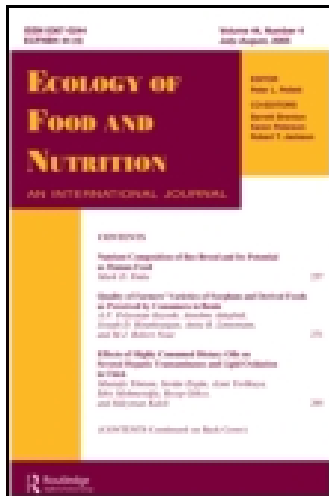


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### Country-of-Origin Labeling Prior to and at the Point of Purchase: An Exploration of the Information Environment in Baltimore City Grocery Stores

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# Country-of-Origin Labeling Prior to and at the Point of Purchase: An Exploration of the Information Environment in Baltimore City Grocery Stores

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*The country-of-origin labeling (COOL) law requires United States grocers to indicate the origin and procurement method (farm-raised or wild-caught) for seafood. This study explored the presentation of COOL on fresh, frozen, packaged, and unpackaged seafood in Baltimore City grocery stores. Eight stores were visited bi-monthly to photograph seafood labels, and circulars were collected weekly from fourteen stores over three months. Ninety-six percent of products were labeled correctly. Forty-eight percent of advertisements included COOL. While in-store labels did not highlight COOL, advertising featured references to domestic and wild-caught seafood, signaling to customers that these are high-value product qualities.*

**KEYWORDS** *food labeling, food marketing, seafood*

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## INTRODUCTION

Mandatory country-of-origin labeling (COOL), introduced through the 2002 United States Farm Bill, requires grocery retailers to notify consumers at the point of purchase about the country of origin of certain foods, including fish and shellfish, meat and poultry, fresh and frozen produce, and specific nuts and legumes (USDA 2009). For seafood, the label must further differentiate between farm-raised and wild-caught fish and shellfish. The term “farm-raised” refers to products that are hatched, raised, and harvested in captivity where the term “wild” describes fish and shellfish harvested in the wild (Agricultural Marketing Service 2009). Only full grocers, whose profits on produce exceed \$230,000 annually, are subject to COOL, thus excluding butcher shops, fish markets, corner stores, as well as many small grocers and specialty markets (Agricultural Marketing Service 2009).

The law states that COOL must be visible and legible, but it does not specify how retailers should structure their merchandise display in order to communicate origin and procurement information to consumers. Furthermore, the law does not require grocers to include origin or procurement information in their advertising or other promotional materials (Agricultural Marketing Service 2009). Retailers, then, are free to define what, if any, marketing strategies and visual cues they will employ to attract shoppers’ attention to COOL. This is a particularly relevant avenue of study given the controversial history of COOL (Krissoff et al. 2004). While consumer advocates have long favored the law, many retailers opposed its passage for fear that the cost of implementing the policy would outweigh the benefits (Krissoff and Kuchler 2007). Retailers’ highlighting of origin or procurement method in seafood advertising and labeling may then suggest that they are beginning to perceive or are attempting to frame the value of these product features relative to others. This study explores variations in the implementation of COOL across grocery stores in Baltimore City and by informational format. Of particular interest is the nature of information available to consumers regarding COOL both prior to and at the point of purchase and how the presentation of this information may vary between store advertisements and in-store labels.

## Food Marketing and Labeling and Consumer Demand for Information

The information environment in grocery stores at once influences and reflects societal expectations of and values around food (Caswell and Padberg 2002). To shape consumer expectations, advertising and in-store displays draw attention to specific foods or highlight particular product characteristics. In doing so, retailers increase consumer awareness of certain attributes and create demand for specific products (Henneberry and Armbruster 2003). Featuring certain product characteristics over others may also reveal an effort

to construct these attributes as being valuable to the individual consumer and to public health more broadly.

Food labeling and advertising also meets consumers' growing demand for information about the food they purchase (Wessells 2002; Caswell and Mojduszka 1996; Henneberry and Armbruster 2003). Heightened awareness about food borne illness and growing concern about the environment has led to demands for safer, healthier, more traceable foods (Henneberry and Armbruster 2003). Recognizing that consumers will seek out products deemed to be safer or healthier, producers and retailers of seafood, in particular, have increasingly distinguished their products according to country of origin as well as nutritional and environmental characteristics (Mariojouis and Roheim 2002).

### Country-of-Origin Labeling: Defining Credence Characteristics

Food labels are particularly useful in identifying and defining credence attributes, those characteristics which are neither tangible nor directly observable even after purchase (Darby and Karni 1971). For food, safety, nutrition, production conditions, and ethical considerations are important attributes guiding consumer food choices (Henneberry and Armbruster 2003; Wessells 2002). Labeling can transform these credence attributes into identifiable, searchable characteristics and convey information about the 'true' nature of a product (Henneberry and Armbruster 2003; Caswell 1998).

### Country-of-Origin Labeling as a Signal of Food Safety

The role of food labels as a signal of food safety and quality is increasingly relevant in light of rapid changes in technology for food production, processing, and distribution, increasing globalization of the food system (Popkin 2006), and growing uncertainty among consumers about food safety (Miles et al. 2004; Brewer and Rojas 2008; Roe et al. 2001; Kriflik and Yeatman 2005). Concerns about food safety are particularly salient for consumers of seafood. While there is a vast and growing body of research that indicates a myriad of health benefits associated with eating fish and shellfish (Hu and Willett 2002; Parker et al. 2006; Osher and Belmaker 2009; Genius and Schwalfenberg 2006; Mozaffarian 2008), a number of negative health consequences have, however, been documented with frequent consumption of seafood (Valentino, Torregrossa, and Saliba 1995; Mergler et al. 2007; Nesheim and Yaktine 2007). In two surveys of seafood shoppers, respondents indicated a broad knowledge of health and safety concerns about seafood (O'Dierno et al. 2006) and ranked health risks from possible contaminants among the top three most important factors influencing respondents' purchase decisions (Gorelick et al. 2011). Despite this interest in seafood

safety, the risks and benefits associated with seafood consumption are not always clearly communicated to the public (Greiner, Smith, and Guallar 2010).

There is some evidence that origin labeling is an important decision aid among seafood shoppers (O'Dierno et al. 2006; Gorelick et al. 2011; Wirth, Love, and Palma 2007; Claret et al. 2012), signaling food safety and quality (Wirth et al. 2007). The perceived utility of country-of-origin labeling has been found to be greater among consumers who express concern over food safety (Roosen 2003). In a market-based survey of shrimp shoppers, for instance, country of origin was more strongly associated with quality and safety than were other characteristics such as size, product form, price, or production method (Wirth et al. 2007). COOL may, therefore, translate food safety, a credence attribute, into a identifiable characteristic.

### Country-of-Origin Labeling as a Signal of Environmental Sustainability

Environmental impacts are a growing area of concern with respect to food production (UN FAO 2006) and consumers are increasingly considering environmental issues in making seafood purchases (Verbeke, Vonhonacker, et al. 2007; Gorelick et al. 2011; O'Dierno et al. 2006). In a household study, shoppers ranked environmental impact among the top ten factors in making purchasing decisions for purchase of fish and shellfish (Gorelick et al. 2011). Environmental concerns may be explicitly linked with procurement method, such that some shoppers will avoid wild fish for due to sustainability concerns (Verbeke, Vonhonacker et al. 2007; O'Dierno et al. 2006), while others pass up farmed fish both for environmental reasons (Whitmarsh and Giovanna 2011; Gorelick et al. 2011) as well as worry over quality (Verbeke, Sioen, et al. 2007; Verbeke, Vonhonacker, et al. 2007). Because the label distinguishes between wild and farm-raised fish and shellfish, COOL may serve as a signal for process conditions, transmitting information about the potential environmental impact of seafood purchases (Krissoff and Kuchler 2007; Wessells 2002).

### Summary

While research is mixed on consumer response to COOL (Kuchler, Krissoff, and Harvey 2010; Umberger et al. 2003; Schupp and Gillespie 2001; Joseph, Lavoie, and Caswell 2009; Loureiro and Umberger 2005), a growing body of literature suggests that both the origin and production history of fish and shellfish are relevant points of consideration among consumers as they decide what seafood to purchase (Wessells 2002; O'Dierno et al. 2006). Coupled with an increasing demand for information about otherwise intangible product qualities such as safety, quality, and environmental impact

(Caswell and Mojduszka 1996), COOL may become a valuable tool in marketing certain product attributes over others and ultimately guiding consumers' choices at the point of purchase. This study aims to explore the nature and presentation of country of origin and procurement method in grocery retailers' advertising for and labeling of seafood.

## METHODS

### Study Overview

This research took the form of a case study of a single U.S. city as a purchasing environment. The following two research questions guided the analysis: (1) What information is available to consumers about the country of origin of fish and shellfish prior to and at the point of purchase? and (2) How does presentation of country of origin and procurement information vary between store ads and seafood labels?

### Study Site

Case study research facilitates the development of a nuanced and detailed understanding a phenomenon or event in its real-world context (Flyvbjerg 2011). The present investigation seeks to illustrate the informational context in which COOL for seafood is implemented. Baltimore was identified as an information-rich case, capable of yielding transferable findings (Yin 2009). The city is located in central Maryland on the Patapsco River, an arm of the Chesapeake Bay. Its proximity to marine resources makes seafood both a culturally- and geographically-salient element of the diet for Baltimore residents (Kittler, Sucher, and Nelms 2012). With a population of 619,493, Baltimore is the 24th largest city in the United States. According to the 2010 U.S. Census, 63.7% of the population was African American, compared to 29.6% Caucasian, and 21.3% of residents live in poverty (U.S. Census Bureau 2010). Like the majority of large metropolitan areas in the United States, Baltimore is markedly segregated by race and income (Frey and Myers 2005) contributing to disparities in access to food across the city (Center for a Livable Future 2010). The distribution of grocery outlets is uneven across Baltimore City, such that supermarkets, which provide a wider range of fresh and non-processed foods than other store types, comprise a greater proportion of the food environment in predominantly white neighborhoods (13%) compared to neighborhoods that are predominantly of African American (8%) (Center for a Livable Future 2010). The range and distribution of food outlets in Baltimore is consistent with broader trends urban food environments (Powell et al. 2007).

## Store Sample

The sampling frame for this investigation was comprised of all grocery outlets in Baltimore City ( $n = 600$ ). Reflecting the purview of the Country-of-origin Labeling law, convenience stores ( $n = 144$ ) and small grocers/specialty shops ( $n = 414$ ) were excluded from the sampling frame, as were supermarkets that did not sell seafood ( $n = 9$ ). Following exclusions, 33 supermarkets, representing fourteen different retailers, fit the eligibility criteria for inclusion in this study.

Of these fourteen retailers eligible for inclusion in this research, the final analytic sample included all independent supermarkets in Baltimore City ( $n = 6$ ) and one store location from each grocery chain ( $n = 8$ ). Chain store locations were chosen with the aim of reflecting the distribution of grocery stores across Baltimore. We made two separate visits to two additional store locations for each chain of stores. This was done to assure consistency in labeling within each chain, to assess potential differences in product variety by store location, and to determine whether our sample size was large enough to reach informational redundancy (Sandelowski 1995). No differences were noted in labeling or advertising and little variation was observed in product availability within each chain of stores, suggesting that no new information would be added were we to increase our sample size. In total, 14 stores located in Central, North, and East Baltimore were included in this investigation. This distribution reflects the Baltimore food environment, with the majority of large grocery stores located in the Central, Northern, and Eastern districts (Center for a Livable Future 2010).

## Data Collection

### AT THE POINT OF PURCHASE: STORE LABELS

Of the 14 stores included in this study, the lead author made bi-monthly visits to eight stores for three months between November 2010 and January 2011 (about four visits per store) for a total of 28 store visits. The eight stores from which both product labeling and advertising data were collected reflected the variety of store environments and products available across the larger sample and were not meaningfully different than those from which only advertising data were gathered. While most stores were visited four times throughout the data collection period, two stores denied further access after two study visits. However, little variation was observed in the labeling practices for each store during data collection and data saturation was achieved early on. For this reason, denial to make additional observations had little impact on the investigators' abilities to draw conclusions from the data and these stores remained in the analysis.

In order to assess the nature of information about seafood origin and procurement provided to consumers at the point of purchase, COOL for



non-packaged fresh, packaged fresh, and frozen seafood were photographed in each store. Fresh, non-packaged seafood were most often sold by the pound at a seafood counter and were described at the point of purchase as “thawed,” “previously frozen,” or “never frozen.” Packaged, fresh seafood were typically sold in plastic-wrapped tray packages in refrigerated cases and frozen seafood were sold pre-packaged in the freezer section. Frozen seafood was sold under a variety of brand names and packaging and labeling is implemented at the distributor level.

We recorded the species (e.g., salmon, tilapia, squid, or hake) and cut (e.g., fillet, steak, “nuggets,” or whole) for all non-packaged fresh, packaged fresh, and frozen seafood. In addition, price was recorded for all fresh seafood. Field notes, taken prior to and immediately following each store visit, supplemented data collection by detailing the store environment, including neighborhood characteristics, variety and types of products sold, in-store amenities and upkeep, and the physical and informational environment around the seafood section. In addition, any relevant events occurring at the time of the data collection, such as national or religious holidays or sports event, were recorded in our field notes.

#### PRIOR TO PURCHASE: STORE ADVERTISING

Of particular interest in this study was if and to what extent COOL information appeared in store advertisements, and whether the nature of this information varied in any way from how it was presented at the point of purchase. To explore this aim, store circulars were collected online, weekly from all fourteen stores between November 2010 and February 2011. During data collection, we observed that presentation of COOL in advertising as slightly more variable than on in-store labeling. For this reason, an additional month of data collection was deemed necessary to achieve saturation. Online circulars were first located through a website address printed on circulars distributed on-site in stores. Print versions of the store circulars were periodically compared to the corresponding online reproductions to assure that each store posted exact replications of their print ads online.

#### Analysis

We employed a mixed-methods investigation of information available to Baltimore shoppers prior to and at the point of purchase regarding country of origin and procurement method for seafood. Qualitative methods were employed to describe the presentation and prioritization of COOL, while quantitative methods were used to examine the prevalence and co-occurrence of codes throughout the dataset.

The sample was divided into three categories: low-price, mid-price, and high-price stores. Store categorization was based on differences in both the average and the range of prices for seafood products. Price was recorded post data-collection from photos of product labels and archived store circulars. It should be noted that pricing units varied by packaging such that non-packaged, fresh seafood was priced, advertised, and sold by the pound while packaged fresh and frozen products were priced, advertised, and sold by the package. For this reason, field notes and observations about the store environments served to corroborate the analytic categorizations.

In order to determine the degree to which origin and procurement information are cast as being special, important, or otherwise desired product characteristics, the presentation of these features in store circulars and on point-of purchase COOL was assessed for each store. In reflection of this aim, labels and circular ads were coded according to the following characteristics so as to describe the prominence and consistency of COOL both in the store and in advertising:

- Location: For store circulars, is the ad positioned higher or lower on the page relative to others? Is it central on the page or off to the side? For labels, how is it placed relative to the product?
- Use of color: Do the colors draw attention to COOL information in the advertisement or label?
- Font Size: Does COOL information appear smaller, larger, or the same size as other product information?
- Bolding: Is COOL information bolded (or not) compared to other product information?
- Font change: Is COOL presented in uniform font compared to other product information?

A thorough reading of marketing and communication literature served to develop the initial coding criteria (Bellizzi, Crowley, and Hasty 1983; Chandon et al. 2009; Danesi 2008; Gorn et al. 1997; Juni and Gross 2008; Lohse 1997; Pieters and Wedel 2004; Rosbergen, Pieters, and Wedel 1997; Schindler 1986; Schoormans and Robben 1997). The codebook was then finalized through several rounds of pilot coding where each coding category was challenged, expanded, or removed based on its ability to capture nuance in and appropriateness to the data. The final codebook was applied to the sample by the lead author. In analysis, each code was assigned a numerical value (either 0 or 1, indicating whether a trait was present or not) and subjected to descriptive quantitative analysis. Additional observations were drawn from the raw data as well as the lead author's field notes.

## RESULTS

## Store Overview

The lead author photographed a total of 628 country-of-origin labels for non-packaged fresh, fresh-packaged, and frozen seafood products from eight stores. Differences were observed in the variety of seafood sold across stores, with a range of 6 to 19 products sold at each store (Table 1). More products were available at high-price stores than low-price stores. In addition, the packaging options for seafood products differed by store type; high- and mid-price stores sold fresh, unpackaged fish and shellfish in addition to fresh-packaged and frozen seafood while the packaging selection in low-price stores were more limited (Table 1).

The vast majority of seafood in stores was labeled in concordance with the COOL policy (96.2%), specifying both the product's country of origin and its procurement method (Table 2). By country of origin of products, 44.5% were domestic, 52.5% were imported, were mixed origin (1.9%), and were not labeled (1.1%). By procurement method of products, 53.7% were wild-caught, 43.6% were farmed, and 2.7% were not labeled. Table 2 summarizes seafood origin and procurement characteristics by store. There were 37 different species of seafood sold across all stores, with the most common being salmon ( $n = 87$ , 13.9%), tilapia ( $n = 85$ , 13.5%), catfish ( $n = 67$ , 10.1%),

**TABLE 1** Number and Type of Seafood Products Available for Purchase, by Store

Store type <sup>a</sup>	Stores (N)	Species <sup>b</sup>	Fresh, non-packaged <sup>b</sup>	Fresh, packaged <sup>b</sup>	Frozen <sup>b</sup>
Low-price	3	6, 9, 9	0, 33, 0	0, 6, 23	34, 10, 4
Mid-price	3	7, 15, 17	33, 61, 28	13, 9, 44	18, 12, 78
High-price	2	16, 19	37, 38	46, 6	90, 5

<sup>a</sup>Store categorization was based on differences in both the average and the range of prices for seafood products.

<sup>b</sup>Data points indicate values for Store 1, Store 2, and Store 3, respectively.

**TABLE 2** COOL at the Point of Purchase, by Store Type ( $n = 628$  products)

Store type	Origin				Procurement		
	Domestic	Imported	Mixed	None listed	Wild	Farmed	None listed
Low-cost ( $n = 110$ )	44.5%	51.8%	2.7%	0.91%	48.2%	43.6%	8.2%
Mid-cost ( $n = 295$ )	41.7%	55.2%	1.7%	1.7%	53.6%	44.7%	2.0%
High-cost ( $n = 222$ )	48.2%	49.5%	1.8%	0.45%	56.8%	42.3%	0.90%
All stores ( $n = 628$ )	44.4%	52.5%	1.9%	1.1%	53.7%	43.6%	2.7%

**TABLE 3** Most Commonly Sold Seafood, by Origin and Procurement ( $n = 628$  products)

Seafood type	Origin				Procurement		
	Domestic	Imported	Mixed <sup>a</sup>	None listed	Wild	Farmed	None listed
Salmon ( $n = 87$ )	35.6%	56.3%	8.0%	0	48.3%	48.3%	3.4%
Tilapia ( $n = 85$ )	30.6%	64.7%	4.7%	0	0	100%	0
Catfish ( $n = 67$ )	47.8%	47.8%	4.5%	0	3.0%	97.0%	0
Shrimp ( $n = 61$ )	21.3%	77.0%	1.6%	0	42.6%	50.8%	6.6%

<sup>a</sup>These products were labeled with multiple origins.

and shrimp ( $n = 61$ , 9.7%). See Table 3 for distinctions between domestic, imported, wild, and farmed seafood among the most commonly sold products. We compared labeling schema between seafood products within each category of packaged fresh, non-packaged fresh, and frozen, but did not find any remarkable or informative differences. Thus, the analyses presented here focus on differences in the presentation of COOL.

### Comparisons across Three Store Types

The proportion of seafood sold as wild-caught was higher in the high-price stores than in the low-price stores. For low-price stores 48.2% of products were wild-caught, 43.6% were farmed, and 8.2% of products were unlabeled. At mid- and high-price stores, a slightly greater proportion of seafood sold was wild-caught (53.6% and 56.8%, respectively) compared to farm-raised (44.7% and 42.3%, respectively). The proportion of imported seafood was higher at low-price stores than at mid- and high-price stores. Imported seafood constituted 55.2% of products in low priced stores, 51.8% of products in mid-priced stores, and 49.5% of products in high-priced stores. See Table 2 for a summary of product characteristics by store type.

### Country-of-Origin Labeling for Fresh, Non-packaged Seafood

For fresh seafood, COOL was typically presented on uniform placards next to or in front of each product, featuring origin and procurement information, along with product price, sale information, and (for one high-price store) third party certification. For all stores, the labeling format was consistent throughout the entire data collection period. Point of purchase placards in each store all featured price more prominently than any other product information. Origin and procurement information was most often presented in



**FIGURE 1** Comparison of typical and prominent presentations of COOL at the point of purchase in Baltimore city grocery stores (color figure available online).

smaller font relative to the other text. While this information was legible, it was often unremarkable.

A small number of mid- and high-price stores highlighted COOL at the point of purchase by using a unique font style or color, displaying origin and procurement information in a larger format relative to other product characteristics, or placing one or both of these features in a prominent position on the label—at the top of the placard. Across all stores, local products, typically oysters, clams, or crabs harvested in Maryland or Virginia, were those most visibly highlighted through the use of special placards or supplementary materials placed near the product at the seafood counter. For labels highlighting country-of-origin information, some also included a regional description, particularly for Alaskan and Gulf seafood. In addition, labeling for one high-price store consistently included a supplementary, third-party logo indicating the sustainability practices or concerns associated with each seafood product. This label was separate from COOL. Figure 1 provides examples of typical and prominent presentations of COOL for fresh seafood.

### Country-of-Origin Labeling for Fresh, Packaged Seafood

As with the labeling for non-packaged fresh seafood, COOL for packaged fresh seafood was uniformly presented at each store. Further, very little

variation was observed between stores in the presentation of COOL for packaged, fresh seafood. Price was most visible on the label, presented in a larger font relative to other product information. Origin and procurement information appeared in small font that was not highlighted through use of color, bolding, or italics. Though the information was present, it was not prioritized in any way. One store, in fact, displayed origin information on the underside of the package in a checklist format so that the only way a customer would encounter this piece of information is if he/she were to explicitly seek it out.

### Country-of-Origin Labeling for Frozen Seafood

The presentation of COOL for frozen seafood was more variable than that of fresh seafood. These products are packaged and branded by a number of different seafood companies, and the labeling convention varies across marques. Origin and procurement information was often difficult to find on frozen seafood packages, typically presented in small type on the back of the package, below the nutrition label. In cases where COOL information was highlighted, however, it was typically displayed on the front of the package. Frozen seafood packaging more commonly highlighted procurement method over origin. Specifically, seafood companies featured wild products over farm-raised.

Lastly, in addition to COOL information, frozen seafood packages often presented health and environmental claims. Health claims were typically featured on the front of the package, advertising seafood as “low fat,” a “healthy choice,” “high in omega-3,” or as being “high in protein.” A small number of packages made environmental claims, describing the products as “a wild sustainable resource,” for example, or “best aquaculture practices certified.” Additionally, wild-caught seafood was often presented as “natural,” suggesting that consumers may associate these terms with one another.

### Country-of-origin Labeling in Advertising

A total of 660 circular advertisements were collected across the entire sample (14 stores). Price was the most prominent piece of information appearing in the ads. Just under half ( $n = 305$ , 46%) of all seafood ads presented either origin or procurement information. The most commonly advertised fish and shellfish were shrimp ( $n = 149$ , 22.6%), crab ( $n = 61$ , 9.2%), catfish ( $n = 43$ , 6.5%), and scallops ( $n = 33$ , 5%).

In general, there was little variation by store type in the proportion of ads including COOL information (43% for low-, 50% for mid-, and 44% for high-price stores). Overall, procurement information was highlighted more frequently than origin across all advertising. Over half of seafood ads,



**FIGURE 2** Comparison of typical and prominent presentations of COOL in advertising (color figure available online).

across all stores, featured procurement method, favoring wild-caught products (25.2%) over farmed fish (14.8%). Origin was included in just under one quarter of seafood ads (22.0%), with domestic and imported products receiving equal focus (39.7% and 38.3%, respectively).

Some differences were observed by store type in the COOL-related content appearing in seafood ads. See figure 2 for a comparison of COOL information presented in advertising, by store type. Seafood ads appearing in circulars for low-price stores featured information about origin more often than procurement method, favoring imported seafood over domestic (81.9% versus 72.3%, respectively). In contrast, ads appearing in store circulars for mid- and high-price stores highlighted procurement method slightly more often than origin information. Thirty percent of seafood ads appearing in circulars for mid-price stores featured wild-caught seafood. Slightly more than two thirds (34.5%) of the ads for high-price stores highlighted farm-raised seafood. See Table 4 for a comparison of COOL information presented in advertising, by store type.

**TABLE 4** COOL in Advertising, by Store Type (n = 660 advertisements)

Store Type	Origin			Procurement		
	Domestic	Imported	None Listed	Wild	Farmed	None Listed
Low-Cost (n = 260)	72.3%	81.9%	47.3%	58.5%	58.5%	34.2%
Mid-Cost (n = 253)	19.4%	10.3%	4.3%	30.4%	20.2%	15.0%
High-Cost (n = 145)	17.2%	9.7%	7.6%	20.7%	34.5%	12.4%
All Stores (n = 660)	39.7%	38.3%	22.0%	25.2%	14.8%	59.7%

## Visual and Rhetorical Features Highlighting Country-of-Origin Labeling in Advertising

Ads for seafood appearing in circulars for low-price stores did not typically draw any particular attention to fish or shellfish. In contrast, ads appearing in circulars for mid- and high-price stores were often designed to highlight seafood products. Health claims were most often used to draw attention to seafood ads. Fish and shellfish were presented as a “healthy choice” or “healthy idea.” Further, shoppers were impelled to “choose healthy” and “eat seafood twice per week.” Salmon, in particular, was advertised as “high in omega-3” or “low fat.” These types of health claims appeared in special call out bubbles or were highlighted using a unique font and color.

Similar techniques were used to highlight seafood origin and procurement information in store advertisements for mid- and high-price stores. While present, COOL appearing in advertising for low-price stores was not typically highlighted or featured relative to other product qualities. Among ads including origin information, regional identification—specifically “Alaskan,” “Gulf,” and “Scottish”—was more common than country-level specifications (e.g., U.S. or “domestic”). Locally-raised or -harvested seafood was frequently featured, specifying the product’s origin as “local” or from “Maryland.” These words and phrases were presented in a unique color from the rest of the text, drawing the reader’s attention.

Ads featuring procurement method typically highlighted wild-caught seafood through the use of unique font style or color or by describing the product as “fresh” or “all natural.” Information about farm-raised seafood, if present, was not highlighted through these types or typographical or rhetorical mechanisms. Similarly, ads featuring wild-caught fish and shellfish would highlight procurement method using a blue, green, or yellow emblem featuring the word, “wild” or the phrase, “wild caught!” Ads for wild seafood appearing in circulars for mid- and high-price stores would often highlight these products by describing them as “fresh” or “all natural.” Though less frequent, ads for these stores also used environmental claims to draw attention to seafood. One high-price store included emblems indicating certification by the “Marine Stewardship Council” or texting stating the product was “Blue Ocean Institute Certified.” Other stores in this category described seafood as “responsibly farmed,” “harvested from certified waters,” or used non-specific qualifiers to describe procurement, such as “from icy cold waters,” “salt water fresh,” or “fresh-caught.”

## DISCUSSION

With growing knowledge about methods of food production and the connections between diet and health, consumers have come to demand higher quality food (Caswell and Mojduszka 1996) and expect more detailed



information about their food purchases (Wessells 2002; Henneberry and Armbruster 2003). In response to these demands, food producers and retailers have focused on promoting their food products by marketing desirable product attributes, namely health, quality, safety, and, to some extent, environmental impact (Caswell and Mojduszka 1996; Wessells 2002; Henneberry and Armbruster 2003).

The information being provided about food content and quality is also shaped by the U.S. government's enhanced requirements regarding informational labeling. Such labeling has the potential not only to shape consumer knowledge and behaviors (Henneberry and Armbruster 2003), but also may serve as a mechanism for regulating manufacturers' and retailers' marketing practices (Henneberry and Armbruster 2003; Caswell and Mojduszka 1996).

Country-of-origin labeling is one example of a federal policy that aims to address consumers' demand for information through mandated point of purchase labeling. While this policy is mainly informational in its intent (USDA 2009), our research demonstrates that there is opportunity for retailers to use COOL as a marketing strategy. This study illustrates the extent to which country-of-origin and procurement method information, as required by COOL, were highlighted in retailers' labeling of and advertising for seafood. Attention to origin and procurement method in marketing may point to the salience of these features as selling points for fish and seafood.

Point of purchase labeling for seafood in Baltimore City grocery stores largely meets the requirements of COOL as indicated under the U.S. Farm Bill. Nearly all seafood labels and packages included the obligatory information, indicating both the origin and procurement method for fish and shellfish. At the point of purchase, retailers were mostly compliant with the policy but COOL was not highlighted at the point of purchase for fresh seafood. In-store labels did not typically draw attention to seafood origin or procurement, although store advertising most often featured wild-caught and domestic products. Using rhetorical mechanisms, these features were linked to high-value products attributes: health, safety, and environmental impact.

Seafood was most consistently highlighted in advertisements for mid- and high-price stores. These retailers used health claims to draw shoppers' attention, likely appealing to consumers' perceptions of fish and shellfish as nutritious food (O'Dierno et al. 2006; Nauman et al. 1995; Wessells 2002); however, there were no overt connections between the health benefits of seafood and COOL attributes. Health and nutrition claims appeared in advertisements featuring foreign and domestic as well as wild and farmed seafood products, alike.

More often, the advertisements examined in this study framed COOL as a safety indicator, making links between procurement method and seafood quality, a key food safety concern among consumers (Wirth et al. 2007; Grunert 2005; O'Dierno et al. 2006). Advertisements featuring procurement method most often highlighted wild-caught fish and shellfish, claiming these products are "fresh" or "all natural." There is some evidence to suggest that

consumers view these claims as indicators of food safety and quality. Seafood labeled as “fresh,” for instance, is perceived to be of higher quality (Wessells 2002) and healthier than fish and shellfish not bearing this distinction (Gross 2003). Similarly, findings from a study of labeling for pork, indicate positive associations with products distinguished as “all natural” as consumers tend to view this designation as a signal for health- and safety-related process attributes, including antibiotic, hormone, and chemical use (Abrams, Meyers, and Irani 2010). Indeed, process and production are critical concerns to seafood consumers (Wessells 2002; O’Dierno et al. 2006). Concerns over the environmental impact and potential health risks of certain aquaculture operations have diminished the social acceptability of the industry (Whitmarsh and Giovanna 2011; Schlag 2010). In addition, purchasing studies have demonstrated a preference for ocean-caught fish (Bennet 2003; O’Dierno et al. 2006). These biases were reflected in the advertising strategies employed by the stores in this sample, with a greater proportion of seafood ads overall and particularly for mid- and high-price stores, featuring wild-caught fish and shellfish than farm-raised seafood. The advertising tactics observed in the present study may suggest that retailers recognize potential for COOL as process indicator, framing wild-caught seafood as healthier, safer, and of higher quality.

The labeling and advertising practices observed in the present study also convey a slight partiality toward more sustainable seafood options. Ecological issues emerged as a relevant selling point in advertising for mid- and high-price stores and for marketing on frozen seafood packages, sold across all store types. A variety of tactics were used across stores and marketing platforms, including third-party eco-labeling, separate from COOL and issued by non-governmental organizations like the Marine Stewardship Council, as well as environmentally-relevant claims like, “responsibly farmed,” aligning the store or, in the case of frozen seafood, the brand with growing environmental awareness among U.S. consumers. Indeed, though recognition of eco-labels and affiliated claims is still developing among consumers (Gorelick et al. 2011), there is evidence to suggest that environmental statements direct shoppers’ seafood selections (Hallstein and Villas-Boas 2009; O’Dierno et al. 2006).

The concentration of environmentally focused advertising and labeling among mid- and high-price stores is an indicator that marketers for these stores perceive such information to be more relevant to their shoppers than do marketers for lower-price stores. However, the effects of marketing are reciprocal in that advertising and labeling practices reflect but may also construct consumer expectations and demands (Wilkins 2002). In this way, mandatory labeling can serve both to direct marketing practices while informing public opinion (Caswell and Mojduszka 1996).

In addition to environmental motivations, domestic and regional identification emerged as an important selling point for fish and shellfish. Ads and

in-store labeling, alike, drew shoppers to U.S. products broadly, pointing customers toward “Gulf” shrimp or “Alaskan” crab and salmon. Even in stores where COOL was not typically prominent at the point of purchase, distinctive placards, promotional materials, or special symbols were all employed to draw shoppers to local products, specific to the Mid-Atlantic region, at one point or another during data collection. Regional identification was not observed for imported products, suggesting a preference for domestic and/or culturally relevant foods.

The focus on domestic and regional foods in grocery stores is neither new nor specific to COOL. Prior to passage of the national law, for instance, some states had already adopted their own mandatory country-of-origin labeling laws and guidelines. Beginning in 2001, Louisiana required retailers to label meat as either “imported” or “American”; and since the 1980s, Florida and Maine have mandated country-of-origin labels for fresh produce (Schupp and Gillespie 2001). In addition, starting in the mid-twentieth century, the U.S. government permitted regional marketing campaigns to highlight geographically-identified foods, such as the “Idaho Potato,” or the “Washington Apple” (Giovannucci, Barham, and Pirog 2010). COOL, therefore, may fill an informational need for consumers by extending the continued call for origin labeling. Indeed, studies of consumer preferences suggest that shoppers value domestic and local foods, as these are perceived to have a lower environmental impact (Zepeda and Leviten-Reid 2004), be superior in quality, safety, and flavor (The Leopold Center 2004), and benefit the local economy (Zepeda and Leviten-Reid 2004).

As important as labeling is for informing consumers about food quality, safety, and environmental impact, it is difficult for shoppers to employ or act on labeling if either products are not labeled accurately or if shoppers do not have access to a range of product alternatives. Although we did not directly assess accuracy in labeling, findings from this study suggest that certain products may be mislabeled with respect to their origin or procurement method. Specifically, we recorded domestic labels for 35.6% and wild labels for 48.3% of the salmon sold across our study. Nearly all salmon imported to the United States (94%) is farmed (National Oceanic and Atmospheric Administration 2012), pointing to a potential discrepancy in labeling for these products in our sample. This finding supports a growing body of literature pointing to mislabeling of seafood at the point of purchase (Jacquet and Pauly 2008; Marko, Nance, and Guynn 2011; Ropicki, Larkin, and Adams 2010). As demand for seafood increases and the market expands, so too has mislabeling (Jacquet and Pauly 2008). Up to one third of the seafood imported to the United States may be mislabeled (Jacquet and Pauly 2008). Mislabeling may threaten the value of COOL as a signal of the safety, quality and, environmental impact and may have consequences for consumers in their potential exposure to contaminants and unknowing contribution to declining fish stocks.

In addition, regardless of information provided, if people have only limited choices of available products to purchase then they are constrained in their options and may not be able to select products that are in line with their nutritional needs or their broader values. Indeed, important differences were noted in this study in the type and variety of seafood sold across the stores included in this analysis. Overall, shoppers at mid- and high-price stores had access to a wider diversity of seafood as compared to customers of low-price markets.

First, the diversity in type and species of seafood was much greater at mid- and high-price stores versus low-price stores. Individuals frequenting higher price stores may then exhibit more varied patterns in seafood consumption, contributing to nutrient-rich diets. In comparison, shoppers at low-price stores are more limited in their ability to vary their intake of fish and shellfish and may, thus, have less diverse diets overall. Variety is central to dietary quality, as high-variety diets are critical to attaining adequate nutrient intake (Foote et al. 2004). Further, a greater diversity in the seafood available to consumers may lessen the concentration of their exposure to contaminants that are specific to any particular fish or shellfish species (Nesheim and Yaktine 2007).

In addition, differences emerged in the availability of seafood by origin and procurement method, such that both wild-caught and domestic seafood was slightly more common at mid- and high-price stores as compared to low-price stores. While the disparity in access to these products was small, it is important given the marketing focus on wild, domestic seafood. The incongruence between the advertising and availability of these foods may place shoppers at low-price stores at a perceived disadvantage in their ability to access products deemed—at least in marketing—to be healthier and more desirable and may, consequently, influence shoppers' expectations about diet quality overall.

### Limitations

This study demonstrates that Baltimore City grocers are largely adhering to COOL regulations, with origin and procurement method emerging as relevant and informative attributes in the sale of seafood. More broadly, this research sheds light on the practices grocers use to highlight health-relevant information prior to and at the point of purchase grocers. These findings must, however, be considered within the context their limitations. First, all coding was performed by a single rater. Though the co-investigators and other outside experts were consulted during the development of the codebook, it is possible that different raters would vary in their view of the data and may, thus, apply the codebook in a different way. To address this concern, questionable codes were discussed with colleagues and all data were photographed or stored for review. Second, the data were collected between October 2010 and February 2011. It is possible that seasonality or

secular events may affect the availability, variety, and marketing of seafood in Baltimore. Follow-up studies may explore the extent to which these factors influence the presentation or salience of COOL in the marketplace. Next, our study focused exclusively on the presentation of country-of-origin labeling and did not address the issue of mislabeled seafood. Indeed species substitution would impact the veracity of COOL; thus, future investigations may seek to confirm the correctness of COOL. Lastly, this study does not account for why retailers presented COOL as they did, limiting the ability to make inferences about retailers' motivations for whether to highlight COOL and, if so, whether to features certain features over others. Instead, the findings from this investigation reflect the informational context surrounding COOL—without retailer interpretation, as shoppers would experience it.

### Implications

As large-scale purchasers, grocery stores play an important role in shaping national dietary trends and habits by determining what is available for consumption. Further, marketing and labeling practices in grocery stores and on packaged foods can shape consumer desires, expectations, and demands around a variety of food attributes (Henneberry and Armbruster 2003). Given the prominence of COOL in store advertising, relative to the display of origin and procurement information in stores, findings from this study suggest that grocery retailers may value COOL as a marketing strategy prior to purchase rather than as a decision aid at the point of purchase. COOL was more prominent at the point of purchase, however, in high-end stores relative to mid- and low-price stores, suggesting that retailers may perceive origin and procurement to be important attributes for higher income shoppers. Indeed, framing the apparent value of origin and procurement differently for high- or low-income shoppers may establish discrepant expectations and may even justify differential pricing for seafood.

### Future Research

Consumption patterns can have a direct impact both on population and environmental health. This study provides insight into the informational contexts in which labeling food products as to country of origin and procurement method may be relevant to decision making around seafood selection. Further research is needed to understand if and to what extent such information is influential in decision making at the point of purchase.

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