

Article

# Happy Hens or Healthy Eggs: A Content Analysis of Supermarket Egg Box Graphics.

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**Simple Summary:** This study explored how humans, hens, and eggs are represented on supermarket egg boxes. Egg box packaging was examined in order to deconstruct the messages encoded in the imagery. The two most prominent messages were that ‘eggs are good for human health’ and ‘these hens are treated humanely’. This paper explores how the messages chosen by marketers of animal-based reflect consumer concerns for animal welfare. However, public concern for hen welfare is used as a marketing strategy where the notion of ‘happy hens’ readily supersedes humane practice.

**Abstract:** How a species is represented by marketers of animal-based products both reflects and shapes how consumers think about that animal. By examining the explicit statements, and implicit messages encoded in the imagery on supermarket egg boxes, this paper explores how hens are represented by whole egg retailers. Content analysis reveals two prominent messages purveyed through eggbox graphics, namely those pertaining to hen welfare and human health. The latter disenfranchises hens from their products by focusing on the nutritional value of eggs, whereas the former reflects a public concern for the welfare of egg-laying hens. Although claims of improvements in welfare practices are undoubtedly exploited as marketing tools, they serve to raise awareness and drive competitors to adopt similar practices. Welfare claims are a direct response to public concerns about the plight of hens, and may positively influence industry welfare standards. However, idyllic depictions displayed on eggboxes also lull consumers into the belief that those eggs are an ethically sound food choice, regardless of the actual standard of living experienced by the hens.

**Keywords:** Animal representation; Animal-based foods; Marketing; Eggs; Hen welfare

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## 1. Introduction

Representation has real life consequences for living animals. How a species is represented will invariably impact upon how people perceive and ultimately treat members of that species [1]. Animals may be “represented” for human gain, or through animal advocates who campaign for rights or interests on behalf of that species [1-3]. The objective of marketing foodstuffs is to promote sales, which requires a knowledge of consumer sensibilities. However, as Freeman and Merskin [4] point out, “advertising does not just sell things, it articulates values and builds meaning” (p. 278). The imagery on animal-derived food products can focus on the product itself, objectify the animals as non-entities, or convince consumers the animals lived “healthy and happy lives” and that the product is ethically produced [3, 5]. For animal-based products, packaging and advertising can have profound effects on how those animals are subsequently treated [6]. For example, the marketing of specific products as being “animal friendly” can raise awareness of questionable agricultural practices. Alternatively, product branding can draw attention to the product itself and reinforce the notion of utility in relation to a specific species [3, 7].

The prominent model for the production of animal products in developed nations, namely large-scale, industrialized agriculture, is a major topic of social debate [8, 9]. Production of animal products

“faces significant opposition from animal protectionists, environmentalists, members of the human health community, and a growing number of consumers. Concerns include the safety and quality of foods derived from such systems, the environmental and human-health impacts of intensification, and the welfare of animals used for food” [9, p. 1821]. Consequently, the welfare of food-producing animals has become the subject of increasing scrutiny and media coverage, and the heightened public attention has led to calls for new regulations to improve animal welfare [9]. The media also plays a substantial role in shaping attitudes and public policy about animals [6]. Probably the biggest example of how public concern has led to changes in legislature is that of caged laying hens (also called battery-farming). Widespread public awareness of the plight of caged hens within developed countries occurred in response to a book published in the UK, entitled “Animal Machines” [10-12]. Public outcry led to an increased interest in purchasing eggs from free-ranging hens, as well as government-mandated improvements in the conditions of caged-hens [11, 13].

Improvement of animal welfare through legislation is problematic, especially where trade barriers exist, leading many welfare advocates and scholars to conclude that targeting the market is the most viable strategy to improve farm animal welfare [14, 15]. It is the consumers who ultimately embrace or reject animal-friendly products, but economic models are more concerned with influencing consumers choices than improving animal welfare per se. Research also demonstrates the power of packaging in shaping perceptions of food product, and that decisions are often based on misleading, or inaccurate lay beliefs, which are highly influenced by graphical packaging cues [16].

Package design elements can be broadly classified into verbal and visual elements. The former manifests through written language and explicit claims, while the later communicates in a more implicit fashion through colors and imagery [17]. The visual element should not be underestimated in its power to influence consumer perceptions and decision, who invariably follow patterns of low-involvement decision making [18, 19]. This paper examines how hen eggs are marketed by examining the messages encoded in the imagery displayed on supermarket egg boxes.

## 2. Materials and Methods

Grocery websites, representing major supermarket chains in the UK (Tesco’s, Sainsbury’s), Germany (Edeka, Rewe, Penny), and the US (Kroger) were accessed (March 2017) and the term “eggs” (or “eier”) entered into the search function. Only unprocessed hen egg products were taken for further analysis. Images of the egg boxes were saved and subjected to content analysis, similar to previously applied to organic and health-food packaging [20, 21]. All 50 eggboxes examined displayed at least one explicit written message, such as “a good source or omega-3”, “from free-range hens”, or “great taste” (Table 1). Written messages were coded as belonging to one or more of five categories relating to “hen welfare”, “human health”, “taste/utility”, “the environment”, “local produce”, or “value for money” (Table 1). Other ideas were implicit, and inferred from the imagery printed on the eggboxes, namely healthy-looking families, hens enjoying idyllic settings, farmers in regional dress, grass, sunshine, and eggs. These were first broadly coded as “hen”, “human”, “egg”, and “outdoor imagery”, and then sub-coded based on different subtypes, for example weather the human appears to be a consumer or farmer, or how the hens were depicted (see Table 2). Each eggbox was scored for the presence of one or more of these elements and images saved for further qualitative analysis.

**Table 1.** Content analysis categorization (columns) of written statements (rows).

Text on egg box	Hen welfare	Human health	Taste/use	Environmental	Local produce	Value for money
Free-range	X					
Cage-free	X					
Woodland	X					
No beak trimming	X					
Male chicks saved	X					

Ethical eggs	X			
Raised with love	X			
Healthy		X		
Less saturated fat		X		
Fresh	X		X	
Omega-3 source	X			
No antibiotics	X			
Organic	X		X	
Non-GMO	X		X	
Hand-selected		X		X
Renewable energy			X	
Local			X	X
Regional			X	X
British				X
Great taste		X		
Gourmet eggs		X		
Good for baking		X		
Extra large		X		
Value for money				X

### 3. Results

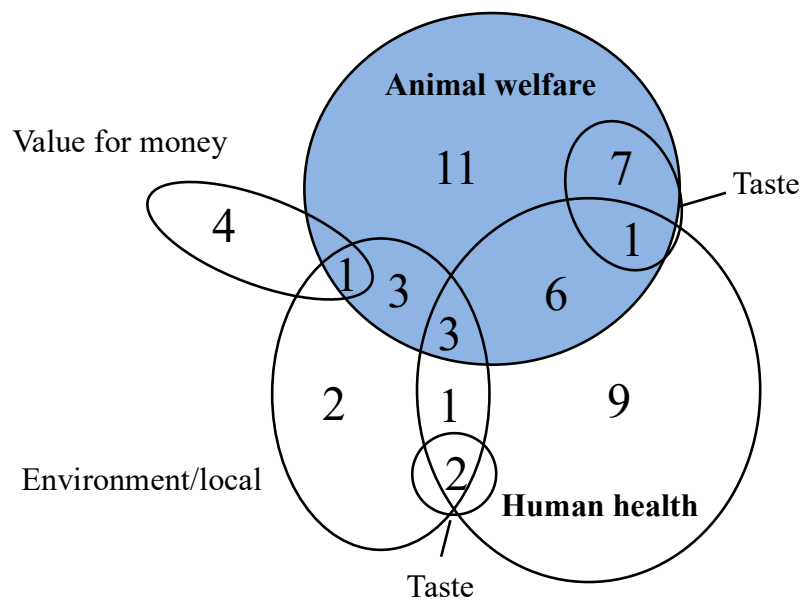
Examination of the imagery and text displayed on the egg boxes of supermarket egg brands reveal two prominent messages, namely those pertaining to hen welfare and human health (Table 2, Figure 1, Figure 2). The former predominantly displays images of hens, whereas the later more often depict the egg products. Wholesome looking families and/or children are sometimes used to further promote the message of eggs as “healthful”. Although both hens and eggs often are depicted together, the messages of “ethical treatment of hens” or ‘human health benefits’ are more often mutually exclusive (Figure 1, Figure 2).

Grass, trees, meadows, and comfortable-looking barns are frequently used as accompanying “scenic imagery” to emphasize the notion of “healthy and happy hens” (Table 2). Eggs are more often shown whole, but sometimes they are depicted as cracked and cooked (Table 2, Figure 2). Less frequent images include picnic-spreads or cakes, both activities associated with egg products. The absence of imagery or messages related to animal welfare or human health benefits were conspicuous on cheaper supermarket brand eggs, indicating that ‘value-for-money’ was the major marketing strategy for these (Table 2, Figure 1).

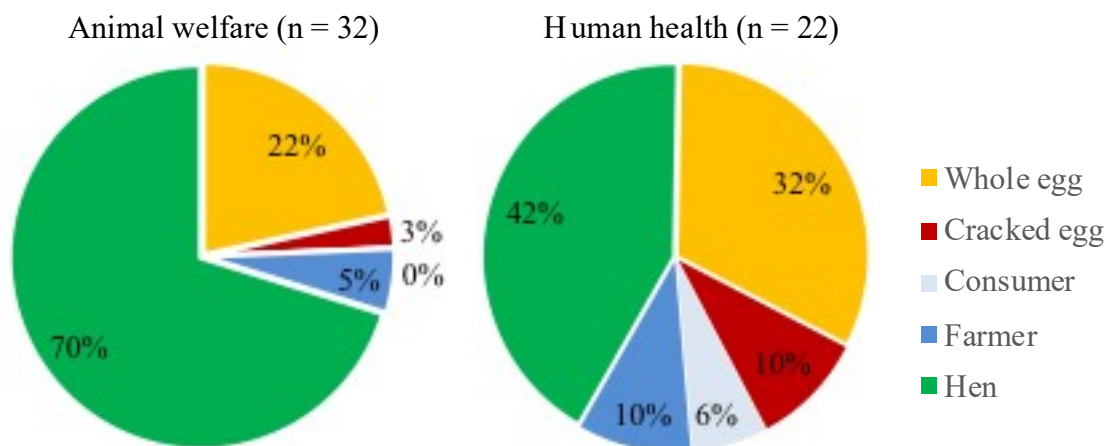
**Table 2.** Content analysis of visual elements.

	Germany	UK	USA	Total	Percentage of total
Total egg boxes	23	19	8	50	100%
<b>Imagery</b>	<b>Germany</b>	<b>UK</b>	<b>USA</b>	<b>Total</b>	<b>Percentage of total</b>
<b>Hens</b>	<b>18</b>	<b>14</b>	<b>4</b>	<b>36</b>	<b>72%</b>
Silhouette	4	7	2	13	
Life-like/Photo	10	6	1	17	
Cartoon/stylized	2	1	1	4	
Chicks	2			2	
<b>Eggs</b>	<b>12</b>	<b>6</b>	<b>3</b>	<b>21</b>	<b>42%</b>
Whole	10	4	2	16	
Cracked	2	1	1	4	
Bakery item		1		1	
<b>Humans</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>7</b>	<b>14%</b>
Consumer	1		1		
Farmer	4	1			
<b>Outdoor imagery</b>	<b>11</b>	<b>8</b>	<b>2</b>	<b>21</b>	<b>42%</b>
<b>Marketing message(s)</b>	<b>Germany</b>	<b>UK</b>	<b>USA</b>	<b>Total</b>	<b>Percentage of total</b>

Animal welfare	10	17	5	32	64%
Human health	15	2	5	22	44%
Taste	3	7		10	20%
Local	3	7		10	20%
Environment	3	2		5	10%
Value for money	1	3	1	5	10%



**Figure 1.** Venn diagram depicting the overlap of key messages derived from the content analysis (see Table 1).



**Figure 2.** Pie charts representing the percentages of imagery associated with animal welfare and human health (see Table 2).

Other marketing messages include the promotion of the eggs as being “environmentally friendly”, “local/regional” (or in the case of UK eggs, “British”), “gourmet”, “tasty”, or “good for baking” (Table 2). The last three messages were grouped together under the category of “taste”, which appears to be a secondary message to animal welfare and/or human health (Figure 1). Farmers are shown in regional attire to emphasize the ‘local’ origin of the eggs, or pictured personally caring for their hens in idyllic settings. Although support for local communities and concern for global

environmental issues are separate issues, the ideology of supporting local producers is intrinsically linked with sustainability and concern for the environmental [22]. As such, it was not straightforward to determine if the message of “local” or “regional” was intended to appeal to social, environmental, or perhaps both values. None-the-less, the combined message of “environmental/local” predominantly overlapped with messages promoting animal welfare or human health (Figure 1). Given the relatively small sample numbers, there were no discernable differences between the two European countries and the US. Although there was no explicit “taste”, “local”, or “environmental” messages on any of the eight US eggboxes, they did contain suggestive imagery, such as a cooked egg.

## 4. Discussion

### 4.1. Human representations: consumers and producers

Humans are depicted on 14% (7/50) of egg boxes examined, and include adult males, adult females, children, and young families. Human imagery appears to be conveying one of two of messages, namely “eggs are healthy” or “we personally care about our hens”. The notion of “healthful eggs” is suggested either by a wholesome-looking child or a young family. The promotion of eggs as “good sources of omega 3” and is most prevalent among the US brands. This perhaps reflects a response from the egg industry to deflect some of the negative press egg consumption has received over the years. The American Egg Board recognizes the increased demand for “healthy” food options and recommends marketing strategies for retailers, including how best to package the eggbox [The American Egg 23]. Hen eggs are a good source of protein and micronutrients, but due to their high fat and cholesterol content they are traditionally associated with adverse health effects such as cardiovascular disease [24]. As a result of these persistent recommendations, “there is a high degree of awareness of this problem in the populations of developed countries, and, fortunately, nutritional composition is already a major factor in the choice of foods by the consumer” [24, p. 707]. However, people are reluctant to change their dietary habits, creating a market for healthier versions of favorite foods [24]. These are known as “functional foods”, which are products that have modified for better nutritional value. It is relatively straightforward and cost-effective to fortify eggs with micronutrients [25], and North America comprises the largest percentage the global functional egg market [26]. However, in Europe functional eggs are rare, with consumers preferring natural, fresh foods [27-29]. The same trend is apparent in this study too, where egg boxes from the UK and Germany tend to use terminology such as “fresh”, “organic”, or “GMO-free” as being synonymous with “healthy”. Goetzke, Nitzko [27] reported that German consumers were more likely to choose the “organic” food for perceived personal health and wellbeing, than for environmental or social motivators.

In the US, the growing demand for organic food is largely driven by increased environmental consciousness and the ideology of socially-conscious consumerism [30]. Therefore, it is unsurprising that another prominent usage of human subjects is associated with promoting the “human element” to egg-production, by suggesting the farmers have a personal relationship with their hens. Both male and female adults are shown holding or sitting with birds, which seemingly represent their livelihoods. This idyllic scenario appeals to consumers who want to believe their purchases support family farmers and/or promote animal welfare. Frank [3] presents a model where by animal discomfort reduces human utility, meaning consumers will tradeoff preferences for taste or value-for-money in favor of animal welfare.

### 4.2. Eggs as products: feminized protein

Whole egg images are found on over a third (20/50) of the egg boxes analyzed, and one quarter (5/20) of these are broken or cooked eggs (Table 2). The American Egg Board (2018) advises against images of cooked eggs because they “have the potential to alienate consumers who do not like that particular style of preparation”. Most notable from the current study is that, although whole eggs and hens frequently appear together on the same box, none of the images of cooked or cracked eggs

appeared together with hens. It is interesting that egg marketing seems to dissociating the consumption of the hen's products from the animals themselves, something that Adams [31] accuses the meat industry of doing when it dissociates the living animal from the meat on the dinner table. Once they enter our food chain, eggs no longer "belong" to the female hens that they were taken from.

Another interesting observation is how the German producer, Biohennen, market their medium-sized and extra-large eggs. The former shows a young female in a meadow, whereas the latter depicts a robust-looking man, with facial hair. The fact that these eggs are from the same producer suggests a deliberate attempt at appealing to different consumers who may choose extra-large, or "manly" eggs, over regular-sized eggs. Sexualization of food is something that has been examined by feminist scholars, such as Adams [32], who writes about how meat is predominantly a "masculine" food and plant-based foods deemed "feminine". In the same vein, Freeman and Merskin [4] accuse the fast-food industry of marketing meat to a stereotype of heterosexual males, and promoting a dichotomy of "manly" and "women's" food types, namely meat and plant-based food. These authors concluded the messages delivered from fast-food marketing are detrimental to social justice (for humans and other animals) and ecological sustainability. For humans the damage comes from perpetuating stereotypes of men as "self-indulgent, womanizing carnivores", which "lowers society's expectations for the positive contributions of men" [4, p. 289]. "Animalized protein" is a nineteenth century term that refers to food produced by non-human animals, such as milk or eggs, which Adams [32] asserts is essentially "feminized protein" because it is produced by females. Hens and cows are often subject to representation as negative human female stereotypes, and derogatory terms for female humans include "hen", "bird", and "chick" Adams [32]. Although it seems reasonable to assume the phrase "Girls on Grass" was intended to invoke the image of hens living outside, from a feminist perspective it might construed as promoting a sexist ideology.

#### 4.3. Hen: disenfranchised producers

Hen representations can be found on three-quarters (36/50) of egg boxes examined in this study. The hens are shown as silhouettes or stylized outlines, as lifelike drawings or photographs, and less frequently in cartoon form. Olson [33] asserts that "there is no representation without intention and interpretation" (p. 197), and in the case of marketing the intention is to promote sales. In the examples studied here, images of hens are used to suggest "healthy" and "happy" animals, shown against idealized backdrops, and being treated as individuals by their human caretakers. The predominant choice of silhouette or life-like representations perhaps reflects the intention to associate real hens with ethical treatments. Cartoon representations may be chosen to appeal to younger consumers [34], however, whole eggs are not a readymade "snack food" that would directly appeal to a child. As such, cartoon-depictions are not as common as those suggesting real hens enjoy a happy and healthy existence.

Concern for farm animal welfare varies across Europe, but is generally stronger in Northern countries such as the UK and Germany, and more pronounced among people not directly involved in farming [13, 14]. In a US-based survey, over 90% of respondents reported that using animals for egg production was acceptable to them, although 38% expressed some concern for the welfare of chickens [35]. The observation that the majority of egg boxes (31/50) examined in this study express some message regarding hen welfare (Table 2), reflects how the industry acknowledges this concern amongst consumers [5]. The eggs boxes that were marketed as being "free-range" or "woodland" often displayed hens against a backdrop of grassland, trees, or meadows, thus evoking the idea of "happy hens". Nordquist, van der Staay [36] discuss "the commercial potential of animal welfare", which often takes the form of "awarding quality labels and selling labelled products at a higher price than unlabeled products" (p. 37). Welfare-standard label-awarding organizations must cover costs for controlling and ensuring the welfare level guaranteed by their label. Nordquist, van der Staay [36] describe this as "a win-win situation" because it not only improves animal welfare, but also provides income to awarding organizations, and higher retail values for the producers. However, Cole [5] argues that "animal friendly welfare discourses attempt to remoralize the exploitation of

farmed animals in such a way as to permit “business as usual”, which panders to the “ethical self-satisfaction for the consumer” (p. 84).

Vizzier Thaxton, Christensen [37] predict three future challenges that the egg industry will face, namely objections to the “disposal of unwanted male chicks, handling of end-of-lay (spent) hens, and beak-trimming” (p. 2201). The practice of beak-trimming reduces cannibalism and increases feeding efficiency (untrimmed hens peck more), but the procedure causes pain and lasting discomfort [13, 36]. An egg box from a German brand explicitly claim to oppose the practice of beak-trimming, and displays a close-up head shot of two hens.

A recent example of how public outcry has not led to legislation change, but has positively impacted on welfare in Germany, is the practice of culling male hatchlings. Even if culling methods are deemed humane, many people object to killing surplus male on ethical grounds because it is seen as “a waste of life” [37]. These concerns led to government funding from Germany and the Netherlands to research potential alternatives, such as dual-purpose hen breeds (egg and meat production) [37]. Germany’s Green Party attempted to pass a bill to ban the culling male hatchlings (a practice that also occurs in the UK and US) [38]. However, markets in Germany have already responded to public concern by increasing practices that do not involve culling male hatchlings. Producers are assuring consumers that their products conform to ethical practices, by embracing endeavors such as the Bruder-Ei (Brother-Egg) initiative and featuring cartoon or lifelike images of “cute” chicks on their eggboxes. This was likely an intentional marketing ploy to invoke the “cute response” [39]. The approval of a given treatment or use of an animal is often dependent on the type of animal, and how humans identify with that animal [40]. Certain attributes inherently appeal to our emotional response to other animals, such as being “cute” or “vulnerable” [7]. The growing number of egg brands embracing this practice suggests that consumers are emotionally responsive to the plight of male chicks.

## 5. Conclusions

The representations of hens, humans, and eggs on supermarket egg boxes are intentional attempts to sell products by appealing to the consumer demands in terms of human health and animal welfare concerns. Although images of free-roaming hens soaking up the sun may not be true representations of the actual living conditions of the hens [41], it does reflect a public concern for the welfare of these animals. Claims of improvements in welfare practices are exploited as marketing tools, but public awareness and concern about welfare issues drives competitors to adopt similar practices [3, 15]. Furthermore, public awareness is a major driving force behind legislation changes [13]. However, despite the increase in public concern and improvements in living conditions, a study conducted by Lay, Fulton [41] compared conventional cages, furnished cages, barns, and outdoor systems and concluded that “no single housing system is ideal from a hen welfare perspective” (p. 279).

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