariance testing was completed between the

| Demographics: Italian (<i>N</i> = 304); U.S. (<i>N</i> = 751) | | Italian frequency | U.S. frequency | Italian% | U.S.% |
|---|--|-------------------|----------------|----------|-------|
| Gender | Female | 215 | 523 | 70.7 | 69.6 |
| | Male | 89 | 228 | 29.3 | 30.4 |
| | Total | 304 | 751 | 100.0 | 100.0 |
| Age | Under 25 | 17 | 22 | 5.6 | 2.9 |
| | 25–34 | 48 | 113 | 15.8 | 15.0 |
| | 35–44 | 70 | 156 | 23.0 | 20.8 |
| | 45–54 | 86 | 219 | 28.3 | 29.2 |
| | 55–64 | 56 | 176 | 18.4 | 23.4 |
| | 65 or over | 27 | 65 | 8.9 | 8.7 |
| | Total | 304 | 751 | 100.0 | 100.0 |
| Relationship status | Married | 172 | 448 | 56.6 | 59.7 |
| | Never married | 71 | 145 | 23.4 | 19.3 |
| | Divorced | 9 | 76 | 3.0 | 10.1 |
| | Partnership | 33 | 49 | 10.9 | 6.5 |
| | Widowed | 15 | 26 | 4.9 | 3.5 |
| | Separated | 4 | 7 | 1.3 | 0.9 |
| | Total | 304 | 751 | 100.0 | 100.0 |
| Occupational status | Full-time employed | 179 | 341 | 58.9 | 45.4 |
| | Retired | 39 | 108 | 12.8 | 14.4 |
| | Homemaker | 14 | 117 | 4.6 | 15.6 |
| | Part-time employed | 35 | 101 | 11.5 | 13.4 |
| | Unemployed | 10 | 70 | 3.3 | 9.3 |
| | Student | 27 | 14 | 8.9 | 1.9 |
| | Total | 304 | 751 | 100.0 | 100.0 |
| Highest level of education | Primary (less than high school graduate) | 8 | 12 | 2.6 | 1.6 |
| | Secondary (high school (graduate) | 40 | 404 | 13.2 | 54.1 |
| | Bachelor's degree | 99 | 219 | 32.6 | 29.3 |
| | Graduate degree/ Professional | 157 | 112 | 51.6 | 15.0 |
| | Total | 304 | 747 | 100.0 | 100.0 |
| Persons in household | 1 | 46 | 117 | 15.1 | 15.6 |
| | 2 | 62 | 259 | 20.4 | 34.5 |
| | 3 | 84 | 161 | 27.6 | 21.4 |
| | 4 | 64 | 134 | 21.1 | 17.8 |
| | More than 4 | 48 | 80 | 15.8 | 10.7 |
| | Total | 304 | 751 | 100.0 | 100.0 |

TABLE 1. Respondent Demographic Information

Italian group (N = 304) and a randomly subsampled U.S. group (N = 304) across both types of models, following procedures outlined by Byrne (2010) and Steenkamp and Baumgartner's (1998) work on cross-national research.

Reliability and Validity

Reliabilities for the five constructs were calculated using Cronbach's alpha statistic, with values ranging from .714 to .928 and suggesting good overall support by the respective measures. Convergent and discriminant validity were then assessed using the average variance extracted (AVE) calculation for each construct and the shared variance between constructs. Results for AVE estimates were greater than .50, suggesting convergent validity, and shared variance between the constructs (squared correlation values) was less than the average variance extracted value for each corresponding construct, supporting discriminant validity (Anderson and Gerbing 1988; Fornell and Larker 1981).

Confirmatory Factor Analysis

Following methods outlined by Byrne (2010), individual confirmatory factor models were created and fit for each of the two

groups-the Italian sample and the U.S. sample. Three measures of attitudes (e.g., Purchasing locally produced foods is: Negative/ Positive, Useless/Meaningful, Unwise/Wise), one measure of connectedness (When I shop for locally produced foods in a grocery store, I feel like I connect with the environment), and one measure of perceived consumer effectiveness (When I buy locally produced foods, I try to consider how my use of them will affect the environment and other consumers) reflected construct loadings less than .40 or high standardized residual covariances (> 2.58) with a number of other construct measures. Therefore, they were dropped from further inclusion within the measurement and structural modeling process. Initial confirmatory factor analysis results for the Italian sample (N = 304) suggested good overall model fit ($\chi^2 = 301.450$, df = 158, χ^2 / df ratio = 1.908, CFI = .950, GFI = .913, RMSEA = .055). Similar results for the individual U.S.-based model (N = 304) also confirmed good model fit ($\chi^2 = 298.611$, df = 158, χ^2 / df ratio = 1.890, CFI = .973, GFI = .912, RMSEA = .054). The measurement items, construct reliabilities, and average variance extracted values are listed in table 2.

Measurement Invariance Testing

To begin the invariance testing process, a model was created that separated both groups of respondents (Italian and U.S. consumers) and simultaneously tested for measurement invariance as outlined by Steenkamp and Baumgartner (1998) and Byrne (2010). Configural invariance was tested by checking whether the measurement items suggested a similar "configuration of salient and non-salient factor loadings across countries" (Steenkamp and Baumgartner 1998, 80). Metric invariance was tested by imposing equality constraints on factor loadings across country groups and comparing these against a model with zero constraints imposed, with a chi-square difference test utilized to highlight significant differences. Scalar invariance was reviewed using latent means testing across the groups, with significant means differences suggesting noninvariant results. Tests for invariance across the five factor variances were also completed and suggested noninvariance across the two groups. Results in table 3 suggested that only partial invariance could be confirmed for the final measurement model.

Hypotheses Testing

Upon completion of measurement invariance testing, a structural model was created from the five proposed constructs with purchase intentions as the outcome construct. Similar to the measurement model invariance testing, this structural model was created and simultaneously tested the Italian and U.S. groups. Results using the newly "invariant" measurement model items also supported a well-fitted structural model ($\chi^2 = 468.26$, df = 210, χ^2 / df ratio = 2.23, CFI = .95, RMSEA = .04). As suggested within table 4, only some of the hypotheses can be fully confirmed. A significant positive relationship existed between attitudes and purchase intentions for both groups, thereby accepting H1. The construct of subjective norms reflected a negative relationship with purchase intentions and was only significant in the U.S. sample, thereby rejecting H2. H3, while significant for both samples, reflected a negative relationship between perceived consumer effectiveness and purchase intentions and therefore was rejected. H4, the relationship of connectedness and purchase intentions, was only significant and positive for the U.S. sample and was therefore rejected.

To test for invariance across the two groups on the proposed relationships, a fully constrained model across the four hypothesized structural paths was compared to the model where no constraints were imposed, with a chisquare difference test noting any significant differences. Results indicated that Italian and U.S. consumers reflected differences across some of the proposed structural relationships, thereby partially accepting H5. While the paths of AT \rightarrow PI (H5a) and SN \rightarrow PI (H5b) were insignificant and rejected, H5c (PCE \rightarrow PI; $\Delta \chi^2$ / df = 10.43 [3]) and H5d (CON \rightarrow PI; $\Delta \chi^2$ /

| Construct | Measures | | | | | |
|--|---|--|--|--|--|--|
| Attitude toward locally produced foods $\alpha = .714$ AVE = .613 | It is important to me that food I purchase is grown nearby (AT1). It is important that people should have more locally grown product available to them (AT2). I am worried that local farms are going out of business because most food purchased in grocery stores in grown on larger, faraway farms (AT3). It is important that I can purchase my favorite locally produced foods all year long (AT4). | | | | | |
| Subjective norms regarding locally produced foods $\alpha = .887;$ AVE = .795 | People who are important to me think I should buy locally produced foods (SN1). People who influence my buying behavior think I should buy locally produced foods (SN2). Friends think I should buy locally produced foods (SN3). Society thinks I should buy locally produced foods (SN4). My family thinks I should buy locally produced foods (SN5). | | | | | |
| Connectedness with locally produced foods $\alpha = .850$; AVE = .814 | When I shop for locally produced foods I feel like I connect with the producer (CON1). When I shop for locally produced foods I feel like I connect with the store(s) (CON2). When I shop for locally produced foods I feel like I connect with other local food consumers (CON3). | | | | | |
| Purchase intentions for locally produced foods $\alpha = .904;$ AVE = .872 | The likelihood that I will buy locally produced foods in the future is: Highly unlikely / Highly likely (PI1). The certainty that I will buy locally produced foods in the future is: Highly uncertain / Highly certain (PI2). The chance that I will buy locally produced foods in the future is: Very little chance / Excellent chance (PI3). | | | | | |
| Perceived consumer effectiveness $\alpha = .928;$ AVE = .851 | I can help solve environmental problems by buying locally produced foods (PCE1). I can positively affect environmental sustainability by purchasing locally produced foods (PCE2). I can protect the environment by buying locally produced foods that are environmentally friendly (PCE3). When I buy locally produced foods I make a difference to the environment (PCE4). When I buy locally produced foods I make a difference to society (PCE5). | | | | | |

TABLE 2. Construct Measures with Reliability and Validity Statistics

 $\alpha =$ Cronbach's alpha statistic.

AVE = Average Variance Extracted.

df = 10.93[3]) were found to be significant and therefore accepted.

DISCUSSION, LIMITATIONS, AND FUTURE RESEARCH DIRECTIONS

Discussion

Companies and businesses around the world often seek to attain a sustainable competitive advantage across a number of perspectives, including production operations and through a better understanding of their target customers. Our study provides a first look at locally produced food customers in two regions of the world—Italy and the U.S. —and seeks to better explain differences in factors such as attitudes, normative influences, perceptions of consumer effectiveness, and connectedness with purchase intentions as they relate to environmentally friendly consumption. From the study, a number of key findings can be extrapolated and utilized when determining which business strategy could be most impactful to attract and retain customers and what may be most salient to consumers when selecting this category.

| Measurement model | χ^2 value | df | CFI | RMSEA | $\Delta\chi^2/df$ | Estimate | Critical ratio | p value* |
|--|----------------|-----|-----|-------|-------------------|----------|----------------|----------|
| Configural invariance model (unrestricted) | 589.10 | 316 | .97 | .04 | N/A | N/A | N/A | N/A |
| Full metric invariance (restricted) | 647.56 | 331 | .96 | .04 | 58.46/(15) | | | .00* |
| Attitude | 593.12 | 319 | | | 4.02/(3) | | | .26 |
| Subjective norms | 601.87 | 323 | | | 12.77/(7) | | | .08 |
| Perceived consumer effectiveness | 636.81 | 327 | | | 47.70/(11) | | | .00* |
| Connectedness | 608.18 | 327 | | | 19.08/(11) | | | .06 |
| Purchase intentions | 612.74 | 329 | | | 23.63/(13) | | | .03* |
| Final partial metric | 608.18 | 327 | .97 | .04 | 19.08/(11) | | | .06 |
| Initial partial scalar invariance | 680.56 | 340 | .96 | .04 | 72.38/(13) | | | .00* |
| Final partial scalar invariance | 630.63 | 338 | .96 | .04 | 41.53/(22) | | | .01* |
| Factor means (Italy group as reference) | | | | | | | | .00* |
| Attitudes | | | | | | 15** | - 1.62 | .11 |
| Subjective norms | | | | | | .49** | 3.79 | <.01* |
| Perceived consumer effectiveness | | | | | | 45** | - 3.90 | <.01* |
| Connectedness | | | | | | .55** | 5.01 | <.01* |
| Purchase intentions | | | | | | .59** | 6.31 | <.01* |
| Full factor variance invariance | 652.06 | 343 | .96 | .04 | 21.43/(5) | | | .00* |
| Attitudes | 637.34 | 339 | .96 | .04 | 6.71/(1) | | | .01* |
| Subjective norms | 639.08 | 339 | .96 | .04 | 8.45/(1) | | | .00* |
| Perceived consumer effectiveness | 643.50 | 339 | .96 | .04 | 12.87/(1) | | | .00* |
| Connectedness | 639.27 | 339 | .96 | .04 | 8.64/(1) | | | .00* |
| Purchase intentions | 630.67 | 339 | .96 | .04 | 0.04/(1) | | | .84 |
| Final partial factor variance invariance | 630.67 | 339 | .96 | .04 | 0.04/(1) | | | .84 |
| Initial full factor covariance invariance | 680.49 | 349 | .96 | .04 | 49.82/(10) | | | .00* |
| CON⇔PI | 631.58 | 340 | .96 | .04 | 0.91/(1) | | | .34 |
| AT⇔PI | 631.75 | 341 | .96 | .04 | 1.08/(2) | | | .58 |
| SN↔PI | 632.45 | 342 | .96 | .04 | 1.78/(3) | | | .62 |
| PCE↔PI | 632.45 | 343 | .96 | .04 | 1.78/(4) | | | .78 |
| Final partial factor covariance invariance | 632.45 | 343 | .96 | .04 | 1.78/(4) | | | .78 |
| Final measurement model *** | 656.32 | 345 | .96 | .04 | | | | |

TABLE 3. Measurement Model Invariance Testing

**p* < .05.

**estimates represent differences between groups, with Italian group as reference and U.S. group estimated.

***removed error covariances in final model due to insignificance in U.S. group (AT3&AT4 and SN1&SN4).

| TARI F 4 | Structural | Model Hypotheses | Testing (H1_H5a_d) |
|----------|------------|------------------|--------------------|
| | ondotara | would hypotheoeo | |

| | χ^2 value | df | CFI | RMSEA | $\Delta\chi^2/df$ | Standard estimate | Critical ratio | p value* |
|---|----------------|-----|-----|-------|-------------------|-------------------|----------------|----------|
| Full structural model | 468.26 | 210 | .95 | .04 | | | | |
| $AT \rightarrow PI$ (Italian) (H1) | | | | | | 3.14 | 3.97 | <.01* |
| $AT \rightarrow PI (U.S.) (H1)$ | | | | | | 3.99 | 4.22 | <.01* |
| $SN \rightarrow PI$ (Italian) (H2) | | | | | | 53 | -1.69 | .09 |
| $SN \rightarrow PI (U.S.) (H2)$ | | | | | | 79 | -2.11 | .03* |
| $PCE \rightarrow PI$ (Italian) (H3) | | | | | | -2.19 | -2.94 | .00* |
| $PCE \rightarrow PI (U.S.) (H3)$ | | | | | | -5.45 | -3.29 | <.01* |
| CON→PI (Italian) (H4) | | | | | | 02 | 06 | .95 |
| $CON \rightarrow PI (U.S.) (H4)$ | | | | | | 3.07 | 2.84 | <.01* |
| Structural path invariance tests | | | | | | | | |
| Initial unrestricted path model | 468.26 | 210 | .95 | .04 | | | | |
| Initial full path restricted model (H5) | 479.45 | 214 | .95 | .04 | 11.19/(4) | | | .02* |
| AT→PI (equal) (H5a) | 468.27 | 211 | .95 | .04 | 0.01/(1) | | | 1.00 |
| $SN \rightarrow PI$ (equal) (H5b) | 468.41 | 212 | .95 | .04 | 0.15/(2) | | | .93 |
| PCE→PI (equal) (H5c) | 478.69 | 213 | .95 | .04 | 10.43/(3) | | | .02* |
| CON→PI (equal) (H5d) | 479.19 | 213 | .95 | .04 | 10.93/(3) | | | .01* |

**p* < .05.

First and foremost, the study highlights the difficulty in doing cross-cultural research within a domain of sustainable foods such as those locally produced. While most construct measures were found to be invariant across the groups, those for perceived consumer effectiveness were generally noninvariant across the Italian and U.S. sample. One explanation may be the ambiguity of how consumers view aspects of the concept such as "making a difference" and "affecting environmental problems/ affecting sustainability" efforts. This would require further purification of the measures and the need to continue research that considers how, and more importantly why, consumers view their efforts of local food purchases as important. Second, the significant latent means differences across the samples for four of the five proposed constructs suggested that U.S. local food consumers reflect higher reported influences from family and friends about their local food purchases ($\Delta = .49$); a higher level of connectedness to the place (store), process (grower), and others (people) that are involved with local food items ($\Delta = .55$); and a higher level of purchase intentions for this category $(\Delta = .59)$. However, U.S. consumers were more skeptical ($\Delta = -.45$) that their consumption efforts were effective in affecting the environmental issues relating to local food purchasing compared to their Italian counterparts, possibly as larger grocers in the U.S. like Walmart, Wegmans, and Whole Foods continue to mainstream their local sourcing efforts while simultaneously trying to minimize potential negative impacts on the environment through improved transportation efforts (King, Gómez, and DiGiacomo 2010).

While the study determined that significant path relationships were found between $AT \rightarrow PI$ and $PCE \rightarrow PI$ for both groups, significant moderation was found between the Italian and U.S. samples for the relationships of $PCE \rightarrow PI$ and for $CON \rightarrow PI$. This suggests that consumers in both countries continue to have high attitudes toward local foods but that Italian consumers may feel less connected to the stores (estimate = -.02) where they purchase local foods or other consumers of local foods than U.S. consumers (estimate = 3.07) may reflect. This latter point is consistent with a recent survey made by Nielsen (2013b) showing that Italians are less prone to rely on acquaintances' recommendations when buying (78%) compared to the average EU citizen (80%) and worldwide citizen (84%). Regarding the lower feeling of connection to the grocery store when buying locally produced food, we believe that in order to understand this result, the following opinion of the president of Popai Italia could be particularly enlightening:

In Italy there's no sense of discovery or of interest that drives, for example, the boom of a chain like Whole Foods abroad for two main reasons. First, the glittering produce departments of U.S. chains like Nugget Market, Sprouts, Fairway reveal their distant origins now as 'greengrocers,' while in Italy, the supply of the 'freshest produce' often came about as an afterthought expansion of the core business of packaged groceries. Second, while in other countries produce was discovered to be an antidote to the dominion of mass-market foods, in Italy the model went from self-consumption and localism to the convenience of self-service outlets. (Tirelli 2014, 22)

In fact, Italian grocery chains (Coop Italia, Conad, Esselunga) are not pushing local producers with the strong intensity as U.S. chain stores are employing; rather they prefer to invest in GIs products under their premium private label. Finally, across the construct of perceived consumer effectiveness, both the Italian and U.S. samples reflected significant negative relationships with purchase intentions (Italian = -5.45; U.S. = -2.19). Marketers, therefore, may wish to consider ways to get consumers to feel a larger part of the food system process, from more enhanced in-store signage that promotes the positive effects on the environment to signage that shows the specific farm or farmer that will be impacted by such purchases. This also suggests that other factors relating to purchase intentions may be more salient to consumers, such as product availability, price, or shopping trip not included in this exploratory study.

For multinational companies seeking to better understand their consumers, the goal is to seek continual feedback from a broad range of customers, particularly as the world becomes more integrated and geographic borders continue to shift. However, as suggested by Roberts (1996) and Diamantopoulos and colleagues (2003), there is great difficulty in segmenting and profiling "green" consumers who are ecologically aware and responsive to adding these types of products. Therefore, grocers may simply wish to highlight their support of local farms, engagement in socially responsible activities, and purchasing of locally produced foods as a way to make a positive connection with their customers through increased marketing, advertising, and sourcing efforts. Extended effects from this marketing campaign may allow companies to understand what types of products customers may want within their regions of the world and also how they want them sourced. It may also effectively lead to repeat customers who identify with these companies and choose to support them.

Limitations

Within the exploratory study, we note a number of limitations that must be recognized. First, we note that qualitative research was not completed as part of this project but would be useful to further understand why consumers choose local products. Next, the sample only included Italian and U.S. consumers. While previous literature has not investigated how European and American consumers may differ across a number of factors relating to local food purchase, the generalizability may be limited until a number of other countries are included and comparisons made that also consider culture as a factor. Third, as with any translation of surveys to different languages, we must acknowledge that the possibility exists, even with reasonably reliable and valid survey measures, that certain questions may not have been fully understood or interpreted the same way across the two groups. To this end, it is important to continue to develop measures that might fully capture the essence and meaning of locally produced food items to individual

consumers. Finally, we note that stratification of the samples was not completed for this exploratory study but may be necessary in the future to consider other demographic impacts such as age, education, gender, or geographic differences where locally produced foods may be of greater importance to the culture and economy.

Future Research Directions

Future studies, then, should consider the role of culture and in-store environment effects to better determine drivers of customer choice for sustainable products like those locally produced. A comparative study across different channels for local products (e.g., farmers' markets versus retail grocery) may also help to uncover important customer differences that could be leveraged into better sustainable retailing practices. Retail grocers may also wish to consider how customers view locally produced food items across a number of different product categories to ensure that strategies relating to assortment, pricing, and displays match the consumer expectations. Future studies may also seek to determine the level of participation that consumers want or need as part of the food production scheme, as some consumers want greater ownership in the process (Holloway et al. 2007). As the Slow Food Movement continues to speed across various countries around the world and becomes more mainstream, grocers not only have an opportunity to connect with their customers by sourcing local but also to create a perceived level of social goodwill that can help them retain a strategic competitive advantage in an otherwise highly competitive food market.

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