

FEEDING THE MODERN DOG: AN EXAMINATION OF THE HISTORY OF THE
COMMERCIAL DOG FOOD INDUSTRY AND POPULAR PERCEPTIONS OF CANINE
DIETARY PATTERNS

By

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ABSTRACT

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The commercial dog food industry in the US has grown significantly over the past century. Fifty years ago feeding dogs “table scraps” was the norm; however, as dogs went from “pets” to “family members,” the dog food industry convinced dog guardians that feeding table *scraps* was inappropriate. Commercial diets grew in popularity because nutritional science made dog food seem complicated; veterinarians recommended them; effective marketing convinced guardians they were ideal; and socio-economic conditions made purchasing processed dog foods highly acceptable. Today most dogs eat commercial diets, which consist largely of by-products from the human food industry. Problems with commercial dog food include diet-related health problems, animal welfare concerns, human dominance issues, and food safety concerns like the 2007 pet food recall. As a result, demand for alternative dog foods has risen. In addition to tracing the rise of the dog food industry, I use a dual methodology—personal meaning maps and surveys—to explore popular perceptions of canine dietary patterns in a convenience sample of dog guardians. Specifically, I examine whether the notion of dogs as family, factors leading to the growth of the pet food industry, and critiques are present in my findings. The majority this sample viewed dogs as family. Perceptions of commercial diets varied: some trusted the dog food industry’s nutritional expertise, while others expressed concerns about food safety and knowing what is best to feed dogs. Several participants sought alternative qualities in commercial diets (e.g. sustainable, organic) and others feed home-prepared diet.

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CHAPTER 1: INTRODUCTION AND BACKGROUND

Each year, Americans spend more on dog food than on services like veterinary care or supplies like toys. Today there are hundreds of commercial diets for dogs, for all types of breeds, sizes, and life stages. However, there is also growing movement towards preparing dog food at home, using fresh, whole ingredients. With this vast array of feeding options in mind, it is necessary to explore how dog guardians perceive dog food in order to better understand motivations and trends in canine dietary patterns.

There is a lack of literature concerning what Americans feed dogs in the 21st century and why. This study attempts to fill that gap by describing the rise of the commercial pet food industry, examining current feeding trends, and exploring modern dog guardians' perceptions of canine dietary patterns. The first chapter of this thesis is to familiarize the reader with relevant literature. Chapter 1 begins with an exploration of the modern canine-human relationship, wherein dogs are commonly viewed as family members. This background is necessary not only to demonstrate *why* commercial dog food rapidly became the norm in the latter half of the twentieth century, but also to reveal *how* the industry effectively used the dog's status as family member to market its products. Next, I discuss the history of feeding domestic dogs, leading up to the modern commercial dog food industry. Specifically I demonstrate how the commercial dog food industry waged a "war on table scraps" and created a new paradigm for feeding dogs (i.e., commercial diets). I then examine key problems within the commercial dog food industry, including food safety concerns and ethical issues. Finally, I explore in depth the growing alternative pet food market, or what Nestle (2008) calls "the good pet food movement."

My research, then, aims to determine whether or not the themes described above are present in my findings. Using dual methodology—personal meaning maps (PMMs) and

surveys—I asked a convenience sample of dog guardians to share their perceptions of canine dietary patterns. In doing so, I attempt to answer the following questions:

- (1) Do modern dog guardians consider their dogs family members, and if so does this perception of dogs influence feeding habits?
- (2) Are modern dog guardians influenced by “the war on table scraps”? That is, do they succumb to the notion that there is an inherent separation between “people food” and “dog food”?
- (3) What concerns, if any, do dog guardians have about feeding dogs?
- (4) Is there evidence of a movement towards alternative dog foods, such as homemade diets?

FROM ‘PETS’ TO FAMILY

The canine-human relationship has changed profoundly since dogs were domesticated about 15,000 years ago (Clutton-Brock, 1995). Dogs have performed a variety of utilitarian tasks for humans throughout history—from assisting with hunts and guarding livestock to protecting households and controlling vermin. No less important, however, is the dog’s role as a beloved companion. Keeping dogs purely for companionship has been practiced since Antiquity, but became popular in London in the late eighteenth century (Kalof, 2007). “Pet” dogs were differentiated from other dogs in that they were named, permitted indoors (at least occasionally), and never slaughtered for food (Thomas, 1983).

There were notable changes in the social perceptions of dogs in the media beginning around the mid-1900s. The dog’s transition to family member is indicated by the progression of her or his habitat, which has evolved “from the wild to the barnyard to the front yard to the front porch, then from the front porch to the living room, from the living room to the bedroom, and from the bedroom to the bed...” (Kaufman, 2007, p. 22). For example, Kennedy and

McGarvey's (2008) comparison of advertisements in women's magazines from the 1920s to the 1980s shows the progression of dogs from "outdoor protectors and companions to loved family members," with a significant increase in images of dogs pictured indoors in and after the 1940s (pp. 427-428).¹ In a 1960s television commercial for *Gravy Train* dog food, a housewife earnestly declares to the camera that the family basset hound, Mickey, is "more than just a dog," and the viewer sees Mickey playing indoors with the children and lounging on the living room furniture (Gaines Gravy Train Dog Food, 1960). Lerner and Kalof (1999) analyzed the use of animals in television commercials in the late 1990s,² finding not only that dogs were the most popular animals featured, but also that animals such as dogs were most commonly portrayed as "loved ones."

In the last three decades in particular, the bond between dogs and their guardians has intensified. For example, veterinarians have observed a pronounced shift in the way their clients feel about their pets (Pritchard, 1986), and many veterinary schools now offer courses on how to address this sensitive canine-human bond in practice (Haraway, 2008, pp. 49-51). A recent survey by the American Pet Products Association indicates that about 39% of Americans live with at least one dog (APPA 2009) and 92% of dog guardians consider their dogs to be family members (Nestle & Nesheim, 2010, pp. 115-117).

Modern dog guardians commonly use relationships with dogs to replace relationships with other humans (Serpell, 1986, pp. 23-42). Sanders and Arluke's (1996) observations of canine-human relationships at a veterinary hospital for fourteen months revealed that modern dog guardians commonly use "conventional familial labels" to describe their relations to their

¹ The authors found that the percentage remained fairly constant after the 1940s. The mean was 64.1% in 1940, 67% in 1960, and 69% in 1980.

² Study was conducted in June 1998.

pets (p. 65). That is, dog guardians may refer to themselves as “parents” and to their dogs as “children,” suggesting that some dogs have taken the place of or are equal to family members. The decline of the traditional nuclear family, which began in the 1950s and continued throughout the rest of the twentieth century (e.g. Horowitz, 2006, p. 129), supports this hypothesis. For example, as more women entered the work force and waited to have children (or opted not to), dogs served as substitutes for children. Hirschman (1994) writes that dogs may also be regarded as friends or as extensions of one’s self.

Another possible explanation for dogs’ popularity has to do with the positive impact of dogs on human health. In the mid-1960s, a psychiatrist named Boris Levinson discovered that companion dogs possess a unique therapeutic potential. Dogs, he found, are beneficial to human development because they help children build social skills and learn compassion in caring for another living being (Levinson, 1964). Furthermore, Levinson argued that dogs have a “unique capacity to offer unconditional and non-judgmental affection and support” (quote from Serpell, 1986, p. 90.), qualities that most people find endearing. Recent studies suggest that owning a dog can lower one’s risk for adverse health conditions such as cardiovascular disease and depression (Friedman et al., 1983). As these scientific discoveries became widely known, companion dogs became even more central in American households.

It is also possible that dogs offer humans a link to the natural world with which they have become otherwise detached. According E.O. Wilson’s “biophilia” hypothesis (1984), humans have an innate tendency to affiliate with nature (see also Kellert & Wilson, 1993; Kellert, 1997). This affiliation decreased during the post-World War II era, when many Americans moved from rural areas to cities and suburbs (Danbom, 2006, pp. 244-249), losing much of their physical connection to animals and to the land. Dogs offered one outlet (albeit an outlet highly influenced

by humans) to reintroduce a component of nature back into people's lives. In spite of human manipulation of canine genetics through selective breeding, dogs still possess instincts of their wild ancestors, such as chasing prey and scavenging for food. Furthermore living with companion dogs gets some guardians outdoors more often to take their dogs for walks. For example, according to a recent study, "dog walkers were more physically active...than either dog owners who did not walk or the non-dog owner group" (Reeves, 2011, p. 440).

Significantly, while the social reconstruction of America's companion dogs was taking place, the commercial dog food industry began to grow. By recognizing and playing off of the strong bond between guardians and their canine family members, dog food manufacturers were able to successfully alter the feeding habits of an entire generation of dog guardians. The following section explores the rise of the commercial dog food industry in the U.S. and some of the key reasons for its success.

THE WAR ON TABLE SCRAPS: A HISTORY OF COMMERCIAL DOG FOOD

The commercial dog food industry originated in Great Britain in the late 1700s and came to the U.S. around the end of the nineteenth century (Nestle & Nesheim, 2010, p. 34).

Advertised first as "nutritionally enhanced biscuits" (ibid.), commercial foods were marketed specifically for hunting and purebred dogs in order to improve their performance in the field or show ring. Perhaps the most well known early producer of commercial diets for dogs is James Spratt, an American who began selling fortified dog biscuits in Britain but moved to the U.S. in the 1870s (Grier, 2006). Spratt's company (named "Spratt's") offered products such as "Fibrine Dog Cakes"—large hard biscuits that were broken into smaller pieces for feeding—and advertised that its foods could prevent an array of health issues in domestic dogs (ibid.). Other

companies with similar products and health claims entered the market soon after and America's commercial dog food industry began to steadily grow.

As the dog became widely regarded as a family member, the dog food industry responded to this social phenomenon in three important ways. First, it convinced guardians that commercial diets were superior nutrition for dogs and in doing so defeated its biggest rival—table scraps. Second, successful companies gained the trust of veterinarians, who then recommended that clients feed their dogs commercial food. Third, dog food manufacturers used clever marketing techniques to sell their products by drawing heavily on the strong canine-human bond of the late 1900s.

External factors also contributed to the success of commercial dog food. The convenience of commercial diets was attractive to guardians, particularly as a growing number of women entered the work force and had less time to prepare foods for their families and dogs alike. Also, the industrialization of agriculture in the mid-20th century produced a variety of farming innovations (e.g. fertilizers, tractors), which made commodities like meat and grain (and their by-products) cheap and plentiful for dog food manufacturers. Finally, the post-war boom made commercial diets for dogs seem like less of a luxury and more of a necessity for average Americans. As a result of these complex and intertwining phenomena, which I explore in detail below, pet food sales increased steadily in the latter half of the twentieth century.

Companion Animal Nutrition

Feeding leftovers to dogs was practiced for centuries and made sense from a dog guardian standpoint because it prevented food waste. However, pet food manufacturers were averse to this practice because it was an annoying obstacle to their profitability. For example, in

the early 1960s the Manufacturers Committee of the National Pet Association chairman complained, “Our biggest competitor is still table scraps” (Anreder, 1962, p.3). Thus, pet food companies began an unofficial campaign against the feeding of “people food” to dogs both by emphasizing the derogatory nature of the phrase “table *scraps*” and by playing up the various health components of commercial diets (Thurston, 1996, pp. 232-9). In turn, dog guardians began to believe that table scraps were not appropriate—or good enough—for dogs. This logic may not have been accepted prior to the 1960s, but because more and more people considered their dogs family members, they began to believe that table scraps were not appropriate—or good enough—for dogs. In other words, as dogs gained social status, they also earned the “right to health” (Haraway, 2008, p. 49), which includes, among other things, proper nutrition.

The anti-table scraps campaign also challenged dog guardians’ perceptions of their qualifications in terms of preparing food for dogs. According to Thurston (1996),

[D]og food companies make a point of emphasizing that canine nutrition is a science best left to qualified experts—namely them (or research projects sponsored by them). Ads for ‘super premium’ and ‘prescription’ dog foods now incorporate actors or models wearing goggles and white lab coats, shown holding clipboards as they measure out healthy-looking ingredients amid a clinical forest of test tubes, computes, and diagnostic equipment.... Terms such as ‘chelated minerals,’ ‘metabolizable energy,’ and ‘amino acid profile’ combine to both intrigue and confuse even the most savvy consumers.... (p. 244)

Over time, dog guardians began doubting that they could adequately prepare meals at home for their companions in light of the complicated nature of animal nutrition.³

Pollan (2008; 2007) writes that Americans’ diets have been largely shaped by the concept of “nutritionism”—a dietary phenomenon starting in the 1980s that has been perpetuated by nutritional scientists, the food industry, and the media. Nutritionism, he explains, is an

³ At the same time, it is likely that guardians enjoyed the convenience of pre-packaged dog food—i.e., because commercial diets were easier to feed than home-prepared diets, they were more readily accepted (e.g. see Grier, 2006, pp. 288-9).

“ideology” wherein there is an intense preoccupation with nutrients (e.g. fiber, cholesterol, fats) as opposed to whole foods. He writes,

In the case of nutritionism...the key to understanding food is indeed the nutrient. From this basic premise flow several others. Since nutrients, as compared with foods, are invisible and therefore slightly mysterious, it falls to scientists...to explain the hidden reality of food to us. To enter a world in which you dine on unseen nutrients, you need lots of expert help. (Pollan, 2007)

Because nutritionism has played—and continues to play—such a crucial role in shaping America’s dietary habits, it is not surprising that such notions readily are applied to dogs. In the case of feeding dogs, pet food manufacturers, veterinarians, and the media filled the roles of “experts” of canine nutrition.

One significant outcome of companion animal nutrition was the ability of dog food companies to develop formulated diets that prevented potentially debilitating nutrient deficiencies in dogs. As dogs became more highly regarded by society, and as the concept of “nutritionism” spread, preventing nutritional imbalances in dogs became more of a priority. Interestingly, although dogs are living longer now than they were fifty years ago (Nestle & Nesheim, 2010, pp 268-72), scientists have not determined that commercial diets are the sole cause for this increased longevity (other contributing factors to longevity include improved veterinary care, higher rates of neutering, keeping dogs indoors, etc.). In fact some argue that processed diets have in fact been detrimental to dogs’ health (e.g. Lonsdale, 2001) a claim I discuss in detail later in this paper.

Another result of the advancements in companion animal nutrition was that many manufacturers adopted a reductionist mentality in the development of dog foods. That is, so long as a dog food was formulated to meet the nutritional requirements determined by the NRC, it mattered less which ingredients were used to obtain those nutrient levels. For instance, ground

corn or soybeans could be used to boost protein levels, thus reducing the need for more expensive meats or meat by-products. It is not hard to imagine that these nutritional substitutions made it easy for unscrupulous producers to use lower quality ingredients in order to decrease manufacturing costs.

Dishonest manufacturing processes were discontinued to a degree in 1968 when the Association of American Feed Control Officials (AAFCO) developed the first regulations for the pet food industry (Nestle & Nesheim, 2010, p. 20). This nonprofit organization set voluntary manufacturing and labeling guidelines for producers (those who opted to participate could carry the AAFCO seal), thus adding to commercial dog foods a new level of consistency and trustworthiness. Among other things, the AAFCO developed precise definitions of ingredients that could be used in dog foods (AAFCO, 2012). For example, it differentiated between animal-based ingredients and animal by-products based on what part of the animal the meat came from (e.g. thigh, back, neck, etc). The AAFCO also determined that all dog food labels must list the ingredients in decreasing order by volume, thus making it easier for dog guardians to better understand exactly what was in their dogs' food.

Interestingly, most commercial diets are fundamentally similar to what humans have always fed dogs—that is, table scraps and leftovers. According to Kaufman (2007), the “vast majority of America’s 75 million dogs...continue to feed on scraps from the human food industry’s table” (p. 23), only these scraps are processed into scientifically formulated commercial diets and marketed to consumers as an enhanced product. This fact alone makes the success of the commercial dog food industry even more impressive, if not disturbing.

The Role of Veterinarians

Veterinarians also promote commercial dog food diets and have played a crucial role in the dog food industry's success. There has been a notable shift in veterinary medicine over the last thirty years, as a significant percentage of veterinarians entered the field with an interest in working with companion animals rather than livestock (Nestle & Nesheim, 2010, pp. 280-291). Along with this shift towards companion animal care, there was also a decreased emphasis on nutritional studies in veterinary schools.⁴ The advent of balanced commercial diets made this transition significantly easier, as veterinarians could recommend to guardians any complete commercial diet without the worry that dogs would develop nutritional deficiencies. It has also become common practice in the last twenty years for pet food company representatives to teach nutrition classes at some veterinary schools, thus presenting students with an obvious bias towards one company's product (Nestle & Nesheim, 2010, pp. 280-291). Finally, veterinarians who sell commercial diets in their clinics have a clear profit incentive to recommend those diets to clients.

One of the best examples of veterinary influence on the pet food industry involves Hill's, a company that got its start in the late 1930s and remains one of the top competitors in the industry today (Vogel, 1995, p. 58). In 1939, veterinary nutritionist and company founder Mark Morris developed a specialized diet for a guide dog named Buddy, who had been diagnosed with renal failure (Hill's Pet Nutrition, 2012). Morris, a firm believer that diet could alleviate symptoms of certain medical conditions, formulated a special food low in protein, phosphorous, and sodium that would alleviate stress on Buddy's kidneys (Hill's Pet Nutrition, 2012). The formula, later named "Prescription Diet k/d," was Hill's first therapeutic diet and has proven to

⁴ According to an informal telephone survey conducted by the authors, 22 out of the 27 accredited veterinary schools in the U.S. offer only elective or minimal nutrition courses (e.g. 1 credit hour) and 5 do not offer any nutritional training at all (Nestle & Nesheim, 2010, pp. 282-3).

be quite effective in managing renal failure in both dogs and cats. Encouraged by the success of “k/d,” Hill’s developed a long line of prescription diets over the years, including “i/d” to alleviate gastrointestinal issues and “h/d” to address heart disease, as well as a successful line of non-prescription diets (ibid.).

Hill’s used the unique and effective tactic of initially selling all of its products exclusively through veterinarians—a group highly trusted by dog guardians. According to Thurston (1996), this was “an ingenious marketing strategy that grabbed the attention of millions of...consumers seeking reassurance that they were providing their pets the best nutrition money could buy, and moving Hill’s to the forefront of superpremium foods in the early nineties” (pp. 244-245). Although Hill’s Science Diet line of pet foods are now available in pet stores, prescription diets still much be purchased at veterinary clinics.

Marketing and Product Development

The social reconstruction of the domestic dog presented dog food manufacturers with novel product development ideas and effective advertising opportunities. For instance, as scientists learned more about canine nutrition, pet food companies began manufacturing foods for specific stages of life. Modern dog guardians now have the option of buying food specifically formulated for their puppies, adult dogs, or seniors. While puppy diets typically contain higher levels of protein for optimal growth, senior foods have lower protein levels and additional supplements for joint health (Crane et al., 2000). Special diets were also developed for large breed and small breed dogs, thus making dog food seem more personalized. A current trend in the industry is breed-specific diets, with companies like Royal Canin making this a primary focus (Brown, 2012).

While changing social perceptions of dogs affected advertising, it is quite possible that advertisements significantly influenced the modern canine-human relationship. The persuasiveness of advertising is not something to be dismissed. For instance, if dog guardians watched enough commercials like the Gravy Train advertisement described above (where Mickey the dog is depicted in the living room, playing with the children, sitting on the furniture, etc.), it is possible that those guardians began to see their dogs in a new light (i.e., as family members).

One interesting and successful marketing strategy developed by dog food manufacturers was the production of dog foods that resemble human foods and contain ingredients that humans find desirable, or are visually appealing. For example, General Foods' Gravy Train dog food was marketed as the food that made its own gravy by just adding water. A 1980s commercial for Gravy Train indicates this feature with a particularly powerful marketing angle (Gaines Gravy Train Dog Food, 1981). The commercial shows a kindly, middle-aged housewife preparing dinner for her four "boys"—her husband, her two strapping teenaged sons, and the genial family golden retriever, Sam. At the beginning of the advertisement, the woman proclaims, "All my boys love beef and gravy," and the viewer sees the two sons and the dog visibly excited about their forthcoming meal. While the human family members wait for their own meal of beef and gravy, the woman prepares Sam's dinner and demonstrates how the Gravy Train gravy closely resembles her own thick and meaty homemade gravy. She then presents the bowl of food to Sam, who eagerly eats his meal as the family gathers around him. The housewife proclaims with satisfaction: "Now all my boys get a real beef gravy meal."

There are two marketing techniques used in the advertisement described above that are direct responses to the changing social perceptions of dogs. First of all, the advertisement leaves

no question that Sam should be eating commercial dog food as opposed to “people food.” The housewife compares her own gravy to the Gravy Train gravy in order to demonstrate the visual similarity between them; however, it is not once implied that Sam would receive the woman’s homemade gravy. Instead, it is suggested that Sam is not only better off eating his nutritionally balanced dog food but is also quite happy to do so. Moreover, it is evident in this commercial that Sam is a beloved family member—the housewife refers to him as one of “her boys.” Sam is also pictured in the kitchen with his human family, eating his own dinner while they eat theirs. As the general population of dog guardians felt a greater affection for their dogs, advertisements like the Gravy Train commercial described above became increasingly relevant and heavily utilized.

Another example of a dog food that attempts to resemble human food is Purina’s Beneful brand, which was introduced in 2001 and is a top-selling brand (MultiVu, 2009). Beneful was developed to provide dogs (or more accurately, their guardians) with a new feeding experience. The dry food consists of different colored and shaped kibbles that resemble various types of meat and vegetables (as opposed to uniform pieces). Although it has not been determined if dogs realize they are eating unique kibbles, this marketing technique appeals to many dog guardians—because the food more closely resembles meals humans would prefer (e.g. a variety of foods at each meal), it intensifies the canine-human bond by allowing dog guardians to select similar processed meals for themselves and their dogs. In fact, Purina Beneful now offers “prepared meals” for dogs—single serving meals that come in convenient packaging similar to prepared foods for people. As the percentage of meals prepared in the home decreases (e.g. Kant & Graubard, 2004), products such as these gain popularity not only for their convenience, but also because they convey a sense of indulgence.

Gourmet, or “chef-inspired” pet foods are another growing market (Grimes, 2012). Such foods allow dog guardians to treat their canine companions to special meals that are fancier than everyday fare (e.g. plain kibble). While some dog guardians still view gourmet dog foods as indulgences or meals for special occasions, it is becoming more common for these products to be fed on a regular basis (Grimes, 2012). This shift is not surprising, given Americans’ rising interest in food over the past decade and the popularity of cooking shows such as those on the Food Network television channel. Ketchum (2005) writes that the Food Network creates food “fantasies,” which shape consumers’ purchasing habits and food ideals. That is, as viewers watch cooking shows that feature an endless variety of appealing foods, they invent ideas of what they themselves would like to eat. In turn, because dogs are now largely viewed as family members, it is easy to see how guardians project these emotions onto their dogs.

One company that specializes in gourmet dog food is Merrick, a small family-owned dog food manufacturer. The company offers a variety of “entrees” for dogs such as “Grammy’s Pot Pie” (which contains “chicken, red jacket new potatoes, carrots, snow peas, and red apples”) and “Thanksgiving Day Dinner” (which contains “turkey, sweet potatoes, carrots, green beans, and Granny Smith apples”) (Merrick Pet Care, 2012). Large pet food manufacturers, like Purina, have also realized this trend and created their own line of gourmet products called “Chef Michaels,” which come in flavors like “Sirloin Steak with Rice and Pea Garnishes” or “Pork Tenderloin with Carrot and Barley Garnishes” (Nestle Purina, 2012a).

Successful pet food manufacturers also demonstrated an ability to introduce new foods in order to keep their product lines fresh and attractive to dog guardians. For instance, Purina Dog Chow was Purina’s top selling diet for decades. However, as people sought higher quality nutrition for their dogs, Purina introduced two new lines of “super premium” diets in the 1980s:

Purina ONE, introduced in 1986 (Nestle Purina, 2010) and Purina Pro Plan in 1987 (Nestle Purina, 2012b). These diets were popular with modern dog guardians because they featured real meat as the primary ingredient⁵ and so were of higher quality. Similarly, Hill's continued to develop new prescription diets to address more health issues in companion dogs.

Aside from the product itself, retail location was significant in marketing commercial dog food. Purina's tactic from the start was to make its products available in grocery stores, starting with Dog Chow in 1954 (Kaufman, 2007, p. 23). As intended, this retail method made it increasingly convenient for dog guardians to purchase dog food because it encouraged one stop shopping. Perhaps more subtly, it also emphasized the bond between dogs and dog guardians—people could buy their dogs' food at the same place they bought their own food.

Pet superstores developed around the 1980s in response to the reconstruction of the domestic dog and the accompanying marketing potential it represented. In addition to carrying a vast array of commercial dog foods, pet superstores also sell toys, treats, collars, leashes, grooming products, and other pet supplies. Some modern pet superstores offer services like obedience training, grooming, and boarding. The growth of the pet superstore industry reaffirms the level of affection modern dog guardians feel for their dogs (and the amount of money they are willing to spend on them). For instance, PetSmart, a superstore established in 1986, owned thirty-one stores in 1991, one hundred stores in 1994, and one thousand stores in 2007 (PetSmart, 2010). Their current slogan—"Where pets are family"—is quite effective because it clearly demonstrates that PetSmart acknowledges the strong bond between dogs and their guardians.

⁵ According to AAFCO guidelines, the ingredients listed on dog food labels must appear in descending order by weight (Nestle & Nesheim, 2010). Thus, foods with meat listed as the first ingredient are generally of higher quality than foods with grain or by-products as the first ingredient.

Finally, the convenience of commercial diets made them highly attractive to dog guardians. There is no denying that pouring kibble into a dog bowl is considerably easier than making a diet from scratch. Significantly, as I will discuss further below, commercial dog food manufacturers benefited greatly from the growing market for processed foods for people, which also succeeded because of their convenient nature. As processed foods for people became mainstream, processed foods for dogs were soon accepted, particularly because dogs were considered family. Still, some dog guardians dismiss the role of convenience. Thurston (1996) writes, “[w]hen pets are treated like children or spouses, convenience ceases to be the driving force for buying commercial dog food. In fact, many consumers now would be offended at the suggestion that they buy prepackaged pet food simply because it is quick and easy” (p. 244).

External Conditions

There were a variety of external conditions that influenced the commercial pet food industry’s success. An in-depth discussion of every social factor affecting the industry is beyond the scope of this paper. Instead, I briefly explore 3 key interrelated events occurring around the end of World War II that had positive implications for the commercial dog food market. First, the industrialization of agriculture made processed dog food more affordable by providing cheaper inputs. Second, processed foods for people gained rapid popularity, thus setting the stage for commercial dog food’s success. And third, socio-economic changes in the home such as women joining the workforce and preparing fewer meals at home, as well as the post-war economic boom, shifted the notion of pre-packaged food for dogs from one of convenience to necessity. Together these intersecting forces secured a place for commercial dog foods in America’s pantries.

The Industrialization of U.S. Agriculture

Beginning in the mid-twentieth century, U.S. agriculture underwent dramatic changes as food production became increasingly industrialized. Specialized breeding of plants and livestock, revolutionary farm mechanization, and widespread use of synthetic chemical inputs contributed significantly to the extreme boost in agricultural production that occurred after World War II (Danbom, 2006). The use of concentrated animal feeding operations (CAFOs) to raise livestock and monoculture techniques to grow cash crops became increasingly common. As farmers increased output at all costs, the price of food dropped considerably. Thus, pet food manufacturers were able to use not only surplus food from the human food supply but also by-products from processing, making commercial diets for dogs more affordable for average Americans.

Processed Foods for All

America's diet changed considerably around the end of World War II, with an increase in the consumption of processed foods such as white breads and frozen cuisines (e.g. see Levenstein, 2003a for a more complete discussion). Processed foods became popular in American households for a number of reasons. For example, they were believed to be healthier since they often contained added vitamins and minerals.⁶ Furthermore, processed foods were often tastier than their pre-existing counterparts (e.g. consumers preferred the taste and texture of enriched white breads to the grainy wheat varieties with which they were accustomed (Spring,

⁶ Ironically this was because processes like milling stripped foods of their natural nutrients. For example, to make white flour, wheat was milled (removing the bran, the germs, and the oil) and then bleached to create a less nutritious (though aesthetically appealing) flour product.

2003, p. 42)). As shown above, the industrialization of agriculture resulted in the production of mass quantities of crops such as cereal grains, which made processed foods more affordable for average consumers. Finally, there were significant socio-economic changes occurring, which I discuss below. Overall, given the dog's important status in many families, it is not surprising that dog guardians wanted to share the wonders of processed foods with their dogs—after all, it was widely believed that processed foods were superior for a number of reasons. Furthermore, as processed foods for people became commonplace in households, the notion of processed diets for dogs was more readily accepted.

Socio-Economic Changes in American Households

World War II resulted in a series of lasting changes in American households. For example, more women joined the workforce, and as a result had less time to spend cooking meals for their families (the processed food sector eagerly filled that void). Similarly women had less time to prepare food for dogs, and commercial diets were readily available (e.g. sold in grocery stores), easy to feed (required essentially no preparation), and affordable (Grier, 2006, pp. 288-9). There was also an economic boom from 1939 to 1944 that doubled the average household income and increased consumer spending (Lingeman, 1970). Thus, products that were once considered luxuries—like pre-packaged food for dogs—soon became basic household necessities.

The Modern American Dog Food Industry

The majority of twenty-first century dog guardians feed their companions commercial foods (Crane et al., 2000) and as a result today's commercial dog food industry is highly

profitable. The Euromonitor International reported dog food sales at almost \$12 billion⁷ in 2010 up from about \$8.5 billion in 2003 (Pet Food Institute, 2010). Dry food sales were the highest (around \$8 billion), followed by wet foods and treats (around \$2 billion each) (Pet Food Institute, 2010). Interestingly, sales of treats were higher than sales of canned food in 2010.

According to the American Pet Products Association (APPA 2009), people spend more money on food for their dogs than they do on other pet-related expenses like veterinary care, grooming, and various supplies. In the industry, five large companies control 80% of the U.S. pet food market: Nestlé Purina PetCare (owns 34% of market share); Mars Petcare (18%); Hill's Pet Nutrition (10%), The Iams Company (9%), and Del Monte Foods (9%) (Packaged Facts, 2009). Smaller companies and private-label brands make up the remaining 20% (ibid.).

The commercial pet food industry has continued to grow annually in spite of the country's ongoing economic recession (Martin, 2011; Irwin, 2011). Other "pampered pet businesses," such as gourmet dog bakeries, pet boutiques and day care centers, are also experiencing growth (Schaffer, 2009). Dog guardians may be reluctant to spend money on other things, but typically they do not skimp on purchases for their dogs (Grimes, 2012; Irwin, 2012). Donna Haraway (2008) provides an example of this sacrifice, claiming that even though the markets for pet food and human cholesterol-lowering drugs were equally profitable in 2003 (around \$12.5 billion), "I'd throw away my Lipitor before I shorted my dogs..." (p. 49). The desire to provide for dogs prevails largely because of the dog's status as a valued family member.

PROBLEMS WITH COMMERCIAL DIETS

⁷ Includes dry food, wet food, and treats. Exact figure is \$11.9521 billion for 2010, \$8.4659 billion for 2003.

The 2007 Pet Food Recall

In 2007, Canadian pet food manufacturer Menu foods issued the largest pet food recall in history after receiving complaints that its products were making pets sick (see Nestle, 2008; Fitzgerald, 2009) for more on recall). One month—and 845 pet deaths—after the initial complaint, scientists discovered the problem: wheat gluten, which had been imported from China, contained high levels of melamine and cyanuric acid that were causing pets to die from acute renal failure. Menu Foods recalled almost 200 brands of cat and dog food containing the contaminated ingredients, however the damage had already been done (Nestle, 2008, p. 55-60). The Food and Drug Administration (FDA) estimates that over 4,000 dogs and cats died as a result of consuming the recalled products.

In light of this event, many dog guardians lost faith in the commercial pet food industry and sought safer alternatives. As a result, sales of “alternative” commercial dog foods (organic, natural, made in USA) boomed, leading to substantial growth of these markets (see Packaged Facts, 2007; Paulman, 2008). More dog guardians also began preparing food at home for their dogs. Although it has been 5 years since the pet food recall, many of these trends have been sustained, and the natural dog food market is thriving.

Questionable Ingredients, Questionable Sources

Others have critiqued commercial dog foods for additional reasons. In her book *Food Pets Die for: Shocking facts about pet food* (1997), author Ann M. Martin exposes disturbing practices in the pet food industry. For instance, she writes that typical slaughterhouse products sent to rendering facilities to be cooked down and used in pet food include:

[H]eads, feet, skin, toenails, hair, feathers, carpal and tarsal joints, mammary glands, cancerous tissue, tumors, worm-infested organs, injection sites, blood clots, bone

splinters, extraneous matter, contaminated blood, stomach, bowels, and carcasses containing high levels of drugs or pesticides. (p. 50)

Perhaps more disturbingly, euthanized companion animals have been used in pet food (Martin, 1997; Schlosser, 2002; Blakeslee, 1997), although the practice is likely no longer common (Nestle & Nesheim 2010, pp. 86-89). Still, the U.S. Food and Drug Administration (FDA) permits the use of all of these products in commercial dog food (Schlosser, 2002, p. 287).

Health Concerns Linked to Diet

Some believe that commercial diets can lead to serious health issues. Veterinary nutritionist Kymythy Shultze (1997) proposes that the high volume of grains found in many dog foods may lead to “allergies, ear infections, skin problems, joint problems, malabsorption, and digestive disorders,” and can ultimately compromise the immune system. Also, artificial colors, flavors, preservatives, and other additives used in some commercial dog food can damage a dog’s internal organs, especially the liver (Martin 1997).⁸

Schultze (1997) also argues that commercial diets can increase the risk of gastric dilatation-volvulus (GDV) or bloat.⁹ However, Raghavan et al. (2004) found that GDV was not necessarily dependent on the type of food dogs eat (they compared dry, canned, and homemade diets). The authors write that they “were unable to definitively answer the question of whether feeding dry food increases the risk of GDV” (p. 202) due to the homogenous study population.

⁸ While there are no scientific studies that I am aware of to back all of these claims, it is important to consider these key criticisms of the industry.

⁹ GDV (or bloat) is common in large, deep-chested dogs, such as standard poodles, Doberman pinschers, great danes, and setter breeds. The condition is caused by a large quantity of air entering the stomach (usually when a dog is eating rapidly, or after heavy exercise), which causes the stomach to twist (volvulus). The condition is a medical emergency and dogs experiencing GDV require immediate veterinary attention, and often surgery.

They concluded that feeding high volumes of any food per meal and feeding fewer meals (2 or less) per day put dogs at a higher risk of developing GDV.

Ironically, many veterinarians recommend feeding dogs dry kibble because chewing the crunchy pieces is supposed to prevent excessive tartar buildup on teeth. However, Lonsdale (2001) argues that commercial diets (both canned and dry) directly contribute to poor dental hygiene, which in turn negatively affects almost every other bodily system. Lonsdale's argument is that to maintain clean teeth and healthy gums, dogs need to chew raw meaty bones—something the conventional veterinary industry and the Federal Department of Agriculture strongly discourage due to concerns of dogs breaking teeth, choking, or getting intestinal obstructions (FDA, 2010). Watson (1994) found that while dry foods are better than wet foods at removing plaque, raw meaty bones are best for oral health.

Animal Welfare Issues

Finally, there are broader implications of feeding commercial dog food. For instance, the livestock animals who supply the raw materials for pet food often come from confinement animal feeding operations (CAFOs), where they are born and raised in filthy and inhumane conditions (e.g. see Schlosser, 2002; Mason & Finelli, 2006; Rollin, 1995). Although CAFOs exist due to human demand for meat (rather than pet food industry demand), supporting such farming practices is unethical.

Another issue involves feeding trials conducted by pet food companies, wherein laboratory animals (dogs and cats) are fed a particular pet food for some time and observed for any ill effects (Nestle, 2008, pp. 10-14). These animals are likely the first to suffer if a food is contaminated in some way. In the case of the 2007 pet food recall, nearly half of the cats used in

a feeding trial died from complications of kidney failure. Birke (1994) writes that laboratory tests are “demanded within a capitalist society” (as cited in Kalof & Fitzgerald, 2007, p. 325); however, Wysong (2002) argues that such trials are ineffective not only because they do not measure the long-term affects of feeding a particular food, but also because the sterile conditions of the lab do not reflect real life situations faced by most pets (pp. 140-141). A particularly disturbing article in the *New York Times Magazine* in 2007 exposed the research of Dr. George Fahey, an animal nutritionist at the University of Illinois who surgically implanted tubes into the intestinal tracts of dogs in order to test the digestibility of various ingredients¹⁰ (Kaufman, 2007). Still, others like Nestle and Nesheim (2010) posit that pet food research trials are necessary, even ethical; however, they call for stringent protocol to ensure animal welfare (e.g. using non-invasive procedures, providing animals with enrichment activities and opportunities to interact with people and conspecifics) and call for experimental designs that produce credible results (pp. 292-300). In-home feeding trials are a possible alternative to lab-based research and are growing in popularity (ibid.).

Veterinary Influence

The role of veterinarians is another point of contention in the analysis of the industry. Many vets have an economic incentive to recommend a particular type of food. A frequent claim made by veterinarians is that home-prepared dog foods (such as the species-appropriate diet) may create nutritional deficiencies in dogs (Freeman & Michel, 2001; Streiff et al., 2002).

¹⁰ According to Kaufman (2007), “each of the dogs had undergone a surgical procedure to string a length of tubing from its intestinal tract to a clear plastic spout that stuck out its side. Fahey...could open a spout by hand, fill a bag with whatever happened to ooze out and calculate how much the dog had digested before whatever it had *not* digested could move farther through its body. The plastic tubing was inserted in the ileum—the exact spot where food absorption ends and fermentation by the microflora and bacteria of the lower bowel begins” (p. 20).

However, it is also relevant to note that, due to the lack of nutrition courses offered by most veterinary schools, many practicing veterinarians lack sufficient knowledge about companion animal nutrition (Martin, 1997, p. 96; Wysong, 2002, pp. 56-57). Furthermore, the nutritional education veterinary students do receive may be biased since courses are commonly taught by nutritionists who work for pet food companies (Schultze, 1998, p. 105). For these reasons and others, veterinarians may be unable or unwilling to advise clients on proper guidelines for alternative, home-prepared diets. Furthermore, the commercial foods that veterinarians do recommend may result in health problems for dogs, and in this sense, veterinarians have created a “perfectly engineered commercial circle--a problem doesn’t exist, so [they] create one, and then come up with all the remedial treatments...” (Lonsdale, 2001, p. 18).

Feeding and Dominance

Finally, there is an underlying dominance associated with feeding dogs that cannot be ignored. Humans control what, when, where and how much dogs eat. Jon Berger (1980) writes that humans feed dogs “artificial foods” because they are similar to what people eat. In *Dominance and Affection*, Yi-Fu Tuan’s (1984) description of how the Pekinese breed obtained its small stature is an extreme example of how humans have used nutrition to manipulate dogs’ physical structures to their liking:

Knavish fanciers continued to alter the size and shape of the Pekinese by devious means. One method lay in curtailing the exercise a dog should have over a period from the third month to maturity, with the aim of reducing its appetite and food consumption and hence rate of growth. (p. 106)

Tuan also writes that certain uses of food in obedience training are blatant displays of human dominance. He includes an example of an obedience competition wherein a dog was forced to sit next to a bowl of food for four minutes and not make a move to eat it until his owner gave

him permission to do so (p. 108). Commercial dog food is also a convenient dumping ground for meat by-products and other excesses from the human food system. While some find this practice offensive (e.g. Wysong, 2001; Martin, 1997), Nestle and Nesheim (2010) write, “[m]eat and poultry by-products are highly nutritious and fully capable of supporting animal health,” and point out that sending these by-products to a landfill would be wasteful and irresponsible from an environmental perspective (p. 71).

ALTERNATIVE DOG FOODS

The Good Pet Food Movement (GPFM) (Nestle, 2009) has been a personal interest of mine throughout my time in graduate school; a passion fueled by my specialization in Animal Studies and my departmental focus in Community Food and Agriculture. During my first semester of graduate school, I studied “alternative” food movements, such as the fair trade and the organic movements, learning the social, environmental, and economic implications of each as well as the varying phenomena that drive them. Though I found this information interesting, it was not until beginning my Animal Studies program and writing a paper on biologically appropriate nutrition for companion dogs (more on this below) that I began to realize my two passions—canine dietary patterns and alternative food movements—distinctly coincided. Moreover, it struck me that these two concepts could be combined to create a unique research opportunity.

As I demonstrate below, the GPFM is an alternative food movement occurring in a different realm—the realm of companion animal nutrition. Although most of the research on alternative food movements has focused on the human food system, many of the same factors that drive human food movements (e.g. food safety issues, health concerns, ethical consideration)

also drive the GPFM. Although my research question focuses more generally on dog guardians' perceptions of canine dietary patterns, I was interested to see if evidence of the GPFM was present in my findings.

Below I provide a brief explanation of food movements to show how such trends are quickly gaining popularity. Next, I discuss the growing demand for alternative dog foods (i.e., the GPFM). I explain in detail what foods are included in this movement, including high-quality commercial dog foods, fresh or raw foods, and home-prepared diets. Finally, I discuss critiques of and concerns with the GPFM, some of which parallel concerns present in human food movements.

Food Revolutions

According to food scholar Marion Nestle (2009), Americans “are in the midst of a food revolution” (p. 37). This revolution consists of variety of food movements that are “in some way ‘alternative’ to ‘conventional’ ways of food provisioning” (Maye & Kirwan, 2009). The locally grown, fair trade, and organic movements, for instance, all aim to make food systems more sustainable by calling for better environmental, social, and/or economic practices. Thanks to popular literature like *The Omnivore’s Dilemma* (2006) by Michael Pollan and *Fast Food Nation* (2001) by Eric Schlosser, Americans are now more conscious than ever about issues concerning their food. Responses to these concerns can be observed in various outlets. For instance, the national demand for organically grown food has risen steadily over the past two decades and the organic market is expected to continue to thrive (Guthman 2004; Pollan 2006). Natural foods markets such as Whole Foods are experiencing unprecedented growth (e.g. Pollan, 2006) and

popular fast food restaurants like McDonalds are beginning to source humanely raised meats (Strom, 2012).

The Good Pet Food Movement

One of the lesser-known food social movements is what Nestle (2009) refers to as “the good pet-food movement” (p. 37). Like the members of other food revolution groups, good pet-food advocates seek higher quality pet foods than traditional sources have to offer. Similar to alternative human diets, alternative diets for dogs may include organic, natural, fresh, locally grown, and/or humanely raised foods, and are usually more expensive than their “conventional” counterparts. Fueling the good pet food movement is American’s growing mistrust of industrial-produced foods. Schaffer (2009) writes, “debates over pet food...display a deeper unease about science, chemicals, corporations, and health” (p. 210).

Because companion dogs play significant roles in the lives of many dog guardians, dogs are commonly included in alternative food movements. Today, it is not only socially acceptable for guardians to go to extreme measures to keep their dogs healthy; in many cases it is expected! Interestingly, according to a report presented at the International Food and Agricultural Management Association Symposium in 2010, researchers found that people who eat alternative foods¹¹ themselves are more likely to purchase such products for their pets (Kumcu & Woolverton, 2010). Furthermore, the people who did so had similar qualities—they were typically female, Caucasian, well-educated, young, and had no children.

¹¹ Researchers focused on certified organic food because it is “the largest and most precisely defined single category of premium food” (p. 6). Also, organic foods have certain health standards (e.g. pesticide-free, hormone-free) and reflect certain “lifestyle preferences” of consumers (p. 6).

Demands for alternative methods of food production are often sparked by food safety scares. Just as *E. coli*-contaminated spinach¹² and *Salmonella*-contaminated peanut butter¹³ created nation-wide food scares in 2006 and 2009, respectively, the pet food industry has experienced similar problems. There have been a number of recalls of pet foods in recent years, including products containing aflatoxins, fungal toxins, *Salmonella*, and *Listeria* (Nestle, 2008, pp. 15-26); however the 2007 Menu Foods recall was the largest to date. Interestingly, the 2007 pet food recall revealed serious food safety concerns for pets as well as people (e.g. see Nestle, 2008; Roth et al., 2008). Nestle (2008) writes,

By the time the events of the recall drew to a close, it had become apparent that pet foods are just one part of an inextricably linked system of food production, distribution, and consumption, a system that involves farm animals—pigs, chickens, and fish—as well as people. Because the tainted ingredient had been imported from China by a company located in Canada, was used to make pet foods in factories in the United States, and was shipped to venues in South Africa as well as in the United States and Canada, what started out as “merely” a problem for “a few” cats and dogs ended up as an international crisis....The pet food recall exposed glaring gaps in the oversight of food safety not only within the United States and at its borders but also within rapidly developing countries like China that produce foods for export. (p. 2)

Indeed, when the safety of one’s food—a basic life necessity—is threatened, there is a strong incentive to seek alternatives.

One result of the Menu Foods recall has been an increasing effort to show consumers where their food is grown. For example, in 2009, Frito-Lay, Inc. began a “Lay’s Local” marketing campaign in which they acknowledged the American family farmers from whom they sourced their potatoes by featuring farmer profiles and photos on their website and bags of potato chips (Frito-Lay, 2009). Thus, it is not surprising that the commercial dog food industry is now

¹² In 2006, an altered strain of *Escherichia coli* (O157:H7) in packages of spinach led to hundreds of illnesses and 3 deaths in the U.S. (e.g. see Sander, 2006).

¹³ In 2009, *Salmonella* Typhimurium in peanut butter sickened hundreds of Americans and killed over 5 people (e.g. see Severson, 2009).

following suit. Natura Pet Products, Inc. (owned by Proctor & Gamble) recently launched a “See Beyond the Bag” campaign, where dog guardians can visit Natura’s webpage and “discover what goes into every bag or can from Natura Pet Products” (Natura Pet Products, 2012). For instance, if a dog guardian were to look up the ingredients in “Evo Red Meat Formula Large Bites Dry Dog Food,” he or she would find that some ingredients are sourced domestically (e.g. beef from Colorado and California or eggs from the Midwest and Southern U.S.), and others are imported from other countries (e.g. tomatoes from Israel or sunflower oil from Argentina).

As consumers grow less certain about the safety of mass-produced dog foods, they often seek alternatives such as home-cooked diets, fresh or raw diets, or high-quality commercial foods. The 2007 pet food recall is one of the main reasons a large number of dog guardians have switched to alternative diets (Nestle, 2008; Packaged Facts, 2007; Burns, 2007), although the organic and natural dog food market started growing before the 2007 recall occurred (Packaged Facts, 2007). Below I discuss what constitutes “alternative” food for companion dogs. Although Nestle (2009) does not state explicitly what foods make up the Good Pet Food Movement, the foods below have characteristics of other alternative foods (e.g. organic and humanely raised) and have been defined as “alternative” by other sources (e.g. Packaged Facts, 2007; Kerns, 2009).

Defining Alternative Diets for Dogs

According to Packaged Facts, a market research firm, alternative dog foods typically fall into the following three categories: home-prepared meals, fresh or raw diets, and high-end commercial dog foods (see Table 1 below).

Table 1.1: Alternative dog foods. Categories come from Packaged Facts, a market research company whose 2007 report “Product Safety & Alternative Pet Foods” examined the growth of the alternative dog food sector in response to the 2007 Menu Foods pet food recall.

ALTERNATIVE DOG FOODS	DEFINITIONS
High-grade commercial pet foods (e.g. foods approved by <i>The Whole Dog Journal</i> —my addition) ¹⁴	Includes foods made with: Human grade ingredients, 100% U.S. sourced ingredients, Locally grown ingredients, Natural and organic varieties
Fresh or Raw Food diet (RF)	Includes popular Bones And Raw Food (BARF) diet; Biologically Appropriate diets; other raw whole foods; lightly cooked refrigerated foods
Home-prepared diets	Any meal prepared specifically for a dog in the home, mostly or totally from scratch (may include store-bought mixes/kits), using whole foods (e.g. meat, grain, vegetables)

In order to understand why these foods make up the good pet food movement, it is necessary to briefly explain each of the three categories.

High-Grade Commercial Pet Foods

Because *The Whole Dog Journal* (WDJ) is a well-known and reliable source for reviewing commercial dog foods, I refer to their quality standards for determining what makes a food alternative. Although not every alternative commercial diet (hereafter ACD) fits into every one of these categories, many of them do.

First, ACDFs are typically *manufactured by smaller companies*, as opposed to multi-billion dollar corporations like Nestle-Purina.¹⁵ Second, *ACDs contain high quality ingredients*,

¹⁴ *The Whole Dog Journal* (WDJ) is a noted monthly publication that advises dog guardians on natural dog care. It offers unbiased reviews on most brand-name dog foods; describes how to read and understand dog food labels; and includes a list of WDJ-approved brand-named foods for dogs.

which appear at the top of the ingredient list on the package. Because the Association of American Feed Control Officials¹⁶ (AAFCO) requires the ingredients in animal feed to be listed in order by weight, ideally those first few ingredients should be of high quality. Foods containing animal protein as the first two or three ingredients are considered superior to foods that contain meat by-products or grain first. Some of the alternative commercial diets contain exotic protein sources, such as quail, pheasant, bison, or kangaroo.¹⁷ After the protein sources most ACDs contain some combination of *whole* vegetables, fruits, or grains. It is also important to note that *ACD do not contain artificial preservatives, added sweeteners, or artificial colors*. Instead they may contain natural preservatives, such as tocopherols or vitamin C, to extend shelf life.

Third, *ACDs are mainly sold at pet supply stores or pet specialty stores*, as opposed to other outlets like grocery stores that typically carry lower quality products. Fourth, *ACDs are more expensive than standard commercial diets*. Fifth, a growing number of ACDs are taking into account the *ethical concerns that many dog guardians have about food production*. These concerns include “better animal welfare standards, social justice and environmental sustainability” (Maye & Kirwan, 2009). Dog food companies have realized that because people demand ethical standards of production for themselves, they also look for them in their pets’

¹⁵ In 2009, Nestlé Purina PetCare controlled 34% of the market share and made \$11 billion in retail sales. (Nestle and Nesheim 2010, p. 50).

¹⁶ The AAFCO is a non-profit organization that sets quality and safety standards for commercial pet foods in the U.S. They determine acceptable ingredients for pet foods and nutritional requirements. Each state has their own feeding laws and regulations, but most follow the AAFCO model (AAFCO, 2010).

¹⁷ Addiction Foods Wild Kangaroo & Apples. According to the Australian company’s website, “Wild kangaroo meat has the highest levels of Conjugated Linoleic Acid (CLAA) of any red meat. CLA has been shown to support many body functions important to overall health and fitness” (Addiction Foods, 2012).

food. For example, Orijen, made by Canadian company Champion Petfoods, states on its website that they “don’t buy the bulk commodity ingredients found in conventional pet foods” but instead use “fresh, never-frozen meats that are sustainably farmed, fished, or ranched *within our region by people we know and trust*” (Orijen, 2012, italics mine). These standards address the growing consumer demand for local foods (Maye & Kirwan, 2009). Finally, many ACDs are formulated specifically to target ideological beliefs about the nature of dogs. Perhaps the most popular of these beliefs is the notion that grains should not be included in the diets of domestic dogs (see next section on Species Appropriate diets for further discussion). According to ‘grain-free’ advocates, dogs are evolutionarily designed carnivores who have no nutritional need for grains; rather they argue that grains are cheap fillers that are actually harmful to a dog’s health (Billinghurst, 1993; Schultze 1998). Thus, foods such as Orijen are grain-free and designed to be “biologically appropriate” for companion dogs.

Fresh or Raw Food Diets

In the early 1990s, Australian veterinarian Ian Billinghurst introduced to the world a novel way of feeding dogs—the Bones And Raw Food, or BARF, diet (see Billinghurst, 1993). Essentially the BARF diet (and other raw dog food regimens) consists of raw meat, bones, and occasional vegetation. Advocates of raw feeding favor this diet because it is “species appropriate” or “biologically appropriate.” That is, it mirrors the diet of the dog’s closest ancestor—the gray wolf (*Canis lupus*)—with whom domestic dogs still share all but 0.2 percent of their DNA (Ellis, 2009, p. 187). Proponents of BARF diets argue that commercial dog foods have only been widely available for less than a century and in that short time they have caused various health problems in companion dogs. Although the sources of meat available to dog

guardians may differ from those eaten by wild wolves, authors write that beef, bison, lamb, poultry, rabbit, venison, and fish are nutritionally acceptable for companion dogs (Billinghurst, 1993; Lonsdale, 2001; Wysong, 2002). Ideally, the animals providing the meat should be raised with organic farming practices and humane treatment (Pitcairn & Pitcairn, 1995, pp. 71-73). Aside from do-it-yourself raw diets, there are also several brands of commercial raw food available on the market (e.g. Nature's Variety, PawNaturaw), which makes feeding raw food much more convenient.

Home-prepared Diets

Home-prepared diets have grown in popularity since the 2007 pet food recall. These diets are prepared by the guardian (from scratch) and commonly incorporate some ration of proteins (e.g. meat, eggs, tofu), a carbohydrates (e.g. rice, barley, quinoa), and vegetables (e.g. green beans, carrots, beets). Guardians are typically encouraged to add supplements to the diet (e.g. calcium, vitamin C, etc.) to ensure that it is balanced (e.g. Pitcairn & Pitcairn, 1995). There are a growing number of books available providing instructions and recipes for preparing dogs' food at home.

Critiques of Alternative Diets for Dogs

Within the human food system, "alternative food networks" (Maye & Kirwin, 2009) have received a variety of criticisms. Although not applied directly to the good pet-food movement, many of these critiques are relevant. For instance, some scholars have called attention to a pronounced socio-economic stratification that exists within social food movements such as organic and fair trade (e.g. Johnston, 2007). That is, because these products are more expensive

and mainly available at high-end grocery stores, only a certain ‘elite’ class of consumers (e.g. white, upper class) regularly purchases them. A similar situation exists with alternative dog foods, which are more expensive and can only be purchased at pet supply stores. Homemade diets or raw diets are time-consuming and expensive as well.

Another interesting trend in the good pet-food movement is corporate cooptation. Jaffee and Howard (2010) researched this phenomenon within the human food sector, noting the trend of large corporations entering the organic and fair trade markets in order to capitalize on their success. The authors also note that as corporations enter the organic and fair trade markets, the standards of production may become weaker as emphasis is placed less on ethical methods of farming¹⁸ and more on amassing profits. Similarly, dog food manufacturers are jumping on the natural and organic pet food bandwagon to take advantage of profits. For example, Eukanuba now offers an “all-natural, grass-fed meat” formula. In addition, Proctor & Gamble recently bought Natura, a company known for its natural brand of Innova pet food. While these companies are ultimately aiming for higher standards, an in-depth discussion of the pros and cons of this phenomenon is beyond the scope of this paper (for further discussion of corporate cooptation in the human food sector see Jaffee and Howard, 2010; for discussion on “Big Organic,” or the industrialization of the organic food sector, see Pollan, 2006, pp. 134-84).

Raw diets must be fed with care so as to avoid problems for both companion dogs and guardians alike. Opponents of the raw diet insist that the potential for microbial contamination (such as Salmonella) is a considerable risk (Joffee & Schlesinger, 2002; Weese et al., 2005). While a healthy dog’s digestive system is well-equipped to handle any such pathogens (Schultze, 1998; Wysong, 2002), a serious risk to humans (especially young children and individuals with

¹⁸ Fair trade and organic production traditionally abide by ethical production standards that promote sustainability.

weak immune systems) does exist if proper food handling is not practiced. Feeding bones is another aspect of the raw diet which opponents find problematic. Recently, the Federal Department of Agriculture (FDA) issued a statement saying that bones should never be fed to dogs due to the multiple dangers they pose to their health (FDA, 2010). Proponents of the raw diet counter this warning by reasoning that wolves and dogs have been eating raw bones for thousands of years, and that the risks of giving bones to dogs can be greatly minimized by providing the right sizes and types of bones and by monitoring pets closely while they are chewing (Lonsdale, 2001). Finally, a concern with both home-prepared and raw diets is that, if not done properly, they can cause nutrient deficiencies (e.g. Freeman & Michel, 2001; Streiff et al., 2002); however, this can be easily prevented if dog guardians work with experienced veterinarians to develop feeding guidelines and/or educate themselves properly about such diets.

In summary, America's commercial pet food industry experienced significant growth throughout the 20th century and is a highly profitable market today. Advances in the field of companion animal nutrition, veterinary influence, and targeted marketing strategies, along with industrialization of agriculture, sparked the rapid growth of the industry, particularly in the post-World War II era. However, problems in the industry—since as food safety concerns, ethical issues, and human dominance—have fueled a growing demand for alternative dog foods, including high-quality natural and organic commercial diets as well as homemade and raw diets. My study explored popular perceptions of canine dietary patterns using a convenience sample of dog guardians. Specifically, I aimed to determine whether or not the notion of the dog as a family member; an “anti-table scrap” sentiment among guardians; critiques of dog food; and evidence of an alternative dog food movement were present in my findings.

CHAPTER 2: METHODOLOGY

Two instruments were used to assess modern dog guardians' perceptions of canine dietary patterns. The first was a Personal Meaning Map (PMM) and the second was a survey (both described in detail below). I utilized these two instruments to answer four main research questions. First, do guardians' perceptions of dogs (e.g. as family members) impact their dog food purchases? Second, to what degree do modern dog guardians make a distinction between "people food" and "dog food" (a notion perpetuated by the commercial dog food industry)? Third, what concerns do dog guardians have about dog food? Fourth, do guardians look for "alternative" qualities in dog food, such as organic or holistic foods?

I chose the PMM as an instrument because it allows individuals to freely associate their meanings of a given word or phrase, which was especially important to me in this study. I have used PMMs in past research projects and found them to be particularly useful in assessing people's impressions of a subject without presenting them with preconceived notions or biases. For my study, participants were given five minutes to write down whatever thoughts came to mind when they thought about dog food. Thus, the PMM was an ideal instrument because given the time limit and neutral subject matter, people's meanings held much weight.

I utilized a survey in addition to the PMM because there was specific information about feeding dogs and about the dog food industry that I wanted to obtain for my study. For instance, in the survey guardians were asked specifically about the 2007 pet food recall, whereas they many not have associated this incident with dog food on their PMMs. The survey was conducted after the PMM in every case, so as to avoid creating biases about dog food (as explained above).

Finally, by using both qualitative and quantitative analysis to interpret my findings, I was able to present a more thorough overview of guardians' perceptions of canine dietary patterns.

METHODS

Instrument 1: Personal Meaning Map

The Personal Meaning Map (PMM) was created in the late 1990s by John Falk and a team of researchers at the Institute for Learning Innovation. This instrument was originally designed as a tool for museum studies to assess visitor learning after viewing a specific exhibit (Falk, Moussori & Coulson, 1998). The PMM measures *individual* learning by acknowledging that each visitor to an exhibit has a unique background and prior knowledge about the subject matter. In order to assess a visitor's individual learning experience, a PMM is administered to the visitor prior to his or her entering the exhibit and then again upon leaving. The pre-PMM demonstrates a visitor's existing knowledge about a subject, whereas the post-PMM demonstrates what the individual has learned from their experience. Visitor learning is then analyzed, using measures such as "*extent* of someone's knowledge and feelings", "*breadth* of visitor's understanding", "*depth* of visitor's understanding", and "*mastery*" (Falk, Moussori & Coulson, 1998, p. 111). Others have used different measures (e.g. Kalof, Zammit-Lucia & Kelly, 2011) depending on the exhibit and its learning objective.

For my research, I adapt the original use of the PMM (as described above) in four main ways. First, my use of the PMM in this study is based in sociology, not visitor studies. As an interdisciplinary student, I have learned to reach across disciplines to borrow relevant methodologies for my own work. Second, I do not use the PMM in a typical museum setting. In a prior study of mine, I used this instrument to measure student workers' pre and post

perceptions of pigs raised at an organic farm.¹⁹ I administered pre-PMMs to students before the pigs' arrival, and then administered post-PMMs 5 months later after the pigs went to slaughter. Third, my use of the PMM differs from others' (e.g. Falk, Moussori & Coulson, 1998) because my goal was not to assess individual *learning*; rather, I wanted participants to write down whatever words, phrases, thoughts or images they associated with dog food by using only a simple prompt (i.e. the words "dog food") on an otherwise blank sheet of paper. Finally, I use the PMM as both a qualitative and quantitative instrument, as demonstrated by Kalof, Zammit-Lucia, and Kelly (2011), to give the findings as robust an interpretation as possible.

Instrument 2: Survey

The second instrument was a survey (administered after the PMM, in every case)²⁰ used to measure dog guardians' perceptions of dog food. Whereas the PMM allowed visitors to freely associate their personal meanings of dog food, the survey was utilized to gather specific information about this subject, such as what type of food guardians feed their dogs and why. Surveys are useful tools because they allow researchers to construct carefully worded questions to measure particular phenomena (Salant & Dillman, 1994; Babbie, 1990). The survey questions in this study were designed to explore key issues associated with the modern dog food industry and feeding dogs, based on the themes discussed in the previous chapter as well as the prevalence of these issues in both popular and academic literature. Themes explored included

¹⁹ A group of 8 pigs arrived at the SOF in May 2010, were rotationally grazed on pasture that spring and summer, and were slaughtered in October when they reached market weight. Student workers cared for the pigs as part of their daily responsibilities.

²⁰ The survey was administered after the PMM so that participant's could more freely write down their thoughts about dog food, without being biased by any ideas or topics mentioned in the survey.

specific concerns with dog food or the dog food industry (e.g. food safety concerns, lack of transparency in industry); ideal qualities or types of dog food contrasted with what guardians actually feed dogs; perceptions about how diet or specific types of food affect a dog’s overall health; and the roles that dogs play in the respondents’ households (e.g. family members, pets, guard dogs, etc.). As I describe in the Data Collection section below, four types of survey questions were utilized due to the varying nature of themes I aimed to explore.

PARTICIPANTS

A convenience sample of 31 individuals was used for this study. The participants included students from Michigan State University (both graduate and undergraduate students), acquaintances from the surrounding community, and acquaintances from my hometown (St. Louis, MO). All participants were the primary caretakers of one or more dogs either at the time of the study or within the past 5 years of their participation. Whenever possible, participants were recruited in person, but phone calls and e-mail correspondence was used for out-of-state contacts.

Because my research focuses on *modern* dog guardians, twenty-six participants lived with one or more dogs at the time of the study (83.8% of the respondents) and 5 had lived with one or more dogs in the past 5 years (16.2% of the respondents). Demographic information is presented in Table 2.1 below. Of the 31 individuals who participated in the study, 70.9% were females and 29% were males (see Table 2.1 below).

Table 2.1 Sex of participants

Sex	Female	Male
	22	9

The majority of the participants were Caucasian (96.7%) and one individual was Hispanic (no other race/ethnicities were represented in the sample). About half of the individuals who participated in the study were between 18 and 29 years old (41.9%), with 22.6% of participants in the 30- to 39-year age group, 19.3% in the 40- to 49-year age group, 9.7% in the 50- to 59-year age group, and 3.2% in the 60- to 69-year and the 70- to 79-year age groups (see Table 2.2 below).

Table 2.2 Age of participants

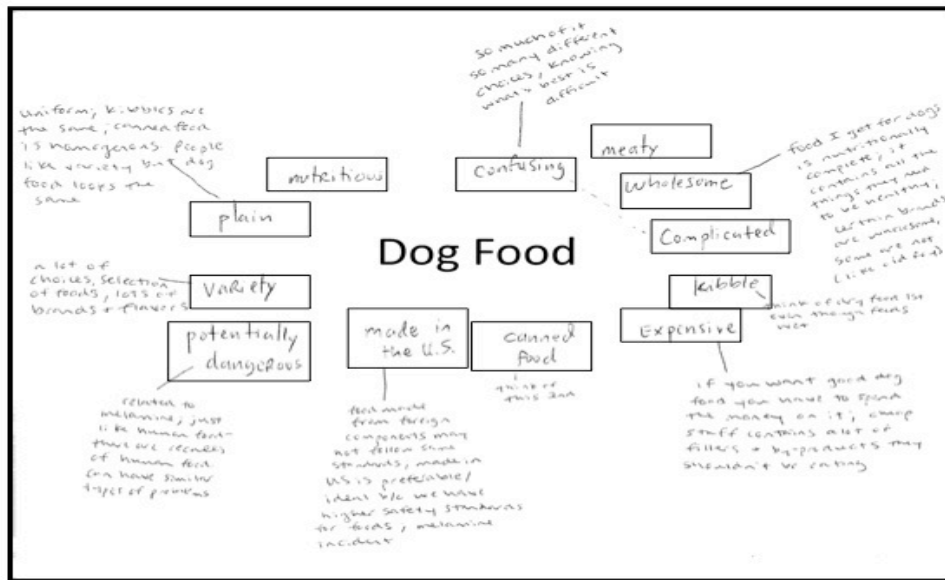
Age	18-29	30-39	40-49	50-59	60-69	70-79
	13	7	6	3	1	1

DATA COLLECTION

Personal Meaning Map

The PMM used for this study was an 8.5 x 11” piece of white paper with the words “Dog Food” printed in the middle. The PMMs were administered in two ways, either in person or electronically, depending on the participant’s preference and/or location. A total of 29 individuals filled out PMMs. For the PMMs conducted in person (about 44.8% of respondents; n=13), I presented the participants with a blank piece of paper with the words “Dog Food” written in the middle (see Figure 1). Individuals were given as much time as they wanted (typically 5 minutes) to write down whatever words, thoughts, phrases or images came to mind when they thought about “Dog Food.” Upon completion, I encouraged participants to elaborate on their responses to better understand their thought processes. Using the participant’s own words, I jotted down notes next to their responses in a different colored pen (see Figure 1 below).

Figure 2.1 Personal Meaning Map. Participant's responses are in boxes. My expansion of participant's words and phrases are written directly outside the boxes.



For the PMMs conducted electronically (n=16), I contacted individuals who lived out-of-state via e-mail or telephone to see if they would be willing to participate in my study. These individuals were people who I knew to be dog guardians, either through personal acquaintance or because another participant suggested I contact them. The participants were e-mailed the PMM as an attachment, given the same instructions as the people doing the in-person PMMs—to write down the words, thoughts, phrases or images they associated with dog food—and asked to send the PMM back to me via e-mail. The main difference here was that I was not present to prompt each individual for further explanation of his or her responses. To account for this, I asked participants to elaborate on their responses (providing as much detail as possible), and obtained permission to contact them again if I had questions about what they wrote. All participants filled out demographic information on the back of the PMM (although they were not required to fill out the information) and read a consent form agreeing to participate in this study.

Survey

Upon completion of the PMM, participants were then asked to fill out a short, 7-question survey (see Appendix A for survey instrument). Surveys were administered in two ways, either in person or electronically. A total of 28 individuals completed the survey. Of those individuals, 10 people did the survey in person (35.7%) and 18 people took the survey electronically (64.3%). For the in-person survey, I simply arranged a time and place to meet with the participant and then asked him or her to complete it at that time. All but 2 of the in-person surveys were done at Michigan State University, either in an available classroom or office space, and the other two were conducted at local coffeehouses at the participants' requests. For the electronic survey, I e-mailed the document to participants as an attachment (Microsoft Word document), with instructions to fill out the survey and e-mail it back to me when finished. The participants filling out the electronic survey were not given a deadline for completing the survey, and on average I received responses within 1-2 days of sending them the document. Participants were given the option to skip (without penalty) any of the survey questions that they did not wish to answer.

I utilized four types of survey questions, as described by Salant and Dillman (1994, pp. 79-85). *Open-ended* questions were used in 4 cases, meaning the respondents were asked to fill in responses using their own words. For 2 of these questions, I provided prompts in order to give respondents some guidance in terms of what type of answers I was looking for. For instance, question 3 asked, "What type of food do you think is best for most dogs (e.g. kibble, wet food, homemade food, raw food, etc.)?" I included the examples in parentheses because I wanted to give the participants a general idea of the type of responses they could give; however, I intentionally made the choices vague because I wanted them to come up with their own ideas and

elaborate upon them. No prompts were necessary for the other 2 questions. For example, question 7 asks guardians how a dog's diet impacts his or her well-being, and after they select a close-ended response (ranging from 'No Impact' to 'Significant Impact'), they are then asked to briefly explain their choices. I opted to use open-ended questions because I wanted dog guardians to feel less inhibited with their answers, particularly for Question 3, which asked what type of food is best for most dogs? My goal with this approach was to have guardians think beyond the standard types of dog food (e.g. bags of kibble) or what they have been told dogs should eat (e.g. by a veterinarian), and to write what they intuitively think is the ideal diet for dogs.

I used close-ended questions with *ordered choices* for 2 questions. In both cases, choices were ordered from 1 to 5, with 1 being not important or having no impact and 5 being very important or having significant impact. In one case the responses applied to only one topic (i.e., Question 7 asked, "How does a dog's diet impact his or her well-being?"); however, in Question 5, respondents had to rate a list of 11 qualities of dog food in terms of how important they deemed each characteristic. According to Salant and Dillman (1994), these types of questions are easiest for participants to answer. I also used a close-ended question with *unordered response choices* in Question 1, where participants were asked to identify their status as the primary caretaker of one or more dogs, and options included current guardianship, guardianship within the last 5 years (but not currently), or guardianship more than 5 years ago. Because all participants selected for this study currently lived with dogs or had in recent years, this question was easy to answer.

Finally, one *partially close-ended* question was utilized which allowed guardians to describe their dog's primary role in their household. Respondents had the option of either

selecting from a list of choices (e.g. family member, house pet) or selecting “Other” and writing in another role. Salant and Dillman (1994) note that for these types of questions, most respondents select answers from the list provided; however, providing an “Other” option opens up the possibility for new information.

MEASURES

Personal Meaning Map

In order to interpret dog guardians’ meanings of “Dog Food,” I first developed thematic categories based on the participants’ PMM responses. By conceptualizing these themes, I was able to more fully represent and analyze participants’ meanings of dog food. Upon starting analysis of the PMMs, I had no predetermined categories in mind; rather, I let the participants’ responses guide the development of each conceptual category. Word and phrases from the PMMs were placed into the category that most closely fit the theme. I developed six themes to describe dog guardians’ meanings of the phrase “Dog Food” :

1. “*Ideals*” described various qualities or standards that dog guardians look for in a dog food (e.g. *premium, human-grade, or trusted name brand*), or more generally in regards to feeding dogs (e.g. *dogs should not receive any type of human food*).
2. “*Descriptions*” included physical characteristics of dog food, such as texture (e.g. *crunchy or hard*), smell (e.g. *smells disgusting*), or appearance (e.g. *plain or uniform in color*); ingredients commonly found in dog food, such as *meat or meat by-products*; and nutritional perceptions of dog food (e.g. *balanced or complete*).

3. “*Concerns*” were the uncertainties or worries guardians had about dog food. Words in this category included *expensive, too much variety, and where does it come from?*
4. “*Marketing*” described the advertising or commercial components that guardians associated with commercial dog food, including name brands of commercial diets (e.g. *Purina, Iams, or Science Diet*) or stores where dog food is commonly purchased (e.g. *Petsmart or grocery store*).
5. “*Health*” included words or phrases associated with dog food and its implications for a dog’s specific health problems or for overall health. Words in this category included *weight, dental health, and bad food, sick dog*.
6. “*Emotions*” were the various reactions displayed by dogs at feeding time (e.g. *lip licking or excited dog*), as well as the emotional responses dog guardians associate with feeding dogs (e.g. *sharing or bonding*).

There were some words or phrases that fit into 2 categories. In these cases, I picked the category that best represented the concept based on the respondent’s clarification of the word/phrase (in the post-PMM interview) or from the usage of the word on the PMM (in the cases of the electronically-conducted PMMs, in which there were no follow-up interviews but participants were asked to elaborate upon their responses). Additionally, several of the responses were in the form of long sentences that encompassed multiple themes. In these instances, I split

the responses into multiple categories to ensure that each theme was represented.²¹ For example, one person wrote, “Dogs are carnivores by nature and therefore require a large amount of meat in their diet. How much they require (in terms of a percentage) I do not know.” The first half of this response was placed in “Ideals,” since it indicated the participant’s belief that dogs need meat in their diets, and the second half was placed in “Concerns,” since the participant expressed uncertainty about how much meat dogs need.

Finally, I determined how many times each major theme appeared on each participant’s PMM. Like Falk et al. (1998), I refer to this analysis as *Breadth*. In order to determine *Breadth*, I noted whether or not a theme appeared on a PMM. If the theme was present, I added one point to that particular category; if the theme was not present, I added zero points

²¹ PMM responses with multiple themes include the following: (1) the phrase above. (2) “Love your pet. You want your dog to eat healthy and live a good life, treat it like a human that you love. I would not feed table scraps to my family or dog.” In this case the first 2 sentences were placed in “Emotions” and the last sentence in “Ideals.” And (3) Get a better brand: (a)—when we got our dog the trainer told us to never buy a brand that you can get at a Walmart or regular store because those are made with a lot of filler that a dog doesn’t need (b). So it may be gimmick (c) but we go to PetSmart (d) and always get Nutro’s Natural Choice for sensitive stomachs (e). We get this because it was suggested by a friend of ours who did a lot of research (f) and since there was a picture of our type of dog on it (Yorkie) we felt that it was made for our dog (g).” In this case, parts a, b, d, e, and f were placed in “Ideals,” and c and g were placed in “Marketing.”

CHAPTER 3: RESULTS

PMM RESULTS

A total of 29 dog guardians filled out personal meaning maps. Overall the study participants used a total of 336 words, phrases, and images to describe dog food.²² These findings were organized into six major thematic categories, which are discussed in detail below. The fewest number of themes represented per PMM was two, which occurred on six PMMs. Only one respondent's PMM had all six themes present. The majority of PMMs reflected four themes (n=11). The themes are described in decreasing order according to their *breadth*, or how often each theme was present in the 29 PMMs.

Theme 1: Ideals

About 83% of participants (n=24) made specific suggestions regarding canine dietary patterns, making "Ideals" the most common conceptual theme on the PMMs. Participants expressed a wide variety of ideals related to feeding companion dogs. One respondent offered specific advice on where to avoid shopping for dog food. She wrote, "Get a better brand—do not buy from Walmart or regular store because they contain filler that dog does not need." Although this respondent did not specify the "better brand" she had in mind, others wrote that brand name dog food is ideal because "[the companies] use more quality control" and "major dog food companies promote healthy, active dogs."

Many participants listed specific brands of dog food. The brands that were included in this category had emotions (positive or negative) attached to their meaning, whereas the brand

²² Counts each word, phrase or image total. Words are repeated.

names listed without emotional responses were placed in a different category.²³ In many cases, the same brands were listed in both positive and negative contexts depending on the PMM. For example, while one person wrote, “Buy...Purina ONE,” three others associated negative meanings with this brand (e.g. Purina Beneful gave my dog an upset stomach). Similarly, one respondent wrote that she “should feed” Science Diet, but three others used this brand name in a negative context (e.g. one person made two columns of dog food brands: one with cheap/low quality dog foods (which is where she placed Science Diet), and one with expensive/high quality dog foods). Seven brands were listed with only positive contexts, and included Iams Naturals, Nutro’s Natural Choice for Sensitive Stomachs, Taste of the Wild, Natural Balance, Canidae, Hill’s, and Hill’s id (prescription dog food). For instance, the respondent who listed Nutro’s Natural Choice, stated “We felt that it was made for our dog” because the bag pictured her own breed of dog. Six brands had only negative contexts, including Alpo, Eukanuba, Old Yeller, Iams,²⁴ and California Natural. The participant who listed Alpo also drew an image of a can of Alpo with a 99 cents tag on it, clarifying in the post-interview that she viewed the brand as cheap, lower quality food. One individual advised, “stay away from holistic foods—dogs get sick” (based on past experience with his dog), but did not list a specific brand name.

Suggestions also included buying domestically produced foods (“Buy American like Purina” and “Made in the US is preferable because we have higher safety standards for foods”). In terms of expense of dog food, participants had varying opinions, such as “Don’t buy cheap dog food, [it is] more expensive in the long run” (because it can lead to health problems) and “I

²³ Other brands appear in “Descriptions” or “Marketing” category.

²⁴ I am counting “Iams” separately from “Iams Naturals” above because the same respondent listed both brands.

do not buy the cheapest or the most expensive [dog food].” Other ideals included consistency of product, “nutrient diversity,” and “convenience (in terms of purchasing).”

Aside from the physical qualities listed above, respondents also listed a variety of ethical ideals they value in dog foods. One of these ethical themes dealt with the role of meat in a dog’s diet. Two of the participants were vegans, and both mentioned vegan dog food on their PMMs (1 said specifically that vegan food is better and 1 said it is an option). However, five participants wrote specifically that dogs should not be fed a vegetarian diet (“Dogs are carnivores by nature and require a large amount of meat in their diet”) and two others implied this in their responses (“Meat should be the first ingredient in dog food”). One respondent wrote that she was concerned about the “quality of life, health, and welfare of the animals who die to feed our dogs,” and another mentioned the link between many mass-produced pet foods and the inhumane factory farming of livestock. “Wild caught” game (e.g. venison) was listed as a possible humane alternative to factory farmed meat. Another respondent wrote that she thought dog food should be “sustainable” and “ethical.” Finally, five participants mentioned some of the “buzz words” that are currently popular in the modern dog food industry (e.g. organic, raw, grain-free, holistic, local, and contains human-grade ingredients).

Another sub-theme in this category was reactions to feeding “people food” to dogs. Five respondents indicated that they regularly feed their dogs people food, either as a supplement to commercial food (“we mix eggs into her [dry] food”) or as part of a homemade diet (“[I feed her] rice/chicken [and] eggs”). Two of the participants expressed uncertainty about feeding dogs homemade diets (i.e., they were not sure if it was good or bad), while 1 person wrote, “Don’t make your own dog food—Purina has the recipe.” Four people wrote that “dogs should not receive any type of human food” or table scraps for health reasons. Another respondent echoed

the no-people-foods sentiment but wrote, “I would not feed table scraps to my family or dog,” implying that table scraps were *not good enough* for her pet.

Some participants expressed preferences for the texture of food they feed their dogs.²⁵ Half of the people (n=3) who referenced texture strictly fed their dogs dry food (“the dog food we give our dog is always dry and never gets water added and never anything out of a can” and “[our dog] does not get canned food”). The other half of respondents favored softer foods (“trying to keep dry dog food fresh [which keeps it] softer, not too crunchy”) and/or practiced techniques when preparing their dogs’ food that made it softer (“Soak [dry food] in water and microwave”). One respondent equated “soft” foods with a more “natural” diet for dogs. Finally, participants wrote ideals about how much to feed dogs (e.g. Measured scoops; One cup; Making sure we are giving the dogs the right amount; portion size) and how often (e.g. Twice a day; Regular feeding times). One person also listed convenience as an important factor, both in terms of purchasing and feeding dogs.

Theme 2: Descriptions and Ingredients

Out of 29 PMMs, 21 (about 72%) used words or phrases that fall into this category, and out of 336 responses, 99 (about 30%) dealt with this theme. Most guardians described various physical qualities of dog food, such as *texture* (e.g. dry, hard, or mushy), *appearance* (e.g. brown in color, uniform, and lots of colors), *smell* (e.g. distinct smell and smells bad), and *taste* (e.g. boring/bland, plain, and not very tasty). The majority of guardians wrote words associated with dry dog food, such as “crunchy” (seven people), “dry” (five people), “hard” (two people), and

²⁵ Words/phrases describing texture (i.e., wet versus dry food) are also discussed in the next section; however, the words and phrases above were placed in this category because guardians assigned value to them (as opposed to them having a neutral meaning).

“crumbly” (two people), as well as words like “kibble” (three people) and “dry food” (one person). In comparison, one person listed a word describing wet food (“mushy”). These results are consistent with my survey findings, which indicate that the majority of dog guardians feed dry dog food. Four people wrote the words “dry food” or “kibble” on their PMMs and three wrote the words “canned [dog] food” or “soft food.” Two people wrote “wet or dry,” giving no preference for either type.

Many of the additional words and phrases used to describe dog food had a negative connotation, with several guardians using words like “yucky,” “fake,” and “disgusting.” Participants also described specific ingredients used in dog food or commonly fed to dogs, including whole foods like meats (e.g. fish, chicken, turkey, lamb, venison), produce (e.g. greens, beets, fruits and vegetables), and grains (e.g. rice, corn, brown rice), as well as less desirable ingredients (e.g. by-products, fillers, bone meal, and artificial colors). Most guardians mentioned the nutritionally balanced aspect of dog food (i.e., commercial food), using words such as “balanced nutrition,” “nutritious,” and “wholesome.” Nutritional qualities such as “crude protein,” “crude fat,” and “fiber” were also mentioned. Finally, two participants listed various types of treats, including “edible tartar control bones,” that they regularly give to their dogs.

Theme 3: Concerns

Out of 29 PMMs, 19 (about 65%) mentioned various question and concerns about dog food. The most common concern about dog food was cost. Almost 80% of respondents (n=15) within this thematic category indicated that dog food was expensive, and several commented on the cost of food in relation to its nutritional quality (“Mass produced is less expensive, high

quality is expensive”). Another common concern was the overwhelming diversity of dog food available on the market—42% of participants (n=8) wrote responses like “There are too many choices of food brands and types in stores” and “complicated and confusing; there are so many different choices, knowing what is best is difficult.” One person even expressed this concern in regards to picking out treats for her dog, writing “[There are] so many treats out there for dogs; what is healthy and what should you stay away from?” One participant wrote “how much” and “how often” should dogs be fed and another wondered, more generally, “What do dogs taste?” Two individuals questioned dogs’ nutritional needs (“What is the right kind of food to buy based on [my dog’s] age and activity level?” and “Will my dog get all of the nutrients and protein she needs from what we feed her?) and uncertainty about how to read dog food labels. Issues of food safety also emerged in the data. Two participants wrote “melamine” (the toxin linked to the 2007 pet food recall), and others wrote “questionable sources,” “don’t know where the meat comes from,” “potentially dangerous,” and “What is it made with?”

Theme 4. Marketing and Advertising

About half of the respondents (n=14) commented on various commercial aspects of dog food. Two respondents shared similar sentiments that “marketing is a huge component of the pet food industry” and that “big business and corporate power/control” are significant factors. One respondent wrote about seeing dog food commercials “with carrots and chunks of meat and happy dogs.” Consumer demand was also listed as being important to guiding product trends. Seven respondents named commercial brands of dog food that did not have any positive or negative association (unlike the brands discussed in “Ideals” above) but rather were used as

general descriptors or examples of dog food (Alpo, Purina, Iams, Moist and Meaty, and Science Diet).

Nine participants listed specific brand names of dog commercial dog food on their PMMs. These brands included Purina (e.g. Purina ONE, Beneful, Alpo), Hill's Science Diet (includes regular and prescription diets), Iams, Iams Naturals, Eukanuba, Moist and Meaty, Nutro's Natural Choice for Sensitive Stomachs, Old Yeller, Taste of the Wild, Canidae, and Natural Balance. Participants listed these brand names in different contexts—good, bad, or neutral.²⁶ In the cases where the foods were listed in a positive or a negative context, I placed these foods in the “Ideals” category because they represent products that guardians would or would not feed their dogs. In the cases where the foods had neither a positive nor a negative context, I placed them in “Marketing” simply because these brands are commercial products.

Participants also listed various places where they purchase dog food. Four individuals wrote a big name pet superstore (3-PetSmart, 1-PetCo); three individuals wrote grocery store, and one person wrote the name of a local pet store. Finally, six respondents wrote down who advised them to feed a particular type of food: “our veterinarian recommended a type of food,” “[we] continued to feed their dog the same food as his previous owner fed him,” “I got advice from my parents on what to feed,” and “[I] listened to a friend who had done a lot of research on dog food.”

²⁶ These commercial brands appear in more than one category (either “Ideals” or “Marketing”) depending on if they have a positive/negative or neutral meaning, respectively. Based on follow-up interviews with the respondents and careful examination of the contexts in which each brand name was used, these are my subjective interpretations of the respondents' meanings of the quality of brands listed. Foods listed as good were: Purina ONE, Purina, Hill's Science Diet, Taste of the Wild, Natural Balance, and Canidae. Foods listed as neutral were: Alpo, Purina, Iams, Moist and Meaty. Foods listed as bad were: Purina, Science Diet, Eukanuba, Alpo, Old Yeller, and Iams.

Theme 5: Health and Diet

Issues about diet and its affect on health were present on 45% of the PMMs (n=13). In terms of general health, participants wrote responses such as, “good food, good dog,” “bad food, bad dog,” and “a healthy dog means a happy dog.” Participants also addressed specific health issues or benefits associated with feeding dogs. The sub-categories here include *skin and coat* (e.g. allergies, soft coat, shiny coat), *dental health*, *gastrointestinal issues*, and *weight and obesity* (e.g. diet, weight control, obesity, diabetes). One person responded that many of the corn-based commercial diets currently on the market are akin to “eating McDonalds for every meal.” Some participants mentioned diets that address specific health problems (e.g. dental formula, sensitive stomach, prescription diet) or are specially formulated for certain stages of life (e.g. puppy food—higher calorie, senior food—lower calorie). One respondent wrote “lifespan,” implying that diet plays a role in a dog’s overall health and longevity.

Theme 6. Emotional Responses to Feeding

Eleven participants listed physical and emotional responses to dog food, both for dogs and for humans. Nine people listed excited responses elicited by dogs at feeding time: “gulp; inhaling food; with our dogs, when you feed them, food gone before you know it; hungry; excited dogs; food dance; lip licking; eat to live, live to eat.” One person wrote that her dog was a “picky/finicky” eater and preferred “grazing” throughout the day. One person wrote “burping” (because her dog burps after he eats) and another wrote “aggression” based on past experience with dogs who were possessive of their food. Three people also listed their own emotions that are present when feeding dogs. One individual wrote the words “sharing” and “bonding” because feeding represents these things; another person wrote that her dog deserved the best

quality of food because he was “a member of their family;” and one respondent wrote that the distinctive smell of dog food reminded her of her youth and feeding her childhood dog.

SURVEY RESULTS

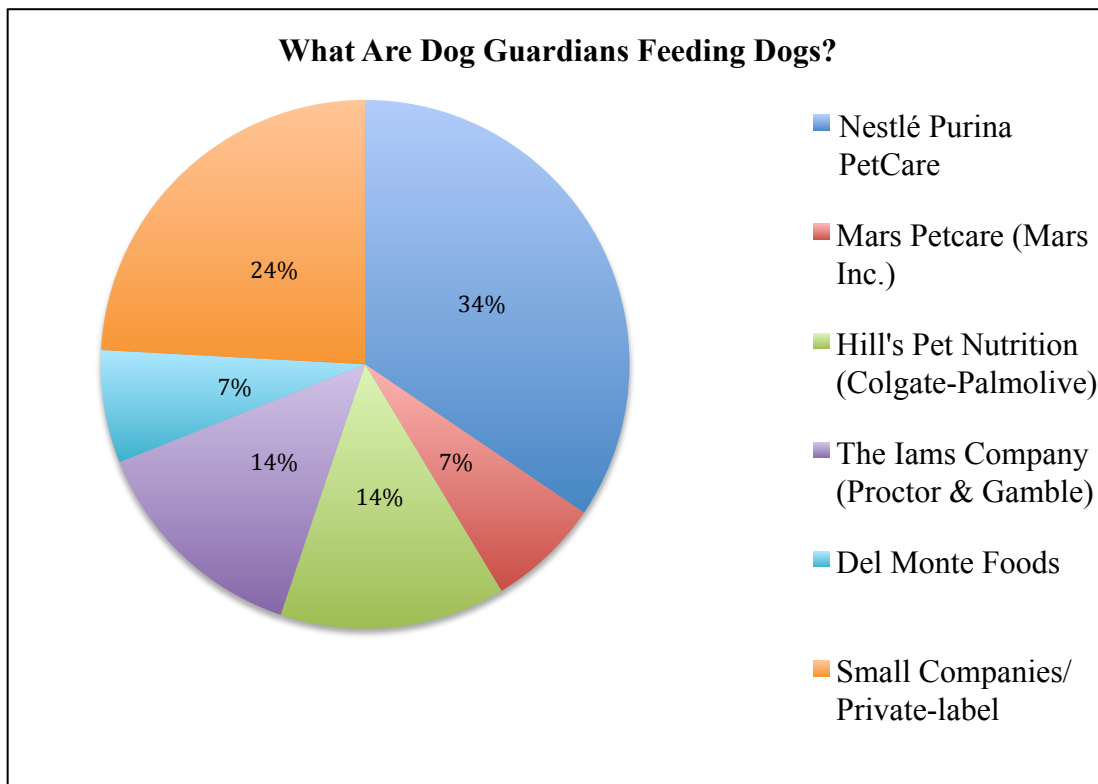
Whereas the PMM allowed dog guardians to generate their own meanings of the phrase “dog food,” the survey instrument was utilized to gather specific information about guardians’ perceptions of canine dietary patterns. Out of the 31 individuals who participated in this study, 28 filled out the survey. Of these 28 individuals, 22 people currently live with one or more dogs and six people have lived with one or more dogs in the past five years. My first measure (survey Q2) looks at what type(s) of food my sample group currently feeds their dogs (or what they fed in the last five years, if they do not currently own a dog). Figure 3.1 shows the percentages of what types of food participating dog guardians feed their companions, broken down into categories by the manufacturer.²⁷ Two people listed two types of food that they feed their dogs, and one person who did not currently care for a dog could not remember what food she fed her dog (making n=29).

Nestle Purina was the most popular brand fed, with about one third of dog guardians (34%) feeding brands made by this manufacturer. Small or private label companies were next (24%, n=7), followed by Hill’s Pet Nutrition and P&G, both of which were about 14%. Finally, about 7% of guardians fed brands manufactured by Del Monte or Mars. Out of these foods, four

²⁷ As of April 2012, the following companies owned these 29 brands listed on the surveys: Nestle Purina PetCare owns Purina One, Purina Pro Plan, Beneful, Alpo, and Purina Dog Chow; Mars Pet Care (Mars, Inc.) owns Nutro; Hill’s Pet Nutrition owns Hill’s Science Diet and Hill’s Prescription Diet; The Iams Company (Proctor & Gamble) owns Iams, Eukanuba, and Innova; Del Monte Foods owns Nature’s Recipe and Skippy; Smaller company and private label brands listed were Taste of the Wild, Before the Grain (2), Three Dog Bakery, Blue Buffalo, Pro Pac, and Natural Balance.

were grain-free,²⁸ three were prescription diets,²⁹ one was a canned food,³⁰ and 28 were dry foods (kibble).

Figure 3.1: Commercial dog foods. This figure represents the number of dog guardians in this study who fed commercial dog diets based on the top manufacturers in the industry. Information is from Nestle and Nesheim (2010, p. 49). For interpretation of the references to color in this and all other figures, the reader is referred to the electronic version of this thesis.



The next measure (survey Q3) asked guardians to state what type(s) of foods are best for *most* dogs, including their reasoning for choosing that particular food (or foods). No options

²⁸ Grain free foods were Taste of the Wild, Before the Grain Buffalo (2 people fed), and Natural Balance.

²⁹ Prescription diets were Hill's Science Diet t/d (2 people fed) and Hill's Science Diet i/d.

³⁰ Only canned food listed was Skippy.

were given from which to choose, but respondents were prompted to list information such as brand name (if commercial food), flavor, wet/dry/semi-moist, etc. Because several participants listed more than one type of food, the total number of responses was 32. Dry food, or kibble, was the most common response to this question, with 11 individuals (about 40% of respondents) believing this type of food is best for most dogs. The most popular reason given was that dry food is better for dogs' teeth (five people). Other reasons included gastrointestinal concerns (e.g. "wet food is too rich"); recommendation by a veterinarian; and personal experience ("I have had dogs who ate expensive food and died premature of cancer, and dogs that ate the likes of 'Kibbles n' Bits' and lived to be 14"). One person listed a particular dry food as being nutritionally superior—"Purina One, they have the best nutrients." And two people included caveats to their choices—one said that dry food should be grain free, contain meat as the first ingredient, contain natural ingredients, and should be at least middle of the road in price (i.e. not the cheapest food available), while another said a providing different varieties of dry food was important. One person did not give a reason for choosing dry food.

The next most popular answer was homemade diets. Seven out of 28 people (25%) chose this option, although two respondents listed homemade food along with another type of food (wet food and raw food). One person wrote that homemade diets are ideal because "you know what is going into your dog's diet and what exactly they are eating" and "you can make sure they get the proper nutrition they need and what is best for them." Four of the eight people listed this notion of quality control (e.g. contains no additives, you control the source of the food) as a reason for choosing homemade diets. One person wrote a caveat to feeding homemade diets—that the guardian must have correct nutritional knowledge. Two people did not give reasons for

choosing homemade food. Of the people who said homemade diets are ideal for most dogs, no one currently feeds homemade food.

Four participants said raw diets are best for most dogs; however, none of these individuals currently feed this type of food. One person wrote, “I’ve been told raw food is best [for dogs]” (did not say where she heard this) and another wrote, “raw meat is best but too expensive.” One individual thinks raw food is ideal for dogs because it is “similar to what they would eat in the wild.” Finally, one respondent said raw food is “much more natural for the system to process” and it contains “no additives.” This person also listed homemade food as an ideal diet for the same reasons.

Two individuals wrote that dog foods containing human grade ingredients are best for most dogs. Neither listed a reason for this choice. One person listed wet food (along with homemade food) as ideal because it provides a varied diet. Another individual felt that a mixture of dry and wet food was best because it “helps with their digestion” and is “more appealing to dogs.” One respondent wrote that organic commercial dog food is best; however, he does not feed it to his dog because it is too expensive. One person wrote vegetarian or vegan because it means that other animals do not suffer to feed dogs. One individual wrote limited ingredient diets as ideal because “overly complicated food is bad [for dogs].” Finally, one person responded that she does not know what type of diet is best for most dogs

The next question asked participants to rank 11 attributes in a *commercial* dog food. An ‘Other’ category was provided for individuals to write in additional attributes. Guardians were instructed to assign each feature a numeral ranking on a scale of 1-5, with number 1 being “Not Important at All” and 5 being “Very Important.” Twenty-eight people responded to this question, although some did not rate every quality. Table 3.1 (below) shows how dog guardians

ranked the following attributes when selecting a commercial dog food: Affordable; Contains organic ingredients; My dog likes it; Real meat is the first ingredient; Made in the USA; Healthy; Contains natural ingredients; Contains no by-products; Grain-free or low-grain; Company ethics and sustainable manufacturing; Veterinarian recommends; and Other (where participants could add a quality they found important). In order to provide a more robust analysis of how this sample of dog guardians perceives each attribute, the responses were collapsed in the table below (i.e. ones and twos were combined into a single column, as well as fours and fives, while three represented the “neutral” column). For each attribute, the “n” column to the far right indicates how many people responded to each quality.

Table 3.1: Dog guardian’s rankings of attributes.

	Not Important	Neutral	Important	n
Affordable	8	8	12	28
Organic ingredients	9	9	9	27
My dog likes it	1	3	23	27
Real meat #1 ingredient	2	7	19	28
Made in USA	5	6	15	26
Healthy	0	0	27	27
Natural ingredients	0	6	21	27
No by-products	1	5	21	27
Grain-free or low-grain	3	11	14	28
Company ethics	6	4	18	28
Vet recommends	9	5	12	26

As shown above, all of the dog guardians participating in this study highly valued the healthiness of a commercial dog food. Another important quality was palatability, or whether the dog likes a food, with about 85% of participants ranking this attribute as important. Eight individuals (about 28%) considered affordability to be not very important, eight were neutral, and 12 considered this quality important. These results coincide with the PMM findings, in

which at least half of participants expressed concern about the high price of dog food. Over half of the respondents felt that real meat should be the first ingredient in dog food, while only two people did not. Company ethics and sustainable manufacturing practices were preferred by about 65% of dog guardians. All of the participants ranked “contains natural ingredients” at a three or greater, with 80% saying this quality is important. Foods containing organic ingredients were ranked evenly, with nine responses in each category.³¹

Foods containing no by-products were also highly preferred; no one marked this attribute as not important, and about 78% of participants marked it as important. More guardians considered it ideal that a dog food be made in the USA (n=15) than those who did not. Half of the respondents ranked grain-free or low-grain foods as important (grain-free is another common “buzzword” used to market certain premium brands). Interestingly, under half of the respondents (46%) considered veterinary recommendations significant and about 34% said it was not. Finally, three participants added other attributes they seek in a dog food: should contain no meals or mixes should promote dental health, and should be corn-free.

I next asked participants whether or not they were familiar with the 2007 pet food recall, in which a number of commercial foods containing melamine-tainted wheat gluten contributed to the sickness and death of thousands of pets across the nation. Out of the 27 individuals who responded to this question, 16 (about 60%) were familiar with the recall, and 11 (40%) were not

³¹ I purposely separated dog foods with “natural” ingredients and dog foods with “organic” ingredients because I wanted to see how guardians differentiate (and value) the two terms, both of which are common “buzzwords” currently used in the industry. According to Nestle and Nesheim (2010), the term “natural” has no standard definition and is used broadly (and contradictorily) with in the commercial dog food industry, often “mean[ing] whatever the manufacturer says it does” (p. 132). The authors write that the term “organic” is slightly more regulated (it is *based off of* the USDA’s National Organic Program’s standards); however, the regulations are often “causally applied” (p. 136) due to lack marketing oversight (see Nestle & Nesheim, 2010, pp. 130-7, for discussion of natural and organic dog foods).

(one person did not answer this question). For those who were familiar with the recall, I asked if the incident influenced what they fed their dogs thereafter. Six guardians (37.5%) responded that the recall *did* affect what they fed their dogs. Two people wrote that the incident made them more conscious of the types of food they buy, and that they now favor natural/organic brands and carefully read ingredients on package. One person wrote that she switched to a local dog food company because it was safer. And one individual said, “The vet brought up the recall and recommended going with a major brand manufactured in a big plant with good quality controls” (this person did not have a dog at the time of the recall). Ten guardians responded that the recall *did not* influence what they fed their dogs. Six people this was because the foods they purchased were not affected by the recall, one person said that they continued to feed prescription food, and three people did not give reasons.

The next survey question asked about a dog’s primary role in a participant’s household. Options given were: family member, guard dog, house pet, hunting dog, and other (where participant could fill in additional roles). Participants were allowed to make one choice only, and a total of 27 people answered this question. The vast majority of respondents (about 90%) consider their dog’s primary role to be a family member. Two individuals consider their dogs to be “house pets,” and one individual considers her dog a “backyard pet/kids’ dog.” No participants selected “guard dog” or “hunting dog” as options.

Finally, participants were asked to answer how much a dog’s diet impacts his or her well-being. Participants had five choices: no impact, very little impact, some impact, moderate impact, or significant impact. Twenty-seven people answered this question, and all respondents considered diet to have at least a moderate impact on well-being. Twenty-one guardians (77.8%)

felt that diet has a significant impact on a dog's well-being, while the other six responded that diet has a moderate impact.

The significance of these results will be explored in the following discussion section.

CHAPTER 4: DISCUSSION AND CONCLUSION

Two methodologies were utilized to examine popular perceptions of canine dietary patterns using a convenience sample of dog guardians. Personal Meaning Maps (PMMs) allowed study participants to write down their own meanings of the phrase “Dog Food.” Meanings were then organized into 6 thematic categories. Participants also took a short survey, which supplemented the PMM by addressing a number of relevant issues related to feeding dogs. The results of both methods were discussed in the previous section, and the significance of these findings is explored in detail below. Drawing from the background provided in Chapter One, I specifically aimed to determine whether the following questions were addressed by a sample of modern dog guardians:

- (1) Do modern dog guardians consider their dogs family members, and if so does this perception of dogs influence feeding habits?
- (2) Are modern dog guardians influenced by “the war on table scraps”? That is, do they succumb to the notion that there is an inherent separation between “people food” and “dog food?” And do they embrace the ideology of “nutritionism,” which perpetuates the belief that we need “experts” to tell us (and our dogs) what to eat?
- (3) What concerns, if any, do dog guardians have about feeding dogs?
- (4) Is there evidence of a movement towards alternative dog foods, such as homemade diets?

DOGS ARE FAMILY

Social perceptions of dogs shifted considerably in the last half-century, and the dog’s modern status as a family member has been largely established. Thus, it is not surprising that most dog guardians in this study viewed their dogs as family members. Almost 90% of

participants responded that their dog's primary role in their household was as a member of their family (as opposed to a guard dog, house pet, hunting dog, or another role indicated by the participant).

I included this question on my survey because I was interested in seeing whether or not a dog's role in a household is reflected in the type of food he or she eats. For instance, does a dog who is a "family member" receive a higher quality food than a dog who is a "house pet" (assuming that the dog's "family member" status guarantees him or her certain standards)?

However, I found that this question was difficult to answer for a number of reasons. First, it is important to note that a dog's status (as a family member or otherwise) means different things to different people (e.g. in terms of how the dog is treated and provided for). Second, a dog's role in the household is dependent upon a number of conditions, such as the guardian's income, age, marital status, family situation (e.g. do they have kids?), and personal history with dogs.

Because this information was lacking in my data, it was not possible to take these important factors into consideration. Third, different members of a household may regard a dog in different roles, and although I selected primary caretakers of dogs for this study, it is possible that other members of the household had a say in matters such as quality of food. Fourth, it is not uncommon that dogs' household roles can overlap or change throughout the course of their life (e.g. a "guard dog" sleeps in bed with her guardian at night or a former "hunting dog" who lived outside enjoys his senior years indoors as a family dog).

Fifth, it is highly subjective to speculate on how a dog's role in a household affects his or her dietary patterns because I do not know how or what past experiences guardians have had that have shaped their choices. For example, one participant wrote that she used to buy expensive dog foods but after her young dog died of cancer, she now feeds a less expensive "grocery store

brand” based on the belief that a dog’s health is influenced more by genetics than by diet. Not knowing crucial information like this in every case, it is impossible to guess each guardians motivations for feeding a certain type of dog food. Sixth, just because my opinion about a brand of dog food differs from someone else’s does not necessarily mean that one of us is right and the other is wrong. Different dogs do well on different diets, and not knowing the health status of each guardian’s dog(s), it is not possible to determine how diet is affecting the dog. Also, guardians may firmly believe that they are feeding their dogs the “best” food, based on factors such as veterinary advice. Although there may be other problems with this analysis, these are some that I have highlighted to demonstrate why this particular analysis was not constructive.

The responses from the PMMs indicate that most modern dog guardians firmly believe their dogs have earned “the right to health” (Haraway, 2008, p. 49). This sentiment was expressed in responses such as “[dog food should be of a] quality *worthy* of being fed to your companion” (italics mine) and “[if] you want your dog to eat healthy and live a good life, treat it like a human that you love.” The link between diet and health was also demonstrated in the survey results, where all participants responded that diet had at least a moderate impact on a dog’s well-being and 80% of participants responded that diet had a significant impact. However, it is worth noting that the term “well-being” may mean different things to different people.

COMMERCIAL DIETS REIGN

Interestingly, the dog’s status as a family member was the main reason that many people rejected the idea of feeding dogs table scraps. One guardian wrote, “I would not feed table scraps to my family or dog,” implying that *scraps* are inferior foods for the dog she considers to be a family member. This sentiment represents one of the commercial dog food industry’s

greatest accomplishments—convincing a generation of dog guardians that feeding “people food” to dogs was both nutritionally *and* socially unacceptable. My study revealed that many modern dog guardians make a clear distinction between the types of foods people and dogs should eat. Respondents used phrases like “no human or table food” or “avoid table scraps” to imply that “people” foods such as these are not meant for dogs. Only in one case did a participant say she routinely feeds her dog “table food.”

Because the phrase “table scraps” has a negative connotation—a fact not unknown to the commercial dog food industry—it is understandable that guardians do not want to feed these substandard foods to their dogs. For the past half century, dog food manufacturers have propagated the notion that “people food” and “dog food” are distinctly separate and to feed dogs “people food” is to do them a disservice. This idea gained further credibility as the veterinary industry (a trusted resource to dog guardians) supported it. Most veterinarians advise guardians to never feed dogs table scraps because such foods can contribute to health problems such as obesity or gastrointestinal issues. Importantly, not all people food is bad for dogs. Properly formulated home-prepared diets are perfectly suitable for dogs (e.g. Nestle & Nesheim, 2010), and such diets are growing in popularity (a trend I will discuss later on). However, it seems that some guardians equate feeding any type of “people food” to dogs with feeding them “scraps.” In these cases, table scraps are seen as unhealthy or low quality “snacks.” For example, one respondent wrote that her dog “beg[s] for ‘treats’ like cheese & peanut butter,” two typical snack foods that are not necessarily healthy for dogs.

Another goal of the anti-table-scraps-campaign was to convince dog guardians that feeding dogs was best left to the “experts”—that is, pet food manufacturers, and more specifically the animal nutritionists who formulated the balanced diets. In their descriptions of

commercial dog food, a number of respondents listed phrases such as “balanced nutrition” and “complete nutrition.” One participant elaborated by saying, “There is an expectation that dog food is complete. You don’t have to feed anything else—everything you need is in the bag.” It appears there is a prevailing belief amongst some modern dog guardians that because commercial dog food is made nutritionally balanced by scientists using complex formulas, other diets (such as home-prepared meals) cannot compete. That is, the “nutritionism” ideology (Pollan, 2008) seems not only to apply to human food choices but also to dog food. Modern dog guardians who contemplate preparing a dog’s food from scratch may find it to be a daunting task or an overall bad idea. For example, one respondent wrote, “Don’t make your own [dog] food—Purina has the recipe, buy their Purina One.” This respondent clearly feels that large pet food manufacturers like Purina are better suited to feed dogs because of the considerable amount of nutrition research conducted by the company.

Veterinarians also typically discourage guardians from feeding home-prepared diets to dogs. Although it is feasible for guardians to prepare dog food from scratch using a balanced recipe from a trusted source, many veterinarians worry that people may not follow directions closely and as a result dogs may develop health problems. Further, many veterinarians do not receive adequate nutrition training and are unable to instruct guardians on how to formulate homemade diets. Interestingly, while six respondents considered veterinary advice to be significantly important in choosing a dog food, the same number felt that this factor was not at all important. As I will later show, some guardians were critical of the veterinary industry or suspicious of their motives for recommending certain diets.

The commercial dog food industry’s personalization of diets for dogs of a specific age, size, activity level and/or breed has proven to be quite effective. For example, several

respondents bought foods formulated specifically for puppies, adults, or seniors (e.g. Purina One Mature). One person wrote, “Senior food—lower calorie, puppy food—high calorie,” indicating that he understood at least one of the basic nutritional differences between these types of foods. Another individual wrote that she feeds “large breed adult” dog food to her large breed dog. A 22-year-old respondent who has a young, active German shepherd mix feeds her “Science Diet Advanced Fitness Original” food, which seems similar to an athlete drinking a sports drink like Gatorade for optimal performance. Respondents’ perceptions of breed-specific foods were less positive: one individual wrote, “is [breed-specific food] a marketing scheme or no?” while another person wrote that her veterinarian recommended breed-specific food for her medium-sized purebred dog but she did not feed it (respondent did not indicate her reasoning). Interestingly, one respondent was drawn to a brand of food that pictured her breed of dog (“there is a picture of our type of dog (Yorkie) on the bag of dog food that we buy—we felt that it was made for our dog”). Although this guardian does not intentionally purchase a breed-specific brand of dog food, she does rely at least in part on the image of her breed of dog on the bag to make her decision.

Dog guardians in this study selected dog foods that address specific health conditions. These included both prescription diets (e.g. Hill’s i/d) and condition-specific commercial diets (e.g. Purina Pro Plan Sensitive Skin and Stomach). Of those six foods, half are formulated for dogs with sensitive stomachs. The individuals feeding specially formulated commercial diets did not indicate their reasons for doing so. It is possible that just as food allergies and conditions like irritable bowel syndrome are becoming better understood in human medicine, guardians are projecting these problems on to dogs. It is also possible that guardians seek “sensitive stomach” formulas because they convey a sense of nutritional simplicity (e.g. simple ingredients).

Descriptions of dog food varied, but most referred to dry commercial foods and had negative contexts. Words like “crunchy,” “dry,” and “hard” were frequently used on the PMMs to describe dog food. It is not surprising that these words were used considering that one of the main reasons guardians gave for feeding dry food was that it is better for dogs’ teeth. It would be interesting to have each dog’s dental history in these cases to know whether or not a diet of dry food actually prevented dental problems in that dog, or whether the idea of dry food preventing tartar build-up is just myth propagated by veterinarians. Lonsdale (2001) argues that commercial diets (wet or dry) do not prevent tartar accumulation and actually exacerbate the problem. Others (e.g. Nestle & Nesheim, 2010, pp. 169-70) say that while some foods or treats are shaped to mechanically control tartar (through abrasion during chewing), many of these claims are not scientifically proven.

Interestingly, many of the descriptions of dog food on the PMMs had negative connotations, such as “disgusting” or “gross.” Also people tended to think of dog food as “plain,” “boring,” or “bland.” These descriptions raise the question: If guardians think poorly of these products, why do we feed them to dogs? Perhaps some guardians believe that while commercial diets are not appealing, they are the only and/or best option. Over the past 50 years, dog food manufacturers, veterinarians, and the media have successfully indoctrinated the notion that not only are commercial diets *best* for dogs, but also that they should be fed *to the exclusion of any other type of food*—especially “table scraps.” Further, given the widespread “nutritionism” sentiment discussed above, it is not surprising that guardians feed commercial diets based on “expert” advice, even if they find the products unappealing. A comparable situation might be an individual choosing a product such as a sugar-free, high fiber breakfast

cereal over another sugary variety—not because she prefers the taste of the first product, but because she believes it is healthier.

It is also highly likely that the popularity of commercial diets is due at least in part to their convenience. Interestingly, only one participant mentioned convenience on her PMM. It is possible that some participants did not associate convenience with dog food because we now take commercial diets for granted. That is, whereas dog guardians once considered processed dog food a luxury, they now regard it as a basic necessity. Perhaps others did not list convenience because they simply did not think of it, or because they feared it would make them appear insensitive.

A growing trend in the commercial pet food industry is to make pet foods that resemble human food—a possible attempt to counteract the “ick-factor” of commercial diets and make them more (visually) appealing. If this is their attempt, why did the vast majority of participants in this sample think dog food was disgusting? Perhaps it is because none of them fed brands that look like people food (e.g. Chef Michael’s, Merrick, etc.). One respondent wrote that she looked for foods containing “human grade ingredients” because these were higher quality diets. Another person wrote about “dog food commercials with carrots and chunks of meat.” This is a typical marketing strategy used to show that a dog food contains healthy ingredients that we would like to eat. However, while the commercials may show meat that *looks* like the cuts of meat people are used to eating (e.g. chicken breast, steak, etc.), it is more likely that meat used in the food is a by-product that humans would find unappealing.

Several guardians were concerned with where dog food should or should not be purchased. For instance, one person wrote not to buy dog food from Walmart or a regular store (e.g. a grocery store) because these places typically carry lower quality foods. Alternative dog

food advocates like *The Whole Dog Journal* reinforce this sentiment, insisting that the brands available in these retail outlets are mass-produced and not the highest quality. However, two others wrote that they regularly purchase dog food at the grocery store. According to Nestle and Nesheim (2010), half of the dog food in the US is purchased from grocery stores or big box stores like Walmart (p. 47). PetSmart, PetCo, and other pet superstores account for 19% of purchases, and non-grocery retailers for 19% as well. The remaining sales are from small pet stores and veterinary clinics (less than 10% each).

About half of the respondents listed a name brand on their PMMs, and in over half the cases the respondents indicated that a particular type of food was superior to others. Brands such as Purina, Science Diet, and Iams were the most commonly occurring foods named on the PMMs. As these companies have established their reputation in the dog food industry, it is not surprising that their names were so prevalent. It is also not surprising that Purina was the most popular brand fed, considering that they have the largest share of the commercial dog food market (Nestle & Nesheim, 2010, p. 49). Many of the brand names listed had positive or negative meanings associated with them based on personal experience with that brand. In several cases, respondents wrote about bad experiences with particular brands of food. For example, one individual wrote, “had a bad bag of California natural [sic], expensive stuff, big vet bills.” Interestingly, California Natural is generally viewed as an alternative commercial dog food of fairly high quality.³² However, based on the severity of this experience, the same individual now “stay[s] away from holistic foods” because “dogs get sick.” Another respondent tried to feed her dog Purina Beneful, but it “gave her an upset stomach” and so she now feeds Iams.

³² *The Whole Dog Journal* lists them as an approved dry food.

CONCERNS ABOUT DOG FOOD

Questions about dog food and feeding dogs were common, with over half of participants expressing concerns about issues such as ingredient source and quality, the high cost of food, and the overwhelming variety of choices. Interestingly, only two people specifically referenced the 2007 pet food recall on their PMMs while over half of respondents were aware of the recall according to the survey. What accounts for the discrepancy between these two methodologies? It is possible that because the recall occurred over five years ago, the matter is no longer pressing in people's minds. More common than references to the recall were concerns about ingredient sources and quality. Just as people are becoming more concerned with where their own food is grown, so are they beginning to wonder where their dog's food comes from.

On the PMMs, the most common words used overall were related to the price of dog food. Many guardians wrote that dog food is expensive, particularly foods that are of higher quality (e.g. "I think dog food is too expensive" and "mass-produced is less expensive; organic is expensive"). However, there was also the acknowledgement that any superior product costs more, and many guardians were willing to pay extra for better quality foods. The success of the super premium pet food market is evidence that a growing number of dog guardians (particularly guardians with a higher income) are willing to pay high prices for dog food (e.g. see Kumcu & Woolverton, 2010).

A number of health concerns were listed on the PMMs; however the main problems listed involved gastrointestinal issues and dental issues. For instance, the individual whose dog got sick from "a bad bag of California Natural" wrote that the dog developed severe diarrhea and had to be hospitalized. Other participants had similar sentiments about how certain foods negatively

affected their dogs: one wrote, “wet food seems too rich for my dog;” one wrote that her dog’s food causes “burping;” and one wrote that a Purina Beneful gave her dog an upset stomach. It is likely that gastrointestinal issues are the most obvious to dog guardians because they are the most immediate. However, dental problems were another concern, with two people feeding their dogs a prescription diet specifically for dental health, and several others feeding dry food because they believe it keeps their dogs’ teeth cleaner.

Animal welfare concerns were present on four of the PMMs. One person mentioned the link between “mass-produced dog food” and “factory-farming,” and another said she looks for dog food that contains meat from humanely raised livestock. Two individuals said that dogs could do well eating vegetarian or vegan diets, while the majority of the participants felt that dogs need meat in their diet. Five individuals specifically stated that dogs should not be fed a vegetarian diet. One respondent wrote, “Dogs are carnivores by nature and require a large amount of meat in their diet.” Others wrote phrases like “Meat should be the first ingredient in dog food.” On the survey, participants were asked how important it was that real meat was listed as the first ingredient in a dog food, and over half the people said it was very important. Unlike cats, who are obligate carnivores, dogs do not require meat in their diets; however, most people would agree that dogs enjoy eating meat. Is it ethical to deny dogs meat? It depends on many factors, such as the health of the dog and the guardian’s nutritional knowledge. Interestingly, the two participants who said dogs do not need to eat meat were vegans, but other vegan/vegetarian respondents fed their dogs food containing animal products.

On the PMMs, people expressed doubt about foods recommended by veterinarians. For example, one person wrote, “vet suggestions (typically Science Diet—why?)” on her PMM, and clarified in her post-PMM interview, “Almost every vet I’ve ever gone to *pushes* this food on

clients” (italics mine). The respondent’s use of the word “pushes” indicates that she feels the veterinarian has an underlying motive (e.g. profit) for recommending this particular brand of food. Considering that many veterinarians carry Science Diet in their clinics, it would be interesting to know whether this individual’s veterinarian did so. Another individual wrote, “‘Veterinarian recommended’— this phrase seems to be written on many brands of dog food and gives consumers the *perception* that what they are buying is the best product for their dogs to eat” (italics mine). The use of the word “perception” in this response indicates that this individual does not necessarily trust the veterinarian’s opinion. One person had a positive experience with a food recommended by a veterinarian, in this case because the dog had been having gastrointestinal problems and the prescription diet from the veterinarian addressed this issue (“our vet recommended Hills ID formula—he is doing well on that”). Survey results reveal similar perceptions of veterinarian recommended diets: while nine respondents said it was “Not Important” that a veterinarian recommend their dog’s food, 12 said it was.

One person said on her PMM, “when we got our dog the trainer told us to never buy a brand that you can get at a Walmart or regular store because those are made with a lot of filler that a dog doesn’t need.” She then goes on to say:

So it may be a gimmick but we go to PetSmart and always get Nutro’s Natural Choice for sensitive stomachs. We get this because it was suggested by a friend of ours who did a lot of research and since there was a picture of our type of dog on it (Yorkie) we felt that it was made for our dog.

This individual heeds her trainer’s advice and avoids shopping for dog food at Walmart-like stores; however, she does not seem entirely convinced that this is not a “gimmick.” Still, she combines the trainer’s suggestion with a knowledgeable friend’s recommendation to select a dog food. Also important is the market appeal of the food—that is, because the bag of dog food pictures a Yorkie, the individual is drawn to this brand of food. Finally, a separate individual

wrote that her dog's "previous owner fed Hill's product and since he is a tiny Yorkie, we continued buying Hill's for him." In this case, the guardian implies that because her dog is "tiny," he would be somehow less tolerant if she were to change his food.

'GOOD' DOG FOOD

Finally, my study provides evidence that dog guardians are aware of and participating in the "alternative dog food movement." Guardians listed buzzwords that are prevalent in the dog food industry today and that are indicative of "alternative" dog foods. Some of these buzzwords include: sustainable, natural, ethical, local, organic, grain-free, wild caught, made in the USA, no by-products, and contains human-grade ingredients. To a growing number of consumers, these words and phrases indicate a superior product for their companion dogs—food that it is safer, healthier, or of a higher quality. As discussed in Chapter One, these trends are part of a larger "good pet food movement" (Nestle, 2008).

As shown by Kumcu and Woolverton (2010), people who purchase organic or sustainably grown food for themselves or their family are more likely to do so for their pets. Although I did not ask participants directly about their own food purchasing habits, in the interviews (i.e., time spent clarifying responses on the PMMs) several individuals revealed that they valued similar qualities in foods for their dogs that they do for themselves. For instance, one participant wrote "quality of life, health, and welfare of the animal who dies to feed dogs" on her PMM, and explained to me that she thought dog foods should have these qualities because these are traits she looks for in her food as well. Another wrote "vegan or vegetarian" because she herself abstains from eating animal products.

The demand for many alternative diets has increased since the 2007 pet food recall, when melamine-tainted wheat gluten in dog and cat foods caused illness or death in hundreds of pets (e.g. Nestle, 2008). A few months after the recall was announced, Packaged Facts (2007) published a report correctly predicting that the incident would result in "...higher-quality pet foods [being] chosen as alternatives to traditional brands—especially natural and organic pet foods, but also the often overlapping product segments of raw/frozen, refrigerated, homemade, 100% U.S. sourced, locally grown, and other smaller-batch pet foods" (p. 27). A survey of 319 pet food retailers in May 2007 showed that sales of natural and organic pet foods increased by 69% while traditional pet food sales dropped about 20% (Packaged Facts, 2007, p. 28). Throughout my research I read many current popular media articles about the growing success of the alternative pet food sector (e.g. Grimes, 2012; Martin; 2011; Storey, 2011), and all but one or two specifically refer to the 2007 recall as the catalyst.

Six of the dog guardians in this study fed "alternative commercial diets:" Before Grain (2 people fed), Blue Buffalo, Taste of the Wild, Natural Balance, and Three Dog Bakery. These products are considered "alternative" to traditional commercial diets for a variety of reasons. For example, "Before Grain" has most of the characteristics of an alternative commercial dog food, as described in Chapter 1. First, is manufactured by Merrick, a family-owned company. Second, it contains real meat as the first ingredients ingredient (in this case it is buffalo meat). Third, it is available only at pet specialty stores. Fourth, it is more expensive than standard commercial diets (as of April 2012, I can buy a 25.3 pound bag of B.G. Buffalo for \$49.30 on Amazon versus a 20 pound bag of Purina Dog Chow for \$22.99, plus shipping and handling). Fifth, this product is grain-free, which, according to the webpage, is "...the way food was supposed to be, Before

Grain got involved” (www.beforegrain.com/). These other alternative commercial diets share similar characteristics.

One dog guardian in this study fed her dog a (mostly) raw, vegan diet. Her dog’s meal typically consists of the following ingredients: rice or quinoa (cooked); raw oats; raw organic vegetables (kale, carrots, or cabbage); garbanzo beans, split peas, or lentils (cooked), grated apples, and raw tofu (plus supplements like nutritional yeast, alfalfa, and olive oil). The person makes a large batch of food every two weeks and freezes single-serving portions for convenience. She told me she decided to feed a home-prepared diet because her former dog developed bone cancer at a young age and she was looking for alternative methods of treating the dog. She has done research about canine nutrition on her own, and decided that commercial dog food was unacceptable for a number of reasons (e.g. “Some of the stuff that the USDA allows in dog food could be up to 25% chicken litter, and because of the way we feed our chickens, you know, there’s a heavy metals component that’s also in factory farmed raised chickens...”). Also significant was that this individual started experimenting with home-prepared food for her dog at the same time she began switching to a healthier, vegan diet.

Another dog guardian in this study fed her dog a homemade diet of cooked chicken, rice, and eggs. At the time of her interview, this individual had only had her dog for a few months and had not discussed the diet with her veterinarian or done much research about feeding home-prepared diets. On the survey, about one third of the participants thought homemade diets for dogs were ideal. Interestingly, the majority of dog guardians rejected the idea of feeding “people foods” to dogs (e.g. “no table scraps”); however, homemade diets commonly include “people foods.” Clearly the intentionality of preparing homemade meals makes these diets acceptable,

whereas the phrase “table scraps” conveys sentiments like thoughtlessness on the guardian’s part or unbalanced nutrition.

Finally, discrepancies between participants’ ideals what participants actually feed their dogs were common. For example, some participants selected “homemade” or “raw food” on the surveys in response to what food is best for dogs; however, in reality they fed something else—often a commercial dog food. These divergences are likely due to one or more of the following reasons: (1) the higher cost of an “ideal” food makes it less practical; (2) the ideal diet is more time-consuming to prepare and/or less convenient to feed; (3) there is a lack of knowledge about the food (e.g. of the nutritional quality of commercial dog foods or of how to prepare homemade diets) or uncertainty about the food. Like with our own diets, we all have thoughts about what types of food are ideal, but it is not always feasible to eat the way we would like.

OTHER CONSIDERATIONS AND FUTURE RESEARCH

This study looked at popular perceptions of canine dietary patterns in a *convenience* sample of dog guardians. Thus, my sample is not representative of all dog guardians. For example, all but one of the study participants were Caucasian; all resided in the Midwest; and all had received at least a college education. There were also about twice as many female than male dog guardians who participated, and most participants were under 40 years of age. Further, the small sample size of 31 did not allow for significant statistical analysis. However, my qualitative analysis provided rich results, particularly my interpretations of the PMMs.

As mentioned, it would have been helpful to ask participants questions about their own dietary patterns in order to better understand if and/or how people’s food choices influenced what they buy for their dogs. The main reason I did not ask these questions is that I have found

from past experience that people's dietary habits are personal and often sensitive. For instance, if I were to ask a participant whether she or he ate meat, it is possible that the individual would feel defensive or resentful, depending on how the person feels about the subject. Still, it would be helpful to have this information to add to studies like Kumcu and Woolverton's (2010), who contend that people who buy premium foods for themselves are more likely to do so for their pets. One possibility would be to interview dog guardians who shop at natural food stores or food co-ops, since it has already been established that they purchase "alternative" foods at least some of the time. Indeed, as issues related to food become more pressing in the 21st century, the dog food industry will continue to reflect consumer demand for safer, healthier products.

APPENDICES

APPENDIX A: SURVEY

1. Please indicate your status as the PRIMARY caretaker of one or more companion dogs. (Primary caretaker = individual who pays for the majority of dog-related expenses and cares for the dog(s)).

- I am currently the primary caretaker of 1 or more dogs.
- I have been the primary caretaker of 1 or more dogs IN THE PAST 5 YEARS.
- It has been MORE THAN 5 YEARS since I was the primary caretaker of 1 or more dogs.

2. What type(s) of food do you currently feed your dog(s)? (If you are not currently the caretaker of a dog, what did you feed your dog(s) in the past?) Please include information like brand of food, flavor, wet/dry, etc.

3. What type of food do you think is best for most dogs (e.g., kibble, wet food, homemade food, raw food, etc.)? Please briefly explain your answer below.

4. Please rank the following attributes when selecting a commercial dog food.

	1 = least important			5 = very important	
Affordable.....	1	2	3	4	5
Contains organic ingredients.....	1	2	3	4	5
My dog likes it.....	1	2	3	4	5
Real meat is #1 ingredient.....	1	2	3	4	5
Made in the USA.....	1	2	3	4	5
Healthy.....	1	2	3	4	5
Contains natural ingredients.....	1	2	3	4	5
No by-products.....	1	2	3	4	5
Grain-free or low-grain.....	1	2	3	4	5
Company ethics/sustainable manufacturing	1	2	3	4	5
Veterinarian recommends.....	1	2	3	4	5
Other _____.....	1	2	3	4	5

5. In 2007, contaminated wheat gluten in dog and cat food led to the largest pet food recall in history.

Are you familiar with this recall? Yes No

If yes, did it influence what you feed your dog(s)? Yes No

Please explain:

6. How would you describe your dog's *primary role* in your household?

- Family member
- Guard dog
- House pet
- Hunting dog
- Other _____

7. How does a dog's diet impact his or her well-being?

No impact

Very little
impact

Some
impact

Moderate
impact

Significant
impact

Please briefly explain your answer.

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