COMBATING THE FOOD CRISIS: ISSUES OF TRANS-SPECIES FOOD SECURITY

By

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Abstract

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The animal-human bond is important to consider when dealing with the social, medical, and psychological outcomes of human society. The concept of trans-species food security is not new. However, the concept of food insecurity in companion animals negatively impacting human food security is relatively unexplored. This study describes point-in-time self-reported food security for companion animals of homeless veterans. The sample (N=26) is made up of veterans who attended the North Coast Stand Down. Program and practice recommendations are made.

Keywords:

Trans-species, food security, Alloperanting, coevolution, coevolved, food insecurity, animal-human bond, true-dogs, proto-dog
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In Loving Memory of Goldy, my dear friend, you saved my life, more times and in more ways than I can count. I will never forget you.

Goldy Fink
July 1985 – September 2004
# Table of Contents

Abstract ............................................................................................................................... ii

Keywords: ....................................................................................................................... ii

Acknowledgements ............................................................................................................ iii

List of Figures ................................................................................................................... vii

Introduction ......................................................................................................................... 1

Statement of the Problem ................................................................................................ 3

Aim of the Project ........................................................................................................... 5

Literature Review .............................................................................................................. 6

What is the Animal-Human Bond? ................................................................................. 7

Co-evolution .................................................................................................................... 8

Figure 1: Sclera Comparison .................................................................................... 11

On the Path to Today, the Bond in History ................................................................. 18

Animals and the Bond, Today ...................................................................................... 21

Children ............................................................................................................................ 23

Adults .................................................................................................................................. 27

Advanced Age ................................................................................................................... 30

Beneficial Bonds ............................................................................................................. 31

Military Dogs .................................................................................................................. 32

Physical ............................................................................................................................... 34

Psychological ................................................................................................................... 35

Hearing and Guide Dogs ............................................................................................... 39
List of Figures

Figure 1, Sclera Comparison........................................................................................................ 11
Introduction

This study was done in collaboration with Stephanie Johnson, MSW with Arcata House Partnership, in her capacity as a volunteer staff member of North Coast Stand Down’s Pet Services. North Coast Stand Down, is a program that reaches out to local Veterans and their families to provide immediate access to acute services. It also promotes safe, supportive community environments for veterans through increased community awareness and support. Among the services provided for veterans at North Coast Stand Down is an onsite vaccine clinic, access to pet food, groomers and other pet related services.

Over the course of the last six years, I have maintained an awareness of the pet industry, either through employment or volunteer work. In that time, it became apparent that many members of the Coastal Redwood Region’s homeless population have companion animals. The majority of the companion animals are dogs, however, throughout the years other animals have been seen in the company of transient persons. Members of the homeless and impoverished populations still frequent pet stores, despite their limited funds. Purchasing pet food, replacement leashes, collars, small toys and otherwise providing for their pets, even when it was clear their funds were extremely limited. In some cases, a dog would be provided with a new harness, despite its human companion’s ragged clothing. Countless statements along the lines of “My dog eats first” (personal communication, August 10, 2011) have been expressed to me personally.
At times people sit at busy intersections with signs reading “Please, I need Dog food” or “I need money to pay the dog’s bail” (observation, Feb, 2012). Over the years the odd advertisement has popped up on craigslist begging for help to send a beloved pet to see a vet (observation, 2013).

However, during my internship at the Sequoia Humane Society, I started to contemplate the true meaning behind those words and the implications of everything witnessed throughout the years. One of the most frequent reason for surrendering an animal to a shelter is an inability to keep them due to housing costs (personal communication, April, 2014). Another reason that frequently comes up is the sudden inability to provide for the animal’s needs. These two circumstances usually rank among the top five reasons why companion animals are surrendered to various rescue facilities (Hamilton, 2012; Lifeline Dog Rescue, 2015; Pajer, 2014).

An internship I held at the Betty Chinn Center brought several facts to light. Most homeless individuals view their pets not only as a means of protection but as a family member. Additionally, 5% - 24% of the 3.5 million homeless Americans have pets. When faced with the decision of finding housing sooner or remaining on the streets with their pet, studies show that many homeless choose to stay with their pet. (Pets of the Homeless, 2015). The internship also resulted in the facilitation of a small collection drive to acquire supplies for homeless people and their pets.
Every pet store visited was generous in providing food and in some cases, leashes, collars and treats. Pet food and supplies still went fast, a fact that was discussed between two collectors while picking up donations from one of the sites. An employee at the site offhandedly concurred and commented that “Humboldt County really needed a pet food bank,” prompting further investigation into the issue. Little information could be found on pet food banks or on the subject of how animal food security impacts human food security, and the search yielded only two quotes:

“No matter what Zoe stays with us, she is loyal to us and we cannot give her any less. She eats before us, and she gets the warm blankets when needed” (Pets of the Homeless, 2014). This quote simply resulted in further contemplation of the potential problem. However, the second quote is the one that truly illuminated the fact that animal food security had the potential to impact human food security. “We were stunned at the number of people who were going hungry themselves to feed an animal, or were sharing their emergency food boxes with their pets (Pets of the Homeless, 2014a). These words formed the basis of the reasoning behind this project, and added further support to the theory that a pet food bank could be required to help fill a potential service gap.

Statement of the Problem

The purpose of this study was to determine if Humboldt County needs a Pet Food Bank. By discovering if animal food security impacts human food security, it would be possible to determine if this is the case. To date there is no scientific data about whether or not animal and human food security are connected.
Nevertheless, anecdotal evidence supporting the theory exists. One example is the mere fact that pet food flies off the shelves of local food pantries whenever it is available. This evidence can also be seen in the everyday actions of the Coastal Redwood Region’s homeless population in the form of food shared between human and animal companions. I once observed a homeless woman, who when presented with a hamburger, tore it in half and fed the half to her dog. It is interesting to note that she fed her dog First.

Additionally, Pets of the Homeless, a nonprofit organization that provides homeless persons in Canada and certain regions of the United States with emergency animal related services, has collected antidotal evidence that pets can have an impact on their human companions housing status. With one of their clients reporting: “I have turned down housing because I will not give up my girls” (Pets of the Homeless, 2015).

It makes sense that the status of our animal companion’s food security would affect our own food security, after all the animal-human bond is an intrinsic part of the human experience. One that even Einstein, arguably one of the best scientific minds of our time, was unable to turn his back on. He is quoted telling his cat “I know what is wrong, dear fellow, but I don’t know how to turn it off” (Einstein, (Collected by) Calaprice, & Freeman, 2005), after noting the feline’s despair over the continuing rain.
Aim of the Project

Current services provide food for the food insecure, however, the problem cannot be fully addressed unless all members of a household are given due consideration. The aim of this study is prove that in order to start bridging the service gap, companion animals must also be considered in the formulation of services. Doing so will, pave the way for bridges to be built out of the previous service barriers and ascertain the need for a pet food bank within Humboldt County’s veteran population.
Literature Review

There is limited research on the subject of how animal food security impacts the food security of human families, and most of what we do have comes from the observations of people working in related fields and is largely anecdotal. This data suggests that there is a connection between human food security and the food security of animals in the household. Surprisingly, the data suggest that the impact of food insecurity goes both ways, and that humans are less food secure when their pets are food insecure.

The purpose of this literature review is to provide a general overview of the information currently available on the animal-human bond and its effects on people, in order to foster a better understanding of the potential ramifications of food insecurity on the family as a cohesive unit. The various trends found within current literature, show us that the animal-human bond has done much to shape who we are as a species and has left an emotional and psychological legacy that is intact today. As a consequence, it is imperative to take an all-inclusive look at the animal-human bond, in order to understand its effects on food security.

The animal-human bond itself stretches to include any animal that humans have proven capable of connecting with in some manner (American Veterinary Medical Association, 2015a). The therapeutic, cultural and personal significance of these bonds are no less valid then those seen between humans and dogs. Thus, the food security of these animal companions may also have a profound effect on the food security of their human families.
However, the vast majority of our recognized scientific data is limited to dogs (PAWSitive InterAction, 2002; O'Rouke, 2002; Ritchie & Amaker, 2012). Due to this fact, dogs are the focus of both this study and this literary review.

**What is the Animal-Human Bond?**

We cannot properly address human food insecurity without addressing food insecurity in companion animals due to the fact that the animal-human bond is an unbreakable and fundamental part of the human experience. The presence of the animal-human bond is largely acknowledged in modern times. Yet, actual research into this phenomenon is a relatively recent development (PAWSitive InterAction, 2002). It is a sign of our own changing understanding that the American Veterinary Medical Association not only acknowledges the existence of the human-animal bond, but recognizes its contribution to individual and community health (American Veterinary Medical Association, 2015a). In their online archives, the American Veterinary Medical Association also officially recognizes that the role of veterinary medicine is to serve the needs of not only animals but people as well (American Veterinary Medical Association, 2015).

The animal-human bond refers to the dynamic relationship that exists between individuals and their pets. Not only is this bond dynamic, it is also mutually beneficial and acts upon the essential behaviors that maintain the health and well-being of both species (American Veterinary Medical Association, 2015a). This bond has many measurable positive effects on both humans and animals.
For example, scientists have found that the act of petting a dog releases the neurochemical Oxytocin in both human and dog (Lespinois, 2010).

However, the simple act of possessing a pet does not automatically result in the formation of this bond. Nor does it grant one the benefits of a bond that never formed (Randour & Davidson, 2008). In order for the many and varied benefits to come into fruition, the bond itself must be forged and nurtured by both individuals (Randour & Davidson, 2008). For animals, this bond presents itself in far more subtle ways then for their human counterparts. “It is not simply the presence of an animal in a family that encourages a child’s positive development; rather it is the bond with the animal that does so” (Randour & Davidson, 2008).

Scientists believe that this bond and its mutual benefits are a direct result of how long animals have shared our lives. Paul Shepard, a noted Eco-psychologist, even proposed that the animal-human bond may even be partly responsible for the development of human intellect, as a direct result of how long animals have shared their lives with humans (Randour & Davidson, 2008).

**Co-evolution**

Coevolution is one of the many theories which helps to explain the fundamental nature of the animal-human bond and how it came to exist. By understanding the importance of this bond across history, we can begin to understand why it is such an essential part of the human experience, and why it has the power to act upon vital aspects of our lives, such as food security.
The evidence of our long term investment in the animal-human bond can be found throughout the history. The first true humans emerged around 200,000 years ago (Dennis O'Neil, 2013). Evidence of when the first ‘true dogs’ emerged onto the scene varies, depending on the scientific discipline (NOVA, 2010). Archeological evidence reveals that the first “true dogs” bounded proudly beside their human companions for the first time between 12,000 to 15,000 years ago (NOVA, 2010). Archeologists studying what is believed to be among the oldest of cave paintings, found the fossilized footprints of a human child accompanied by the distinctive prints of a dog. Carbon dating tells us that these prints are around 26 thousand years old (Lespinois, 2010). At more than twice the age of any other dog fossil on record these fossilized foot prints revealed the fact that dogs were far older then scientists initially believed. This discovery was further supported by the fossilized remains of a wolf found in 1870 in Goyet Cave in Belgium, when scientists in 2007 discovered the remains belonged to a dog. Carbon dating placed these remains as being more than 31,000 years old (Lespinois, 2010), making these the oldest fossilized dog bones on record.

Canine DNA tells us a much different story. According to the DNA, wolves and dogs are not different species, but rather the dog is a subspecies of the Grey Wolf (Lochead, 2013; Lespinois, 2010; NOVA, 2010; PBS & Nature, 2007; Schleidt & Shalter, 2003). This fact is highlighted by the fact that the two groups are still capable of successful interbreeding culminating in viable offspring.
Additionally, modern genetic sequencing tells us that despite wolves and dogs being 99.8% genetically identical (NOVA, 2010), the process of domestication actually started around 135,000 years ago (Schleidt & Shalter, 2003). Yet, the outcomes of the following studies show us that the dog is not merely a socialized wolf. Long years of co-evolution have transformed the dog from one of the dominant predators of our world, into humanities’ closest friend and most vigilant protector.

Dog lovers have long believed that dogs have the ability to understand what humans, or at least those close to them, are feeling. Recently scientists set out to either prove or disprove this theory. The latest scientific advancements tell us that the human face is not entirely symmetrical and that the different sides of our bodies are controlled by different halves of our brain. Due to this our true emotions are expressed on the right side of our face before the more logical right hemisphere has the ability to school our features into an expression we wish to convey (NOVA, 2010).

Scientists attempting to prove or disprove the theory that dogs can read our emotions utilized this to set up their experiments. Using technology that tracks eye movement, several dogs were shown a series of pictures including, human faces, inanimate objects, and the faces of other dogs. The results were startling. Dogs showed indiscriminant eye movement when faced with the images of other dogs and inanimate objects. However, when presented with the image of a human face the dogs displayed a social adaptation formally thought to be unique to humans, and gaze tracking immediately to the right side of the face (NOVA, 2010).
On its own this new data does not have the power to prove or disprove the theory that dogs have the innate ability to understand human emotions. However, when coupled with the fact that human eyes evolved their characteristic large white sclera as a method of non-verbal communication. It does prove that dogs are tuned into their human companions in a way shared by no other animal (NOVA, 2010). Additionally, a dog’s sclera, while minimal in comparison with our own, is more prominent than any other species. This is due to the fact that like humans, dogs have white sclera, in most other species, including all other primates, the sclera is pigmented (University of Cambridge, 2009).

Figure 1: Sclera Comparison
Scientists performed the same study on wolves, as a control, yielding different results. In wolves eye movements remained random when presented with human faces. In an attempt to remove the variable of human handling, wolf pups were taken from a preserve at five days of age and hand reared in human homes, like dogs, specifically for this and other, related, studies. However, wolves continued to show different results (NOVA, 2010). Additionally, researchers found that behaviors started to diverge, significantly, between the two subspecies by the age of eight weeks. The first signs of this divergence were present at six weeks. By this age, puppies were already picking up on the more subtle aspects of human communication. By eight weeks of age, dogs were engaging and looking to humans for additional information. The wolf pups, on the other hand, refused to engage.

Studies conducted, showed that even six week old puppies were beginning to follow more subtle communication cues, such as pointing, before making decisions. Wolf pups, on the other hand had already begun to make their decisions without looking to humans for outside information. This outcome remained the same, even with repetition. By four months of age, the dogs had begun to engage on an even closer level, and were capable of picking up the subtlest of information cues, such as eye movement. The wolves, by contrast had become so unruly that they had to be returned to the preserve they had been taken from, for safety reasons. (NOVA, 2010)
Researchers also found that as adults, dogs have a similar grasp of human symbolism as a human two year old, and were not only able to retrieve specific objects upon a verbal cue, but were also able to associate a scale model with its larger counterpart. One dog was shown to have a working vocabulary of over 200 words. Additionally, certain dogs had the ability to identify and retrieve objects from another room after being presented with a picture of a similar object (NOVA, 2010).

Observations and further study into the social structures and societal practices of not only humans, but chimpanzees and wolves, found a stronger correlation between humans and wolves then humans and chimpanzees (NOVA, 2010; Schleidt & Shalter, 2003). In absence of written historical records, scientists have looked to chimpanzees and other apes to build an image of early human society (KPBS, 2008; Lespinois, 2010; NOVA, 2010). Due to this, the general consensus has always been that we as humans have come a long way in the past 200,000 years (Schleidt & Shalter, 2003).

Looking into Lupine society however, has given us an alternate theory on how our social behaviors evolved. Human society is similar enough to lupine society, on the basic level, as to be nearly identical (BBC, 2012; Downey, 2010; Myhre, 2014). Bluntly, “The closest approximation of human morality we find in nature is that of the grey wolf” (Schleidt & Shalter, 2003, p. 58). If we take a look at the basic human social unit, in most cases it consists of a singular family or a couple of closely knit ones. Adults venture out into the world to provide for their children, leaving the children in the care of a trusted adult or a trusted older child (Schleidt & Shalter, 2003).
In other words, young children were left in the care of ‘babysitters’ and older siblings. In the modern world, the means by which adults keep food on the table and roofs over their family’s heads is through the amalgamation of modern capital. During the age of protodog and early man, both of these functions would have been served through the act of hunting. Hunting provided both meat and pelts for food and shelter, along with bones that were made into tools (Dennis O'Neil, 2013; Schleidt & Shalter, 2003).

When wolves hunt they leave a pack member behind to guard and even play with the young (Landis & Gunton, 2005; Myhre, 2014). This wolf is often referred to as the “babysitter” and is often an older sibling, young but usually fully grown or close to it (Landis & Gunton, 2005; Myhre, 2014; BBC, 2012). After a successful hunt food is brought back to the den for the pups, the babysitter and any injured wolves to share (Schleidt & Shalter, 2003).

Moreover breeding pairs, like with humans, are monogamous despite there often being several mature adults in the pack that may be non-related (BBC, 2012; Landis & Gunton, 2005). “All [pack] members share food and parental care generously. Even siblings and friends share food and affection” (Schleidt & Shalter, 2003, p. 63). Chimps by contrast are highly opportunistic and will bully meeker members, stealing food and other resources.

“Even in their maternal behavior warmth and affection are apparently reduced to nursing and the occasional comforting hug; cooperation among group members is limited to occasional hunting episodes, or the persecution of a competitor, [and] always aimed for one’s own advantage” (Schleidt & Shalter, 2003, p. 60).
By looking at both our society and the society of our closest evolutionary relatives, we can see how far we have advanced from self-serving apes into more modern humans. However, the image is not complete unless we have taken into account our lasting relationship with dogs. The fact remains, humans have only existed for around 200,000 years and 135,000 of those years we have walked with dogs at our collective heels (Downey, 2010; Lespinois, 2010; PBS & Nature, 2007; Schleidt & Shalter, 2003).

Over the course of history dogs have played many roles in our development. They were protectors who guarded our camps, our lives, and later our individual families. They were the swift hunters who helped keep us fed. They served as the guilds and protectors as we walked, boldly, into uncharted territories. Finally, they served as the herders who allowed us to go from hunter gatherers to farmers. Thus starting our modern societies.

All of these roles are based upon behaviors, are a natural part of Lupine society (Bailey, 2002; PBS & Nature, 2007). Even herding behaviors are little more than modified hunting behaviors. The best trained Border Collie is a hunting dog who never goes for the kill (Lespinois, 2010; PBS & Nature, 2007). Yet, dogs also preform behaviors that are so far out of the realm of Lupine behaviors that a strong case can be made for not only coevolution but counter-domestication (Downey, 2010).
These behaviors take dogs out of the realm of useful only in rural farm life, and into the realm of values member of society regardless of the influences of urbanization and modern lifestyle. This is because dogs have also served as healers and spiritual companions. This shows throughout the stories and practices of multiple cultures throughout the course of human history. The Maya, for example believe that there is a river in the afterlife that humans are not strong enough to pass alone. If you have earned your place in the afterlife the spirit of Pek (the dog spirit) will help you cross the river and guide you to the place where your family dwells (Mayra Gomez, personal communication, 1993). Conversely the Celts believed in the Black Dog, a spectral dog with burning red eyes. The spiritual significance of this apparition varied depending on the clan a person was affiliated with. For example, in one clan, mothers let their children run and play in the woods and hills a Black Dog was known to haunt, secure in the knowledge that the spirit would guard and protect their children. For another clan, the Black Dog was a sign of death to come (Conway, 2001). In Brittan and other western societies, the Church Grim is a spirit dog believed to protect the souls of the departed from the devil, demons and evil humans (Conway, 2001).
Presented with similar spiritual beliefs spanning multiple cultures one is forced to conclude that at the very least the dog is a significant animal in the minds of human beings. Coupled with Trans-species behavioral evidence, we can conclude that at the very least man and dog have experienced coevolution and possibly mutual domestication. However, the pack behavior seen in both dogs and wolves predates either species. Moreover, these behaviors were present in the dire wolf (*Canis dirus*) and other canid relatives that predate even the oldest humans in the fossil record. Presented with such evidence one must wonder, did we change the wolf into the dog or did wolves shape modern man?

Only one thing is certain, humans and dogs evolved together and it is from this the oldest of animal human bonds that so many uniquely human traits are born. Without dogs we would not have been able to become what we are today. Therefore, it is only natural that this the oldest of bonds should still affect us today.

Science has shown us one way in which this bond has affected us on a deeply rooted level. One of communication. Wolves do not make many communicative vocalization noises, and are in fact limited to a single “bark.” Dogs by contrast have up to ten different types of bark. Scientific tests have shown that on a basic level even children, and those who do not share their lives with a dog can understand two or three of these barks. Humans with more canine exposure can correctly interoperate the meaning of 6 out of ten different barks (Lohead, The wonders of Dogs 3, 2013c; NOVA, 2010).
This test was done using strange dogs to eliminate the chance of human family members simply recognizing their dogs bark pattern (Lochead, 2013; Lochead, 2013b; Lochead, 2013c; NOVA, 2010).

**On the Path to Today, the Bond in History**

The animal-human bond has been very important to us throughout history. The first such bond was formed with wolves who later became dogs. This bond allowed us to move past our early development as hunter gatherers and become the dominant lifeform on this planet. However, our first interactions with dogs would have been as camp guardians. Protodog was at first a wild scavenger that fed off of the garbage created by human hunting activities, in much the same manner as raccoons do today.

Unlike raccoons, protodog had the wolf like habit of protecting its young fiercely and the wolf’s ability to take on much larger predators. Today experts speculate that in doing so, protodog may have protected human campsites and over time been allowed closer and closer to humans until we learned not only to trust one another but to hunt together.

A modern day hunter gatherer society in New Guinea still hunts with dogs much like they did in the old days and have shared the fact that their dogs are more valuable to them than their bows and arrows (PBS & Nature, 2007). This fact is important to the general issue off food security, because it is not only connected but also shows that a culture that utilizes bows for hunting, places more value on their dogs then their hunting
implements, suggesting that a similar correlation could exist between food insecure, potentially homeless veterans in Humboldt County.

Scientifically speaking, humans who lived with dogs and who learned how to communicate enough to hunt together successfully would have had an edge over those that did not. During the time of early man, we existed in small nomadic groups and tended to take very little with us when we moved. Yet, the value of dogs was supported by the fact that we took them everywhere with us, even when it meant moving over water. In fact science supports the fact that the human ability to conquer any habitat, is actually supported by our co-evolution with dogs. Going so far as to state that without dogs “there would have been environments that would have been too hostile for humans on their own, to be worth colonizing” (PBS & Nature, 2007).

Later, we would settle down and work the land, becoming farmers’ rather than nomadic hunters. However, even here we were aided by our animal human bonds. Without dogs, and later other animals, such advancements would not have been possible. The evolutionary home of sheep is frankly very inhospitable to people. Yet, somehow we were able to domesticate them. Nova’s Dogs that Changed the World showed us how, through the simple action of filming three border collies, herding a flock down off a steep cliff side and across a river onto land that their human companion could actually walk safely upon. Dogs have the ability to go places that humans can’t and to do things that we simply could not have accomplished without them. Humans need horses or ATVs to accomplish in a day what a good herding dog can do in an hour. Taking a look at herding behavior, it is really easy to see the wolf in our canine companions.
This is due to the fact that herding behavior, is hunting behavior. Herding dogs’ use a wolf’s hunting skills to drive the animals forward together rather than separating out one animal, unless they have been specifically asked to do so. The only major difference in the behavior being that herding dogs never go for the kill (PBS & Nature, 2007).

Additionally, dogs were the original ‘beast of burden’ pulling our supplies in small sleds. Without dogs, we likely never would have been able to domesticate several other key animals. Anyone who has ever tried to catch a horse on foot can tell you that if they do not wish to be caught, a human simply doesn’t possess the swiftness and stamina needed to catch them. However, dogs would have been able to help us to hunt them first for food and later would have helped drive wild horses into pens, were they would have been domesticated. The same is true of cattle and other livestock, right down to the chickens (PBS & Nature, 2007).

It is from this era in human evolution that many dog breeds got their start. Many breeds can trace their lineage back to the working dogs of old, since a dog’s build and behavior would have been dependent on the tasks they were being asked to perform. An example of this can be seen in old world coursing hounds and the vastly differing builds of dogs meant for farm and ranch use today. Old-world bull dogs were robust animals with a slightly stockier build then your typical sheep dog (PBS & Nature, 2007a). These dogs bear little resemblance to the iconic English and French Bull Dog. In fact, such dogs more closely resembled the American Pit Bull or the Banter Bulldogge.
Dogs and other domesticated animals have fundamentally changed the way we see the world, as well as our place in it. However, in doing so, dogs have also been fundamentally changed. They are no longer wolves, despite the retained ability to interbreed. They have the ability to fit into just about any family and way of life. Without dogs we would not have been able to conquer the harshest habitats on our planet, and science has shown us that “A barking dog is a stronger deterrent against burglars, then a burglar alarm” (PBS & Nature, 2007). Every culture, both modern and primitive, has dog stories. Additionally, every major culture has, historically, had dogs buried with people. As our society progressed so too did the roles of animals in our lives. But what is the role of the animal-human bond in the modern era? Or has it become yet another, outdated relic of our history?

**Animals and the Bond, Today**

The animal-human-bond today is still as much a part of us as it was eons ago. Therefore, it is still just as relevant today as it was in eons past. The humble beware of dog sign, has existed since the Roman era when it was inscribed in the mosaic floors of the great houses. *Cave canem* “beware of dog” is a human sentiment that is well over 2000 years old. In his book, *The Truth About Dogs*, Budiansky, jokes that it was likely meant more in the sense of “don’t trip over him” then “don’t get bitten” (Budiansky, 2000). However, this just goes to show us that the sentiment has been here for eons and will likely never change. In her book, *The Other End of the Leash*, Patricia McConnell PHD. Tells us that:
“Lots of Animals live closely linked to others, but our level of connection with dogs is profound. Most of us exercise with our dogs, play with our dogs, eat at the same time as our dog (and sometimes the same food), and sleep with our dogs. Some of us still depend on or dogs for our work. Sheep ranchers in Wyoming and dairy farmers in Wisconsin need their dogs as much as or more than they do machinery or high-tech feeding systems.” (McConnell, 2003, p. 5)

On the surface, this sentiment supports Budiansky’s claim that “only a small fraction of dogs living off human society today earn their keep…the overwhelming majority of dogs were freeloaders” (Budiansky, 2000). Yet, the role of the dog in this modern era has changed. Today, the dog is a treasured household companion, and the guardian and companion of 70% of American children at play in their yards (Randour & Davidson, 2008). “Dogs enrich the lives of many of us, providing comfort and joy to millions around the world” (McConnell, 2003). Yet, dogs today are not merely the purview of the young and the lonely.

Dogs preform many jobs in the modern world. Specially trained dogs walk at the heels of police officers, searching out the lost and helping to keep our communities safe. (PBS & Nature, 2007a). Others patrol airports, train stations and tourist destinations, sniffing out drugs, bombs and counterfeit money (PBS & Nature, 2007a). Today, dogs walk beside therapists and councilors granting aid to the aged, the infirmed, the mentally ill, the young and the traumatized (Shubert, 2012). The use of animals for therapeutic and medical purposes actually dates back to ancient times. In fact, such practices were well documented in ancient Greece, Rome, and Egypt. The ancient practice was abandoned as a result in the rise of Christianity as the dominant religion and was not resumed until the 18th century in York England (Shubert, 2012).
Yet, these are not the only roles occupied by dogs today. From sniffing out termites to sniffing out cancer and even predicting disasters - they fill diverse and dynamic roles throughout our world today, just as they did in eons past (PBS & Nature, 2007a). Modern science has shown us again, and again that even those dogs who are in essence “freeloaders” work for their room and board in simple, subtle ways that we are only now beginning to be scientifically able to appreciate. We have long known that dogs seemed to have an innate ability to lower our stress levels, and anecdotal evidence has shown us over the years that those who have pets live longer healthier lives. This means that the estimated 70-80 million “house dogs” in America actually do a very important job (ASPCA, 2015). They keep us healthy, happy and help us to cope with the stress created by our modern world, and the increasingly toxic stress levels created by modern society.

**Children**

As the term “child” may also be used to describe one’s adult offspring, it is important to note that from this point further the term “child” and its plural form “children” will be used only to indicate members of the human race who have not yet obtained legal majority. As such, persons over the age of 18 shall be classed as adults. It is important to note the importance of the animal-human bond for children.
According to Downey (2010) in *The Dog-Human Connection in Evolution*, the animal-human connection is “essential” to the mental and physical health of the humans. Downy makes this conclusion based upon several factors including the “distinctive openness to [trans-species] mutual relationship in humans” (Downey, 2010, p. 7). He also cites the scientifically proven positive health benefits associated with “pet ownership,” and theories of coevolution, and counter-domestication, in addition to the distinct contrast between “alloparenting” tendencies (raising the offspring of other animals) in humans and canines and the relative rarity of such phenomenon in other mammalian species (Downey, 2010).

Downey’s conclusion is further supported by the work of Davidson and Randour. In their book, *A Common Bond*, several interesting facts about a child’s psyche are brought to light, like the fact that when asked who they turn to when they are feeling emotional or wish to “share a secret”, 42% of five-year-old children, mentioned their pets without prior prompting (Randour & Davidson, 2008). Additionally, they found that the animal-human-bond is important in children. The presence of the bond represented a positive influence on a child’s psychological development. Animals improve cognitive abilities, support self–esteem, and teach children empathy and compassion (Randour & Davidson, 2008).

The ability to form trans-species bonds of attachment is a fundamental part of being human, this fact has been made abundantly clear throughout the research.
However, it is interesting to note that for children the ability to form “secure attachments” is fundamental to their psychological development. Children who for whatever reason are unable to form secure bonds are at an increased risk for several developmental issues; including but not limited to the following: self-regulation disorders, language and other learning disorders (Randour & Davidson, 2008). However, the animal-human bond can serve as a protective factor, when allowed to properly flourish.

This is largely due to benefits of the bond on the children in question. The animal-human bond is an important part of the human experience. It cannot fully compensate for a lack of essential human to human bonds however, history has shown us that even children raised entirely wild can rise to become high functioning adults (Pill, 1980). Such is the case of a boy, subsequently named Victor who was found in running wild in La Basin France, in the year 1800.

The boy looked to be about 10 and while he never learned to speak he was capable of both reading and writing by the time he left the hospital to live out a long and relatively normal life (Pill, 1980). This was likely only possible due to the presence of other bonds in his early life, as more modern cases of extreme child neglect do not have such tenantable outcomes. However, in these cases the children in question were locked in rooms rather than abandoned to grow up wild. So, in what way can the animal-human bond be of aid in such cases?
When encouraged and allowed to fully develop, the animal-human bond has several measurable benefits. One such benefit is a higher understanding of social behaviors, empathy and overall higher social competence. Another benefit is higher self-esteem and lower stress rates. Additionally, children who had a pet were more likely to be oriented towards positive social values and even to eventually enter a “helping profession.” Pets also reduce loneliness in children and adolescents (Black, 2012).

This is important due to the fact that children and adolescent often lack the experience to manage their emotions. Consequently, loneliness often presents in children as detrimental outcomes. Including but not limited to, poor academic achievement, sleep dysfunction, low self-esteem, depression, anger, aggression, anxiety and suicidal ideation (Black, 2012). Additionally, children and adolescents that experience prolonged loneliness are less likely to engage in healthy practices. Due to this lonely adolescents are more likely to develop unhealthy practices such as excessive television or internet use, eating disorders and substance abuse (Black, 2012).

Lastly, studies have shown that animal companionship helps children and adolescents to deal with great amounts of change and grief. Children with pets also adjust better to serious illnesses and the loss of a loved one then children without pets. This may be partly due to the fact that a child or an adolescent will confide in their pet things that they would not tell their own mothers (Geisler, 2004). A startling example of this comes from the events of 9/11, when a child presented a rescue team with a small thank you gift, intended for both the human and his canine partner, and a thank you note, written by the
child that was clearly meant for the dog. The note said simply ‘Lassie would be so proud of you’ (DVM Becker, 2011).

**Adults**

The world of an adult is one of acute stresses, from health to social standing, to corporate hierarchy. Adult life produces stress and can also lead to loneliness. However, stress is not merely a state of mind. It is in fact both measurable and dangerous (KPBS, 2008). Stress is not the only hardship that accompanies adult life. Many adults have health related issues, and in America in particular a modern lifestyle is equated with a sedentary one. Today’s modern rat race is held largely within the confines of a cubical. Science has shown us that man’s best friend is once again rising to the challenge.

In a 2005 survey individuals noted, company, love, companionship and affection as being among the best benefits of owning a pet. Additionally, many pet owners saw their pet as a member of the family, and 59% of dog owners and 37% of cat owners revealed that just spending time with their animal made them feel as if they would live longer, healthier lives (American Veterinary Medical Association, 2005).

Furthermore, studies into stress have shown us that, our modern world can stress people to the point of death and create a host of chronic health conditions. This is due to the fact that, scientifically speaking, stress is meant to last only a few minutes. Stress is engineered to take us out of a life or death situation, and when a person is under stress their nonessential functions shut down.
Bluntly speaking if you are running for your life your body is not thinking about trivial things like reproduction or tissue repair. It can handle that at a later date assuming you survive what is stressing you out.

The problem comes in when one considers the fact that humans have the oddly counterproductive ability to turn on the same stress hormones for purely psychological reasons. An example of this would be an early morning traffic jam. Getting to work five minutes late is not going to kill you. However, for some reason we react to the occurrence, like it will. The end result is usually traffic accidents as we try desperately to shave 30 seconds off the morning commute. We wallow in stress rather than experiencing it and letting it go. The result is that we experience the same symptoms, hyperventilation, and rapid heartbeat and tensing of the muscles in preparation for fight or flight, as we would in a life or death situation; over something as simple as bumper to bumper traffic. Chronic stress is a part of the adult life experience in the modern world, and it has ugly results. Chronic stress kills brain cells, packs on the pounds, and can even shrink your brain and unravel your chromosomes (KPBS, 2008).

So why is this relevant? In today’s modern world this information is relevant for a couple of reasons. First, it is important to know just what the stress of your morning commute is doing to your body so that you can combat it. But more importantly a 2002 study found that your dog is actually a more helpful source of stress relief then your spouse or even your closest human companion (O'Rouke, 2002). The study showed that pet owners had a lower baseline heart rate and blood pressure than those who did not have a pet.
Pet owners had the lowest reactivity to stressors, regardless of who was present at the point of administration and returned to their baseline more swiftly then those who did not have a pet. However, perhaps the most startling outcome of this study was the fact that participants had the highest reactivity when stress tests were performed in front of their spouses (O'Rouke, 2002).

So what exactly is going on here? Another research team took this test one step further by monitoring participant oxytocin levels before during and after the test. What they found was extraordinary. The act of petting a dog results in a release of oxytocin in both the human and the dog, that is almost chemically identical to the spike in oxytocin experienced by breastfeeding mothers (Lohead, 2013c; NOVA, 2010).

Dogs can also help to alleviate another symptom of the modern age, “couch-potato-ism” or a lack of exercise due to an abundance of television. The modern age has been responsible for a rapid decline in the amount of exercise adults typically get. This issue is compounded by the previously mentioned tendency of chronic stress to cause weight gain. Our age old faithful friends are here for us in this situation as well. A 2007 study found that in addition to lowering feelings of loneliness and increasing self-esteem, dogs had risen to the challenge of combating couch-potato-ism. In general, dog owners got more exercise then non-dog owners. However, this statistic was greatly clarified when it was discovered that dog owners were 58% more likely to reach the weekly walking recommendation of 180 minutes (Cutt, Giles-Corti, Knuiman, & Burke, 2007).
**Advanced Age**

The significance of advanced age varies greatly between cultures. For some cultures, advanced age comes with privileges and respect for the wisdom gained through years of experience and hard work. Other cultures would simply like their elders to get out of the way of progress. Still others treat advancing age as just another life phase no more or less important than childhood or adulthood. Regardless of cultural background there are issues related to advancing age. Issues such as deteriorating mental and physical health, but also the loneliness and grief associated with the loss of friends and loved ones. Additionally, there can also be a crisis of self, associated with getting old and retiring. How can the four legged, furry companion of our youth help now?

The animal-human bond is an essential part of human nature, therefore its presence can help to revitalize us, even at our most lonely and depressed. Studies have shown that it’s not just dogs and cats, a parakeet has the same enriching effect on our lives. Regular contact with animals has been proven to improve the wellbeing of the elderly, and has a profound effect on those in long term care facilities. Long term care facilities used to attempt to provide an enriching environment by providing a variety of different house plants. Today however, there has been a move towards providing enriching environments through a combination of houseplants and opportunities to interact with well-behaved children and animals. Additionally recent studies have shown that:
“nursing homes with well-cared for resident animals have lower infection, hospitalization, and morbidity rates among patients and 30 percent lower staff turnover then homes without animals” (Kuehn, 2002).

Studies have shown that seniors who own dogs, visit medical providers with less frequency then senior citizens who do not have a pet. Additionally, like children, and adults in general, senior citizens react and cope better to stressful situations, are less likely to suffer from loneliness and their daily quality of life deteriorates less rapidly, then those without a pet (Geisler, 2004). Nursing homes with resident animals have increased verbal and social interaction between residences. Resident animals, can also help to improve the relationship between patients and staff. In addition to facilitating a general increase in moral. Finally, studies have shown that nursing homes with resident animals have experienced and average drop in per-capida daily medication costs from $3.80 to $1.18 (Geisler, 2004).

**Beneficial Bonds**

Today the animal-human bond is being put to more use then just companionship, farm stalk and hunting. In previous sections I have made a case against Budiansky’s statement that the majority of dogs today are freeloaders. But what is the function of working dogs in the modern era? Obviously there are still the old occupations of hunter, harder, and guard dog, but what else do dogs do today?
Today the modern dog is recognized as having the utmost potential in many fields. From military work to medical, therapeutic and service work – today dogs find jobs in some surprising places. The American Disability Act tells us that: “Service animal means any dog that is individually trained to do work or perform tasks for the benefit of an individual with a disability…” (Please Dont Pet Me, 2014). It is important to note that service animals now come in all shapes and sizes, and are not in fact limited to just dogs. The variety of work available for service dogs varies wildly based upon exactly what they are trained for. For the most part service dogs fall under one of four categories: Mobility or assistance dogs, psychiatric service dogs, hearing or guide dogs and medical assistance dogs. These types of assistance dogs will be discussed in more detail below.

**Military Dogs**

Military dogs have a long and distinguished history. In days of old, war dogs ran into battle beside their human counterparts. Today the military dog serves an entirely different function - one of healing. Today the military deploys specially trained dogs overseas to help combat the stress of active combat zones. These dogs serve a maximum of two deployments overseas, a total of 24 months, before returning home. After which combat zone dogs, complete a six week reconditioning course to help them deal with any trauma associated with their deployment. These dogs are then able to return to civilian life without any difficulties.
The vast majority of these dogs go on to serve the men and women of the US Military in another fashion entirely. Generally, at ‘stateside’ military medical treatment facilities. Many of these dogs go on to “do wonderful work with mild traumatic brain injuries” (Ritchie & Amaker, 2012). Other jobs held by military dogs today include: bomb sniffing dogs, general service dogs, PTSD dogs, therapy dogs, and medical assistance dogs.

Medical assistance dogs do a wide variety of tasks depending on the type of injuries sustained by the Military officer they are assigned to. Average task include but are not limited to: detecting and alerting to seizures and other symptoms associated with traumatic brain injuries. Dogs have also been trained to help combat limited mobility due to injury and loss of limb (Alers & Simpson, 2012; Foreman & Crosson, 2012; Krol, 2012; MG Rubenstein, 2012; Shubert, 2012).

Additionally, dogs can be trained to recognize specific triggers and distract their partner, thus averting panic attacks and other unwanted results of traumatic stimuli. For example a retired military nurse, reacted to the sound of passing helicopter blades, with elevated heart rate, and a severe stress response often leading to debilitating panic attacks. The sound eventually proved capable of throwing her into flashbacks. She was assigned a service dog trained to recognize the sound of helicopter blades. Utilizing the dog’s superior hearing abilities, the dog was then trained to provide her with sufficient distraction to allow her to remain firmly in the present when civilian helicopters passed by overhead (Next Step Service Dogs ,personal communication, December 12, 2013).
These are just a few examples of how the dogs sharing their lives with food insecure Humboldt County veterans could be enriching their lives. Given the number of Veterans being assigned service dogs today, and the number of food insecure veterans who identified their dogs as being either registered service dogs or serving the same function, these are facts that must be considered when one considers the possible effects of food insecurity in companion animals upon veteran populations in particular.

**Physical**

Today dogs have a wide variety of jobs that benefit and uplift the quality of human life. As mentioned earlier the act of petting a dog stimulates the release of Oxytocin, lowers blood pressure and helps to lower overall stress levels (Lohead, 2013c; NOVA, 2010). Because of this, dogs have been specially trained to make rounds at children’s hospitals and critical care wards. These dogs help to uplift the lives of those patients. The value of having dogs in such roles as even been noticed by the United States Military, which now employs multiple types of animals –though the role is still mostly filled by dogs - in multiple service and therapeutic roles (MG Rubenstein, 2012). Large dogs, like George the Great Dane, have even been able to help people with physical disabilities walk (Nakrin, 2015). Smaller dogs have been employed in numerous physically demanding fields, from detecting the onset of an epileptic attack, to detecting spikes and drops in blood sugar or blood pressure.
Today Emergency Medical Response Dogs have even been trained to detect and alert to things like asthma attacks, migraines and other debilitating systems. (Please Don’t Pet Me, 2014a)

**Psychological**

Again the act of petting a dog releases Oxytocin which helps to combat stress and lower blood pressure. However today there is a new job available for man’s oldest friend. **That of therapist and an aid to those with psychiatric conditions.** Today there are more recognized psychiatric conditions than ever before, and while dogs may not be an appropriate solution to all of them, there are many conditions where a service animal can help manage or mitigate symptoms. Depression, Autism, Post Traumatic Stress, Obsessive Compulsive Disorder, Anxiety and other panic disorders are included among the list of ailments that service dogs may be able to positively effect. Currently the effectiveness of service dogs on conditions like Agoraphobia and Claustrophobia is also being explored (Please Don’t Pet Me, 2014b). Which leads to the question: how do dogs effect these conditions?

Psychiatric service dogs preform work that is just as valuable as the work performed by their more socially accepted counterparts. However, their work is dependent upon the symptoms their individual partners need help managing. For example, a dog trained to handle panic attacks is going to do very different work from one trained to work with a bipolar partner. Due to this fact, every psychiatric service dog’s training is unique.
Consequently, they are usually privately trained as opposed to being trained by a large corporation like Canine Companions for Independence. Their work is harder to categorize but no less important. These dogs are often trained to perform many of the same tasks as other service dogs, but it is the individualized attention to the highly individual symptoms of psychiatric illnesses that set them apart (Please Don’t Pet Me, 2014b).

The tasks of a psychological service dogs is not as simple as sitting beside their partner and being a source of physical comfort during times of stress. These dogs are trained to do work and tasks that have a profound effect on the quality of their human partners lives. Some dogs are trained to act as a physical buffer between a person and the press of a crowd to help avoid and mitigate panic attacks. Others are trained to do something often referred to as “deep pressure therapy.” Deep pressure therapy is the act of placing their weight on specific pressure points on the human body—which elicits a natural calming effect—in order to help mitigate the duration and severity of a panic attack or manic episode.

Other dogs may be trained to alert to the onset of symptoms, interrupt self-harming behaviors, lead their partner to a safe location and even call 911. Another interesting job of psychiatric service dogs is to follow and lead partners with Dementia, Alzheimer's disease or other dissociative illnesses, either home or to a safe place. These dogs can even be trained to remind partners to take their medication, and have also been trained to provide assistance with the side effects of medication (Please Don’t Pet Me, 2014b).
Two jobs performed by psychiatric service dogs are extremely important to note due to the life changing effects that they can have upon their human partners. Certain disorders cause auditory or visual hallucinations, which make it difficult for those suffering from such illnesses to cope with their daily lives. Due to this fact, certain psychiatric conditions can have a profound effect on a person’s quality of life. Psychiatric Service Dogs can be trained to assist in these cases as well. By helping their partners to determine what is and is not truly “real,” these dogs raise their partner’s quality of life significantly (Please Don’t Pet Me, 2014b).

Lastly, and perhaps most amazingly, is the life changing effect some service dogs have on their partners. Not only are these dogs trained to help improve the quality of life, in some cases they are flat out trained to preserve it (Please Don’t Pet Me, 2014b). A study performed in the UK found that any dog, not just trained psychiatric assistance dogs will react to signs of a human in emotional or psychological distress, even when that person is a total stranger, usually by either alerting their owner to the person’s distress, or by trying to distract the person in question, or even by responding in a manner congruent with providing comfort (Lochead, 2013; Lochead, 2013b; Lochead, 2013c). In the case of some psychiatric service dogs, this natural response to human distress has been honed into a lifesaving skill. Psychiatric Service Dogs can, in certain cases, be trained to interoperate behaviors associated with suicidal ideation and alert the police, thus preserving the lives of their partners (Please Don’t Pet Me, 2014b).
It is however important to note the difference between a Therapy Dog or an Emotional Support Dog and a Psychiatric Service Dog, as the three are very different from each other. The terms are not interchangeable as the work done is vastly different, and has little if anything to do with being politically correct. The roles of Therapy and Emotional Support Dogs are important ones, but they are vastly different from the roles of Psychiatric Service Dogs. The confusion between the three actually causes a lot of problems for people with “Invisible Illnesses.” This is largely due to misconceptions and misunderstandings in regards to the three terms. Service dogs are highly trained and provide their human partners with not only a higher quality of life, but with a level of independence, freedom and safety that they would not be able to obtain otherwise (Please Dont Pet Me, 2014c). Therapy dogs, while also highly trained, do entirely different work, with an entirely different population. These are the dogs who may be found in nursing homes visiting schools or pediatric facilities. Their human partners are care facilitators and usually well trained individuals in their own right, not the person on the receiving end of the animal’s skill set. (Please Dont Pet Me, 2014c).

Emotional support dogs, on the other hand, do not necessarily have any special training. Their only task is to provide their human companion with the unconditional support and understanding that comes naturally to a dog. While they can be trained to do specific things they do not fall under the American Disability Act. Because of this, they, unlike service dogs, are not exempt from “no pet policies” and do not have the freedom of movement that their counterparts enjoy (Please Dont Pet Me, 2014c).
At this point, it may be necessary to explain the differences between tasks and work. The tasks of a service dog may be fetching meds, picking up dropped items, opening doors or assisting a disabled partner up after a fall. Work, by contrast, refers to the myriad of other issues, which may require the dog to remain watchful. These are actions that the animal performs without receiving a cue or command. Examples of work include the actions of several different types of service or military dog. A military dog’s constant alertness for danger is reminiscent of the work performed by a psychiatric service dog’s constant monitoring of a suicidal partner’s state of mind (Please Don’t Pet Me, 2014).

**Hearing and Guide Dogs**

Guide dogs are, perhaps the oldest and most easily recognized form of service companion. Evidence of guide dogs have been found on Herculaneum Fresco Paintings (Malamud, 2013). However, the work performed by these remarkable dogs is still largely misunderstood. Ironically, the confusion surrounding these dogs extends even to their proper name. Guide dogs are most popularly referred to as “Seeing Eye Dogs” by the general public – at least in the United States. This term is actually a reference not to the dog’s work, but to a training facility in New Jersey. Guide dogs are charged with the task of mitigating the symptoms of visual impairment. I use this term due to the fact that not all persons with a guide dog partner are totally blind. “Total Blindness” implies that a person lives in a completely dark world.
Such a dramatic visual impairment would, certainly qualify a person for the services of a guide dog, however, this is not the only type of visual impairment that would qualify a person for a service dog. Many different types of blindness exist and a service dog can be trained to mitigate the unique symptoms of almost every case. Because of this while guide dogs all do similar work there is a wide variety of additional things they can do to make their partner’s life better. Some examples of general guide dog tasks include the following: alerting their handler to steps and other obstacles and making independent decisions to help keep both dog and human safe. By contrast, the mitigating behaviors taught to dogs specific to their team might include concepts like finding specific people. Following an usher, or even being aware of things occurring in their handler’s specific blind spot (Please Don't Pet Me, 2014).

Hearing Assistance Dogs, or Signal Dogs, partner with persons who are hard of hearing or completely deaf, thus allowing their companions a measure of independence and safety that would otherwise be impossible. A dog can locate the source of a sound in 1/600 of a second and can hear sounds four times farther away than a human can (Budiansky, 2000), this coupled with training makes dogs ideal companions for the acoustically impaired. Hearing Assistance Dogs trained to alert their partners to specific sounds, usually by pawing and nudging, and it is interesting to note that such behaviors also occur in untrained dogs living with those who are hard of hearing. The job of a signal dog is a constant one as they must maintain an almost constant awareness of their surroundings so that they may alert their handlers quickly to specific situations.
These dogs alert their human partners to a wide variety of things, from their name being called to immediate threats. However, as the job of Hearing Assistance Dogs is often simply alerting to specific sounds rather than some of the harder physical work performed by other service dogs, most dogs in this role tend to be smaller (Please Don't Pet Me, 2014).

**Social**

As dogs have evolved with us over the generations, it is understandable that they would both have a place within our social structure and in some ways impact our social connections. Dogs are socially speaking a part of our existence and in some cases have even been considered social status symbols. Examples of this can be seen in many places throughout history. One example is emperor Kublai Khan’s 5,000 Mastiffs. (Choron & Choron, 2005). Another example of how dogs have become a part of our social structure comes from the Victorian era, where it became popular to keep dogs purely as pets. This was due to the link between a pet dog and social status.

Most modern day dog breeds where developed during this era, with an eye towards aesthetic appeal rather than function and health. In China the Pekingese, also called the “Lion Dog” was bred by monks, however it rapidly rose to the role of social symbol, to the point that it became illegal for anyone but the royal family to own one.
When the British invaded, the royal dogs were slaughtered in an attempt to keep them out of the hands of “unworthy” foreigners. Today’s Pekingese are all descended from just five dogs that escaped the massacre, and made the journey across the sea as a gift for Queen Victoria (PBS & Nature, 2007a). This action had the unintended effect of making the breed famous in Europe.

Studies have shown that humans feel a very real grief after the death of a pet. In fact, humans experience the same emotions after the loss of a dog, as they would with a human member of their family (Bailey, 2002). Socially speaking, this grief is not only accepted, but understood and even catered to or in some cases exploited. Socially speaking, people with disabilities can be profoundly lonely, and the separation and stigma, is in some cases magnified by the type of disability. For example, it is simply not socially acceptable to have psychiatric health issues (Please Don't Pet Me, 2014b). To the point that in some cases it is socially acceptable to openly display prejudices against, persons with mental health issues, in some cases these prejudices are even written into laws. To clarify:

“less than half of Americans say they will willingly work closely with someone with depression, only about a third will socialize with someone with depression, and only a fifth will willingly have a person with depression as a friend” (Dahlin, 2014).

Yet, socially speaking service dogs help to mitigate this as well. The fact is that “People have more patience for children with emotional/developmental disabilities when a service dog is present” (Reed, 2012). Children at least have the excuse of having less life experience then their adult counterparts. Depending on the type of disability, children can be leery of approaching a disabled person.
However, the presence of animals can help to facilitate social interactions among children, not just with other able bodied children, but with the disabled as well. Studies and anecdotal evidence alike show that children are more likely to interact and even play with disabled children when a service dog is present. The presence of a dog in children’s social settings, such as school, the playground and even parties, has positive outcomes for the children present. For example, a classroom full of first graders showed, less aggression and more positive social interaction when a dog was present then in the dog’s absence (Randour & Davidson, 2008).

Adults can also help to facilitate this response by taking the dog away when children start to misbehave. Animal therapists have found that the threat is usually enough to quiet fights, and facilitate the beginnings of conflict mediation between squabbling children (White, 2010). Additionally, studies have shown that the animal-human-bond, also facilitates social interactions in adults. This is due to the fact that companion animals provide more potential opportunities for social interaction between neighbors (Randour & Davidson, 2008). However, this social phenomenon extends past the limitations of local neighbors; as people are willing to travel great distances to communicate/ interact with other people who share their interests.

Today, puppy play dates are as common as playdates between children. Animal Expo’s gather legions of interested hobbyists and pet keepers, while horse groups meet weekly. These and other animal centered educational experiences all facilitate adult social interactions. In some cases, they even facilitate educational experiences between adults and young adults, allowing for the passing on of knowledge between the age
groups. In today’s modern technological era, this facilitation of social interactions actually stretches across the globe, as anyone with a computer and the ability to read can communicate with other animal lovers across continents and oceans.

A Two way Street, Proof that Dogs feel for us as we do for them.

The majority of this literature review has focused on the animal-human bond from a human oriented point of view. However it is also important to point out that the bond forged between us and dogs over countless years of coevolution is, in fact, a two way street. In order to facilitate this understanding, one need only look at what, even 14 years later, is still considered one of the largest crises in the history of the United States.

On September 11, 2001, the attack on the World Trade Center, changed the United States irreparably. However, within hours of that catastrophe more than 350 specially trained Search and Rescue dogs were deployed to the scene, flown in from around the country with their human partners (Vechten, 2007). These dogs included German Shepherds, Labs, Dobermans, mixed breeds, and even a few little Dachshunds (Choron & Choron, 2005).

The dogs served not only as search and rescue dogs, but as impromptu therapist for those at ground zero. Search and rescue dogs are trained to sense a trauma and go towards it, they performed this duty diligently during the course of the months following 9-11. Handlers reported having to repeatedly call off dogs, who after serving shifts of 12 – 16 hours, still ran to the aid, of emotionally devastated search and rescuer personnel.
In some cases even when called off, dogs would ignore recall commands in order to the aid of the emotionally distraught (Wagner, 2014). This behavior is important to note due to the fact that Search and Rescue dogs are not trained for therapy work. Yet, presented with the raw and very real emotional distress and trauma of their fellow rescue workers, these dogs rose to the occasion and went to their aid as well trying to bring relief. This action gives us a glimpse into the role that even non-service dogs have in the lives of American Veterans.

These behaviors go a long way towards showing us why a service gap could potentially exist. We have services for those who are food insecure, but until we provide a similar service for the companion animals in the household, we cannot truly close the gap. Science shows us every day, that the animal-human bond is a fundamental part of not only our human experience, but also a very important part of our society. Having lived through 135,000 years of coevolution, domestication and counter-domestication it is unlikely that the instincts formed over the long course of evolution will be over ridden in the relatively short span of time between the industrial revolution and now. This instinct to share food in times of food insecurity is true in both species. Documentation exists supporting the fact that a food insecure dog will feed the food insecure human members of its pack, providing a counter point to the fact that humans will share emergency food boxes with their pet. This fact further supports the theory that food security is a trans-species issue, at least in terms of the animal-human bond. Consequently the only road to closing the existing service gap is to devise services that provide support the entire family.
Method

Hypothesis and Research Questions

This study explored the relationship between animal food security and human food security. The research question is: Does food insecurity in pets result in lowered food security in people? The hypothesis is that, the food security of canine companions will sufficiently impact the food security of Humboldt County veterans. The hypothesis was tested using a survey. In order to ensure the quality of the data collected, the questions were taken from the United States Department of Agriculture’s food security survey and modified to fit the research question. See appendix 1 for the survey and appendix 2 for the consent form.

After careful consideration of the low income population of Humboldt County, it was decided that narrowing down the data pool to a manageable size would be an important task. Veterans were determined to be an appropriate population, due in part to their previous service to their country and the fact that many of today’s veterans are being assigned service dogs of their own.

Additionally, according to the National Coalition for the Homeless, 40% of homeless men are veterans with the homeless male and female veterans’ population making up approximately one fourth to one fifth of the Homeless population in America.
Furthermore, almost three times as many veterans are struggling with poverty (National Coalition for the Homeless, 2012).

**Participants**

The data utilized in this study was collected at North Coast Stand Down. Participation in the Stand Down is not limited to veterans, as the services are provided for both Veterans and their families. Participation was voluntary and participants were not pre-screened, beyond ensuring that all participants were over the age of 18. Consequently, survey participation was not limited to veterans.

**Procedure**

A table was set up at North Coast Stand Down outside of the Barn which housed the other pet related services. Participants in the other services were asked if they would like to take a brief survey to help determine if Humboldt County needed a pet food bank. Participants requesting pet food were also informed of the survey by the staff of North Coast Stand Down. Participants were verbally informed that this study was being conducted by an HSU student and would be published before being given the consent form. They were also verbally informed that they had the option of quitting at any point during the survey, and or skipping any question.
Participant anonymity was protected by having them place their signed consent forms into a provided Manella-Envelope which was closed at the end of each collection period and sealed once surveying was completed on the second day. Once consent forms were collected and participants verbally reminded not to identify themselves, they were given the survey to complete as described below.

**Instrumentation**

The survey questions were originally taken from the USDA Adult food security module (Coleman-Jensen & Gregory, 2014). The questions were then modified to reflect the fact that the survey will be used to determine the food security of companion animals, not humans. With the exception of four questions, the survey questions can be correlated directly back to the original food security survey.

The survey consisted of 9 questions, and was designed to collect non-identifying data. Seven of the nine questions were simple yes or no questions (one of which had a small multiple-choice clarification question attached to it, which participants were free to skip should they wish). The rest of the survey is multiple choice. Three of the nine question on the survey will be strictly demographic. Two questions were geared towards determining if the food security of Animals had any impact upon the human members of the household. The fourth question (see appendix 1) is a direct modification of the USDA’s survey question on household food security. However, question 5 (see appendix 1) was added in response to a statement made by Pets of the homeless, about human’s sharing emergency food boxes with their pets (Pets of the Homeless, 2014a).
Should services be required, the researcher will be on-hand to direct them to some of the services provided at the event to meet the immediate animal related needs. Three of the nine question on the survey will be strictly demographic. The question “Are you a Veteran?” was originally intended strictly for the purpose of categorization. However, after the first Participant enquired about active duty military personnel, participants were instructed to mark yes and place a capital A in the lower right hand corner to indicate active duty status.

Analysis

Surveys marked with the A that represented Active Duty were excluded from the analysis, along with those who marked “no” on question 9 (see appendix 1) with the exception of those participants who indicated that they were the spouse or widow of a Veteran. This was done in order to prevent the unnecessary skewing of the data collected. The data collected from active duty participants did show a clear correlation between need and demographics. One survey was excluded after concerns were raised in regards to the participant’s ability to give informed consent. These exclusions resulted in a sample size of 26 (N=26). The questions were analyzed using simple mathematics to determine percentages.
Potential Risks and Benefits

No deception was used in the course of this study. Although the questions on this survey could be considered to be sensitive, the focus was on animal food security and not human food security. Additionally, despite the face to face nature of the survey, no records were kept of participant names, beyond the consent forms and no identifying information could be connected to any individual survey. Any facial recognition on the behalf of the researcher will be held in trust and the strictest confidence. Due to this the study represented minimal to no risk to participants.

The potential benefits of this study include the potential creation of a pet food bank in Humboldt County. Along with the recognition and possible bridging of an existing service gap. Additionally, this study provides information and insights that legitimize a previously unrecognized food security issue, and may provide insight and information for future studies and services.
Results

A total of 36 (N=36) participants were surveyed at North Coast Stand Down. However for various reasons the sample was narrowed to 26 (N=26) participants. These participants indicated that they were either veterans, or the spouse of a veterans, although one participant indicated that they were the widows of a veteran. Originally the removal of the active duty participants narrowed the participant pool down to 27 members. Unfortunately, one of the participants displayed behaviors which called their ability to give informed consent into question and the corresponding survey was removed from the data pool, resulting in a total population of 26 surveys. The survey can be broken down into three sections. Non-identifying demographic information, Canine food security information and information about trans-species food security.

Non-identifying demographic information

Veteran participation in this study is 85%, with the remaining 15% being spouses and/or widows. Participants were asked if their pet was a trained service animal, currently in training to become a service animal or was currently serving the same function as a service dog. Participants indicated that fifteen (57.69%) of their dogs were service dogs. Enquiry into participant housing status yielded alarming results, with 76.92% of participants indicating that they are currently homeless.
Canine food security information

Questions in this section were generally framed as being time specific, in order to narrow the focus of the study to within October 2013-October 2014. The veterans and one widow surveyed indicated that 57.69 % sometimes ran out of pet food before they had money for more. One participant declined to answer the question and 23.07% replied that they often ran out of food before they could afford to buy more. Only four participants (15.38%) indicated that they had not had this problem within the previous twelve months. Another question enquired if participants worried about pet food running out before they had money to purchase more of it. All 26 participants indicated that they worried about it to some degree. However, 42.31% indicated that they often worried about being able to buy more dog food. The remaining 57.69% of those surveyed indicated this was a subject they “sometimes” worried about. The final question in this category asked if participants had considered giving up their pet due to an inability to provide for them. Only 19.23% of participants had considered this within the last Year.

Trans-species food security

In order to determine the impact of pet food security on human food security, participants were asked two yes or no questions. However, one of these questions had an attached clarification section, resulting in the three questions that make up this section. The first of which was designed to determine if adults in the household were skipping meals or cutting the size of their meals in response to their pet’s food insecurity.
Participants indicated that this was true in 46.15% of households. The final question in this section enquired whether or not participants had shared an emergency food box or food pantry box with their animals. An alarming 61.54% of participants indicated that they had.

**The Last 30 Days**

In order to get a more accurate picture of the situation as it stood at the time of the survey, participants were also asked if any of the questions pertaining to pet food security and its impact on human food security were true within the last 30 days. Of the 57.69% of participants who indicated that they sometimes worried about having the money to purchase more pet food, 13.33% indicated that they had in fact worried about this during the last 30 days. Of the 42.31% who indicated that they “often” worried about being able to purchase more pet food, 72.72% indicated that they had worried about it within the past 30 days. The population of the participants who indicated that they actually had run out of pet food before being able to purchase more had a more even distribution. Of the 57.69% of the population that indicated they sometimes ran out of pet food and were unable to buy more 40% indicated that this had been true in the last 30 days. Additionally 66.66% of those who indicated that this was often the case, also indicated that the situation had occurred within the last 30 days.
Only two participants (7.69%) indicated that they had considered giving up their companion animal due to their inability to provide for them within the 30 days leading up to the study. However this number is still very significant when one considers it in relation to the number of people (19.23%) who indicated that they had considered this option within the previous year. When compared with each other, it was revealed that 40% of the participants who had considered giving up their pet had done so within the preceding 30 days.

The impact on human food security within the 30 days leading up to the study were just as tragic. Of the 46.15% of participants who had cut their food intake in order to feed their pets, 66.66% had done so within the 30 days prior to participating. The percentage of participants who had shared emergency food supplies with their pets was a little better. Only 43.75% of the original 61.54% statistic had done so during the 30 days prior to participation in the study.
Discussion and Conclusions

The underlying purpose of the study was to determine if Humboldt County’s homeless veteran population would benefit from a local pet food bank. Determining the extent of the impact companion animal food security has on the food security of their human partners was the direct aim of the study. The data collected was the first step in meeting in determining the need for a food bank. Future studies should examine the correlation between human food insecurity and their pets.

This study, though limited in scope, will help to form a bridge across both the information gap and the service gap can begin to form. If local reactions are any indication, the idea of trans-species food security has not been considered.

Limitations to this study presented themselves early. The magnitude of the potentially impacted population forced the study to focus on a small subset. Modeling the questions after USDA questions on human food security created unexpected problems in terms of answering the questions. This was due to the differences in food acquisition across the sample.

The situation becomes further complicated for homeless populations because of the conditions which homeless people and animals subsist. In cases of homelessness it is common for humans and animals to eat only once a day. Moreover, that meal may by necessity be divided between the two. Future studies will need to examine these issues and data will need to be collected. Furthermore, the setting of this study limited the
research to canines or felines. Further studies should be conducted to determine if trans-species food insecurity is also present in other populations.

Findings from this study suggest that there is a correlation between human and companion animal food insecurity. Indeed, food insecure veterans give up their own food so that their companion animals can eat. The findings showed that veterans shared emergency food with their companion animals and provide evidence that this behavior continues even in times of extreme duress. Many members of the general public may wonder why these veterans defy logic and keep their animal companions with them when they have difficulty feeding themselves. Logically speaking the idea of giving up a pet due to food insecurity is a sad but understandable fact of life. However, the animal-human bond is a tie strong enough to defy both logic and basic self-preservation instincts. The literature review helped to demonstrate why this is so, it also helped to demonstrate how important the animal-human bond is to the human experience (Downey, 2010; Randour & Davidson, 2008). Given these facts it is important for social workers to recognize this bond and the corresponding service gap. Food security simply cannot be adequately addressed unless the animal-human bond is considered. The data collected suggests that Humboldt County’s veteran population would benefit from a pet food bank. While the creation of a pet food bank may take time, it is important to note that services can be put in place today that will help to alleviate food security issues in this and other affected populations. One step that could be taken is simply to add pet food to existing food banks in Humboldt County.
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Appendices

Appendix 1

1) In the last year, (I/We) worried (my/our) pet food would run out before (I/we) got money to buy more.
   [ ] Often true   [ ] Sometimes true   [ ] Never true

2) In the last year did you find that your pet’s food didn’t last, and you did not have the money to get more?
   [ ] Often true   [ ] Sometimes true   [ ] Never true

3) In the last year have you considered giving up your pet due to an inability to provide for them?
   [ ] Yes   [ ] No

4) In the last 12 months, since last (name of current month), did (you/you or other adults in your household) ever cut the size of your meals or skip meals in order to feed your Animals?
   [ ] Yes   [ ] No
   4a) If Yes, How often did this happen?
       [ ] Almost every month   [ ] Some months   [ ] Only 1 or 2 times

5) In the last year have you shared an emergency food box or food pantry box with your animals?
   [ ] Yes   [ ] No

6) Were any of the above true of the last 30 days?
   [ ] Yes   [ ] No

   If so, Please mark the applicable questions
   [ ] question 1   [ ] question 2
   [ ] question 3   [ ] question 4
   [ ] question 5   [ ] refused

7) Are you currently Homeless?
   [ ] Yes   [ ] No
8) Is Your Animal a service Animal or is (he/she) serving the same function?
   [ ] Yes    [ ] No

9) Are you a United States veteran?
   [ ] Yes    [ ] No
Appendix 2

Consent Statement

You are being invited to participate in a Humboldt County Pet Food Bank Needs Assessment. The data collected may help provide the evidence needed to establish a pet food bank in Humboldt County. Questionnaires will be filled out and submitted on-site during the North Cost Stand Down event. The results will be used to help determine the need for a Pet Food Bank in the Humboldt County Area. Treats are available for your animal companions.

If you agree, you will be asked to fill out a short questionnaire which consists of seven yes or no questions and three multiple choice questions. You can take as much or as little time as you like to answer the questions. The questions are not anticipated to cause risk or discomfort beyond what is encountered in daily life, and you are free to skip any question that you do not wish to answer. No identifying information will be attached to your questionnaire.

Your questionnaire will be kept for assessment purposes for a period of no more than 1 year before the data is destroyed. The Pet Food Bank assessment report will be published online. Findings will be reported as group trends and statistical data. No identifying data will be collected.

The investigator will answer any questions you may have about the study. Your participation is voluntary and you may stop at any time.

I understand that the researcher will answer any questions I may have concerning the investigation or the procedures at any time. I also understand that my participation is entirely voluntary and that I may decline to participate or withdraw at any time without jeopardy. I understand that the investigator may terminate my participation in the interview at any time. If you have questions about the survey please ask, or Contact Tanya Fink at TYF1@humboldt.edu or contact Dr. Jen Maguire in the HSU Department of Social Work at (707) 826-4565 or Jennifer.maguire@humboldt.edu. If you have any concerns with this study, contact the Chair of the Institutional Review Board for the Protection of Human Subjects Dr. Ethan Gahtam, at eg51@humboldt.edu or (707) 826-4545. If you have questions about your rights as a participant, report them to the Humboldt State University Dean of Research, Dr. Rhea Williamson, at Rhea.Williamson@humboldt.edu or (707) 826-5169

Name

__________________________________________________________

__________________________________________________________

__________________________________________________________

Signature of Participant Date
Appendix 3

Keywords

Alloperanting – raising the offspring of other animals

Animal-human bond – the mutually beneficial and dynamic bond that exists between humans and their animal companions, effecting the mental, physical and emotional state of both.

Coevolution – changes in the genetic composition, behaviors and social structures of two species or more species based upon patterns of reciprocal impact.

“Couch-potato-ism” - The lack of exercise due to excessive viewing of television.

Counter-domestication – the process by which humans adapt to living in close association with animals.

Domestication – the process by which animals become tame and begin to live in close association with humans.

Proto-dog – a subspecies of grey wolf that existed before the emergence of True modern dogs, they are the direct ancestors of our modern dogs.

Trans-species – shared commonalities between human and nonhuman animals including but not limited to emotion, cognition, and states of being.

True dog – Modern dogs.