

# WAGNER COLLEGE



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## FORUM FOR UNDERGRADUATE RESEARCH

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## EDITOR'S INTRODUCTION

*The Wagner Forum for Undergraduate Research* is an interdisciplinary journal which provides an arena where students can publish their research. Papers are reviewed with respect to their intellectual merit and scope of contribution to a given field. To enhance readability the journal is subdivided into three sections entitled *The Natural Sciences and Quantitative Analysis*, *The Social Sciences* and *Critical Essays*. The first two of these sections are limited to papers and abstracts dealing with scientific research, clinical investigations and complex mathematical/statistical modeling. The third section is reserved for speculative papers based on the scholarly review and critical examination of previous works. As has become a tradition, the fall edition commences with a reprint of the abstracts of papers and posters presented at the Eastern Colleges Science Conference.

Read on and enjoy!

Gregory J. Falabella, Ph.D.  
Editor-in-Chief

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# **Section I: Eastern Colleges Science Conference**





# **The Use of Open Source Docking and Alignment Software to Evaluate the Dangers of Phthalate Induced Endocrine Disruption**

Briana Bettencourt (Biology) and Dr. Jonathan Blaize (Biological Sciences)

Many physiological abnormalities that manifest within the nervous, reproductive and digestive systems can be attributed to endocrine disruption. Treatment of the adverse health effects born of exposure to endocrine disrupting chemicals (EDC's) cost the United States approximately 340 billion dollars annually. Plasticizers including phthalates have long been associated with induction of the forenamed conditions and have thusly been categorized as EDC's. Diethylphthalate (DEP), a well-studied plasticizer, is suspected of dysregulating estrogen signaling; this is particularly heinous as consequences include developmental delays and physical deformation. More than twenty-thousand studies involving DEP are indexed in the National Center for Biotechnology Information (NCBI/Pubmed), yet only seven clinical trials evaluating DEP are available at the time of this submission (Clinicaltrials.org), with fewer having been completed. While there is an increased emphasis on elimination or reduction of phthalate usage and exposure, little is known about preventing phthalate damage caused by pharmacological competition. To more critically elucidate phthalate interaction with suspected targets we have employed computational tools that simulate docking to identify plasticizer binding locations, estimate the affinity to which they are bound (compared to natural ligands) and evaluate whether viable alternatives can be used to outcompete EDC's. Our data shows staggeringly high docking affinity of several common plasticizers, including DEP, to suspected targets within the endocrine system and unsuspected targets throughout the body.

## **Effects of Electroconvulsive Seizures on GABA Concentrations in Mouse Models of Autism**

Nicholas Buhta (Biology)

Self-injurious behavior (SIB) is displayed in approximately one quarter of individuals with autism spectrum disorder (ASD). Electroconvulsive therapy (ECT) has proven to be an extremely effective treatment for self-injurious behavior in individuals with ASD. Previous research has shown that GABAergic dysfunctions are strongly associated with ASD and SIB phenotypes. Therefore, we hypothesize that the electroconvulsive stimulus (ECS) delivered in ECT may modulate GABAergic systems to suppress SIB in ASD patients. To better understand the effective mechanism in which ECT operates, this study analyzes GABA concentration variations and behavioral changes in response to ECS of two transgenic autistic mouse models, Shank3B<sup>-/-</sup> and Viaat-Mecp2<sup>-/-</sup> conditional knockout

variants, which express behavior analogous to SIB. This study is not yet complete, however, the data show that Shank3B<sup>-/-</sup> mice display a significant increase in striatal GABA concentrations in response to ECS.

## **Microbial Diversity Along Climate Zones in the Atlantic Ocean**

Alexis Costa (Microbiology)

Microorganisms can be found in all environments on Earth, including the oceans. Bacterial community composition can vary from place to place in the ocean. One hypothesis is that bacterial communities in tropical climate zones are different from those in temperate climate zones. For this research, microbiome and metadata were obtained from a database called VAMPS. VAMPS is an abbreviation for The Visualization and Analysis of Microbial Population Structures. These samples were collected at 16 different locations in the Atlantic Ocean, ranging from different climate zones. The computer program R was used, along with various statistical packages, to determine if microbial communities from these two climate zones were different. Using multivariate statistics to analyze the microbiomes, I showed that climate zones have little effect on bacterial composition. Instead, specific environmental variables such as phosphates, temperature, and silicates were correlated to variability in microbiome composition. This may be because, below certain depths, temperatures from each climate zone are actually similar. Future research can focus on how specific environmental variables impact ocean microorganisms.

## **Transient Exposure to 450 nm Light alters Phagocytosis by Retinal Pigment Epithelium Without Compromising Viability**

Joseph Fabozzi (Biology) and Dr. Jonathan Blaize (Biological Sciences)

Phagocytosis of outer segments (OS) and reisomerization of chromophores by the retinal pigment epithelium (RPE) are critical for maintaining visual health. Diseases of the retina, including age-related macular degeneration (AMD), manifest when the aforementioned processes are perturbed or RPE viability is compromised. Numerous factors, hereditary or otherwise, have been implicated as contributors to RPE failure though none are as paradoxical as light exposure since it is required for normal vision. While melanosomes within RPE offer protection from photo-oxidative stressors, chronic irradiation contributes to toxic bixinoid production and accumulation. N-retinyl-N-retinylidene ethanolamine (A2E), a lipophilic cytotoxin, has been shown to reduce cellular viability, slow phagolysosomal digestion of OS and hinder phagocytosis under certain physiological conditions where oxidative phosphorylation mechanisms are stressed. The retina is

particularly vulnerable to short electromagnetic wavelengths (<500 nm) and recent studies suggest that increased mobile electronic device usage contributes to disease phenotypes. Several laboratories have demonstrated photo-toxicity of blue light on RPE, though little is known about the consequences of short-term exposure on phagocytosis. Our preliminary results support a hypothesis of phagocytosis perturbation when cells are exposed to blue light, (0.027 micromole), and that the duration and intensity of this exposure does not alter morphology, induce apoptosis or change mitochondrial output.

### **The Antimicrobial Effect of Clove Oil, Tea Tree Oil and Lemongrass Oil on *Klebsiella Pneumoniae* and *Enterobacter Aerogenes***

Sarah McGee (Microbiology) and Dr. Kathleen Bobbitt (Biological Sciences)

Essential oils such as clove, lemongrass, and tea tree have been known and used for their antimicrobial properties. In the series of experiments of agar well diffusion, molten agar tests, and broth dilutions, *Klebsiella pneumoniae* and *Enterobacter aerogenes* were used to test these essential oils and the growth patterns were observed and recorded. The essential oils had an effect in inhibiting the growth of both *Klebsiella pneumoniae* and *Enterobacter aerogenes*, which was observed through zones of inhibition, as well as the lack of growth at certain concentrations throughout different types of media. Clove oil was the most effective in inhibiting bacterial growth as compared to lemongrass oil and tea tree oil.

### **The Effects of Xanthine Derivatives on Tooth Remineralization and its Ability to Defend Against and Remove *Staphylococcus Mutans***

Sarah McGee (Microbiology), Kayla Diggs (Chemistry), Dr. Christopher Corbo (Biological Sciences), and Dr. Racquel DeCicco (Physical Sciences)

Sodium fluoride (NaF) is a widely used remineralizing agent in dental care. Some municipalities are going as far as incorporating NaF in water supplies, however there are certain risks associated with the excess ingestion of NaF. In a series of experiments, we will examine the remineralizing abilities of Xanthine derivatives including theobromine, caffeine, and xanthine in comparison to NaF, particularly in the filling of scratches and other surface deformities in eggshells. In parallel we will test the ability of the Xanthene derivatives to defend against as well as remove *Staphylococcus mutans*, compared to NaF. The porosity of the eggshells will be measured and examined using Scanning Electron Microscopy. Previously reported work suggests that theobromine has equal if not more potential in remineralizing enamel.

## **Microbial Diversity Off the Antarctic Peninsula**

Elizabeth Patton (Biology)

Microbial diversity in an ecosystem is important. In a marine environment, various factors can have an impact on microbial diversity. Using a microbiome dataset downloaded from VAMPS (Visualization and Analysis of Microbial Population Structures), this project focused on both environmental data and microbiome data collected off the coast of the western Antarctic Peninsula at four distinct locations. Through the use of RStudio, various analyses were performed to determine if certain environmental factors significantly influenced the diversity of microorganisms found in the samples. The factors that were focused on in this project included the amount of chlorophyll, dissolved oxygen, dissolved organic carbon, phosphate and total nitrogen, the depth of the sample, and whether the sample was taken on or off the coastal shelf. Examination of correlation tests revealed that, of the factors studied, only the depth category, chlorophyll, dissolved oxygen, phosphate and total nitrogen were significant to the diversity of these microbiomes. Comparisons between relative abundance charts and bar graphs quantifying the various significant variables in each sample revealed correlations between similar samples in terms of the diversity of microbes found.

## **Employing Green Chemistry Methods Towards the Synthesis of High Efficiency Organic Dyes**

Kelsey Savje (Chemistry) and Dr. Racquel DeCicco (Physical Sciences)

Dye-sensitized solar cells (DSSCs) have been the subject of much research in recent years, as the employment of solar energy as a means of generating electricity has drawn increasing interest especially due to it being a renewable green. Organic dyes are particularly attractive, as organic molecules are easier to modify and are derived from more renewable sources compared to metal-based dyes. This project explores the synthesis of conjugated organic molecules that contain similar structural motifs to dyes reported to have high conversion efficiencies. The targets are based on data from Harvard Clean Energy Project, which lists molecules that have demonstrated high energy conversion based on computational analysis. Multiple steps were completed in the synthesis and additional experiments are being pursued as alternative routes towards target molecules that can potentially serve as highly efficient organic dyes.

## **Accessing Diynes Containing Thiocyanate End-Groups En Route towards Polydiacetylenes<sup>1</sup>**

Oskar Sundberg (Chemistry)

This research explores the synthesis of diynes with sulfur-containing end groups en route towards accessing novel polydiacetylenes (PDAs), a class of conjugated polymers with conductive properties. Diynes containing thiophene and thiocyanate end-groups have been targeted, with the latter being the focus of this project. Thiocyanate (SCN) end-groups are expected to impact the electronic properties of the polymerized system because of the resonance-stabilization and electronic effects of these groups. Efforts to synthesize 1,4-dithiocyanatobuta-1,3-diyne have produced interesting results. While the synthetic protocol is producing consistent <sup>13</sup>C NMR data, these do not entirely correspond with predicted NMR spectra generated computationally with Gaussian, however IR spectroscopy confirms the presence of alkynes. To further elucidate the structure of the synthesized compound we designed many NMR simulations of various potential products using the general purpose computational software Gaussian. Computationally generating NMR spectra has proven a useful tool in our attempts to determine our exact product. Once the target diyne is obtained and successfully characterized, polymerization efforts will commence.

## **Inhibition of Serum Amine Oxidase Prevents Polyamine Induced Autophagy: A Cautionary Tale**

Kaela Teele (Biology)

Polyamines putrescine, spermidine, and spermine are polycationic alkyl amines that are multifunctional in eukaryotes, and one of their main functions is overall cell growth. Therefore, polyamines can be used as a target for antineoplastic drug development. It has recently been suggested that polyamines are critical players in the induction of autophagy. However, all of the studies performed with mammalian cells occurred in the presence of bovine serum, which contains serum amine oxidase. Serum amine oxidase oxidizes polyamines into hydrogen peroxide, an aldehyde, ammonia and a simpler polyamine. The peroxide and aldehydes cause cytotoxicity, thus subjecting cells to a toxic environment when exogenous polyamines are added to media containing bovine serum. However, this enzyme can be inhibited by aminoguanidine. Thus, to determine whether the toxicity was a ~~result of the stressful environment~~ produced by the oxidation of exogenous polyamines, the

<sup>1</sup> Received an award of excellence for outstanding presentation.

effects of the addition of polyamines to media containing bovine serum +/- aminoguanidine on markers of autophagy were examined in three cell types; WT HCT116, p53<sup>-/-</sup>HCT116, and A549. The concentrations examined were 0, 1, 5, 10, 25, 50, 75, and 100  $\mu$ M. Significant toxicity was observed at 50  $\mu$ M for both spermidine and spermine after 48-hour exposure. However, when serum amine oxidase is inhibited by aminoguanidine cells were resistant to polyamine addition. To determine whether inhibition of the serum amine oxidase also reduced evidence of autophagy, the cell lines were treated with the polyamines at concentrations of 0, 1, 25, and 50  $\mu$ M over a 48-hour period and autophagy markers were evaluated.

**Section II:**  
**The Natural Sciences &**  
**Quantitative Analysis**





# **Fur-babies vs. Babies: A Study on the Consumer Behavior of Dog Owners**

Maria Humphries (Business Administration)<sup>1,2</sup>

The pet industry has been on a continuously upward trend in the last two decades. There is no clear-cut reasoning behind the growth of the industry. However, research shows that the humanization of pets, especially that of dogs, has led owners to view them as children. The intimate relationship between owner and dog is resulting in the purchasing and creation of more dog-related products and services, which has aided in the growth of the pet industry. This study will evaluate how the consumer behavior of dog owners is related to an owner's relationship with their pet. A literature review and an in-field study of 100 dog owners between the ages of 19-65+ will assist in developing a thorough understanding of how the humanization of dogs and viewing them as a child has allowed for the pet industry to thrive. The understanding of the human-dog relationship will prove to be important in assisting marketers to create stronger and more targeted marketing campaigns to keep up with the growing industry.

## **I. Introduction**

For approximately 10,000 years, dogs have been loyal companions to humans (Dotson & Hyatt, 2008). Evidence from ancient tomb paintings, artifacts, and texts reveal that all levels of society had dogs as loving pets and members of their family (Dotson & Hyatt, 2008). In present society, this trend continues to evolve at a more elevated level. Research shows that over the last two decades, Americans have consistently spent more than ever on their pets (American Pet Products Association, 2017). Bob Vetere of the American Pet Products Association (2017) correlates this trend to the humanization of pets. The humanization of pets, also known as anthropomorphizing, is the tendency of pet owners to view their dog as a person and attribute human characteristics to them (Boya, Dotson & Hyatt, 2015). This humanization has led dog owners to view their pet as a child

<sup>1</sup> Honors thesis written under the direction of Dr. Mary Lo Re in partial fulfillment of the Senior Program requirements.

<sup>2</sup> Presented and received "Best Research Award" at the Staten Island Economic Development Center's Annual Conference held on April 16<sup>th</sup> at the Hilton in Staten Island, NY.

which results in the purchasing of extravagant products such as human-grade dog food, dog daycare, and more frequent veterinarian visits (Boya et al., 2015). To evaluate how the consumer behavior of dog owners has changed over the years, an analysis of the human-dog relationship is essential. This analysis can prove that owners, specifically millennials and baby boomers, are substituting a child with a dog which results in an increase in purchases in the pet industry. This analysis can also be beneficial to marketers in the pet industry by assisting them in the prediction of future trends while helping them to adjust their marketing strategies to reflect the changing demands.

### Literature Review

Consumers are viewing their dog as an extension of themselves which is resulting in a change in the consumption of pet-related products and services (Boya et al., 2015). The notion of companionship, when associated with the human-dog relationship, reveals a mutual sense of altruism suggesting that the dog and the owner are dependent on each other (Ellson, 2008). Ellson (2008), conducted an observational study, utilizing a storytelling approach, of dog ownership in order to understand the role consumer behavior plays in the marketing of pet and pet-related products. Spending patterns on healthier dog food, grooming, cremation services, and vacation services such as kenneling, house sitting, and dog-friendly hotels, suggest that dog ownership is based on the way owners wish to be viewed by others in society (Ellson, 2008). Ellson's (2008) results suggest that marketers must illuminate the personality influences of the devoted dog-human relationship if they wish to have continued success within the industry.

Based on the devoted dog-human relationship the question of whether owners "buy for their dogs the way they buy for themselves" arises (Tesform & Birch, 2010). They targeted 1,300 dog owners with a questionnaire in regards to the owner's personal food behavior, dog's food behavior, owner's frequency of physician visits, and dog's veterinarian visits in order to understand why pet expenditure has increased over the years. Their results found that dog owners view their dog as an extension of themselves and, therefore, involve their dog in their consumption behaviors. It was identified that the more committed an owner is to consuming healthy food for themselves, the more likely they are to buy their dog healthy food. Additionally, they also found that a dog owner who frequently visits the doctor is more likely to bring their dog for frequent veterinarian visits.

This investment and expenditure on pets reflect the idea that owners and pets are a unit that consumes together (Kylkilahti et al., 2016). They state that "consumers in industrialized countries are investing more money in their pets and spending more time

with them than ever before” (p. 125). In their study, an online survey of 2,500 dog owners in addition to 40 fieldwork studies was used to identify how consumers interact with their pets. The participant’s answers revealed that the existence of a pet creates an area of consumption that would otherwise not be considered. Such areas include the purchasing of dog food, dog treats, collars, and leashes. Otherwise known as co-consumption, pets are influencing their owners’ buying patterns because the pet’s feelings, preferences, and needs are considered before making a purchase (Kylkilahti et al., 2016). For example, finding the treats which a dog will consume can be a daunting and expensive process for an owner, but it is performed out of love and care for the animal. This finding further supports the identification that the relationship between a dog and their owner is reciprocal.

The human-dog relationship of mutualism in which “the owner gives and receives love and affection from their animal, and their pet serves as a confidant with no risk of betrayal”, provides insight into the dog-related consumption experiences that arise from this relationship (Dotson & Hyatt, 2008, p. 457). Dotson et al. (2008), surveyed 749 dog owners to classify seven dimensions that represent the various layers of dog-companionship. They concluded that an owner’s perception of their dog is related to their willingness to have a significant bond with their dog. They also discovered that millennial women are the most likely to form a highly beneficial bond with their dog due to their prolonging of having children and their commitment to displaying their innate maternal instincts. Their results are consistent with the trends of delayed childbirth for married couples, postponed marriages for singles, and an increase in empty nesters having more dogs as being the driving force for the “dog craze”.

In Boya et al.’s 2012 interview and survey study on the relationship between dog owners and their pets, various consumer behavior segments were identified. Based on an in-depth series of questions, 75 dog owners described their daily interactions with their dogs, their general lifestyle values and issues, and their spending patterns. Based on the results, it was discovered that the more likely a dog owner is to anthropomorphize their dog, the more likely they are to buy for their dog in a similar way to which they buy for themselves. It was also observed that the way in which consumers are currently bonding with their animals is the same way they would bond with their children. This is attributed to the fact that “the average dog has the intelligence equivalent to a 2-year-old, so having a dog in the home is like having an enduring bond with a young child” (p. 134). Assigning a dog the role of a child results in owners increasing their spending on pet products such as food, healthcare, pet insurance, and toys (Boya et al., 2012).

Hill, Gaines, and Wilson (2008) reviewed various studies to uncover the underlying meanings of the consumer behavior experiences of dog owners. The authors identified that “Fido is no longer just an animal that sits by the kitchen table waiting for scraps of food. Now, the household pet has worked its way up the family tree, in some cases even winning a coveted seat at the dinner table” (Hill et al., 2008, p. 553). The early domestication of dogs and selective breeding have allowed these animals to be viewed as possessing childlike characteristics which emphasize the maternal and paternal instincts of their owners (Hill et al., 2008). This bond results in the dog evolving into the family’s routine and the family altering their routine to fit the needs of their pet. The incorporation of a dog into the family characterizes the animal as a companion rather than a possession (Tesform et al., 2010). A long-term commitment then grows into a loving and intimate relationship which culminates in the pet being included in special events, holidays, and activities (Hill et al., 2008). Food preparation, food consumption, gift giving, and gift receiving are a few of the various activities a dog will become involved in (Hill et al., 2008). Hill et al. (2008) found that this relationship is accountable for dog owners purchasing products that are similar to those bought for a child. Such a correlation leads to the development of a deeper understanding of the change in consumer behavior of dog owners in recent years.

#### Understanding the Human-Dog Relationship

It has been observed that anything consumers would do for their child is being done for their pets (Plenda, 2016). The humanization of animal companions has resulted in the development of the term “fur-babies”. Otherwise noted as a pet acting as a substitute or addition for a child. Due to the humanization of dogs, human-related services and products such as grooming (haircuts), daycare, toys, snow boots in the winter, raincoats in the fall, special soaps, fur and paw moisturizing cream, etc. are being sought out by dog owners. Additionally, special accessories such as bandanas, leashes, collars, and dog tags are being purchased, sometimes with the option of customization (Plenda, 2016). The acquisition of such products and services reflects a similar consumption pattern that is present when making purchasing decisions for a child.

The continuous growth of the pet industry is correlated with the changing consumer behavior of pet owners and their relationship with their pets. As stated by Ellson (2008), the dog-human relationship “reveals a biological sense of reciprocal altruism between dog and dog owner” (p. 565). Dogs and their owners mutually offer each other love, companionship, company, and affection (Lancendorfer, Atkin & Reece, 2008). However, humans have begun to internalize the values and expectations of their

dog to reflect those of a young child. A dog's personality and character are identified when an owner speaks to each dog in an individualized way, utilizing baby talk (Ellson, 2008; Dotson & Hyatt, 2008). In fact, Dotson & Hyatt (2008) discovered that 99% of their 749 survey participants believe that their dog comprehends what they are saying when they are talking to them.

It is crucial to realize that a child can verbally express their desires while a pet cannot (Chen et al., 2012). The inability to verbally communicate results in dog owners often basing their pet's consumption on their personal desires (Chen et al., 2012). It is important to note that in comparison to a child, a dog will not grow up to be independent and leave the home. This suggests that a dog can provide approximately 20 years of companionship (Ellson, 2008).

The way an owner cares for their dog can be an expression of their ideas and a perception of a lifestyle in which they want to be seen living (Ellson, 2008). Dogs are viewed as an extension of their owner's self, based on the formation of emotional, social, and personal identities (Boya et al., 2015). The dog-human relationship can be viewed as a biological, physical, imaginary, and human attachment. The various dimensions of the dog-human relationship that were discovered by Boya et al. (2012) provide insight into how a dog is an extension of their owner's self. Based on the degree to which a dog is humanized, a social hierarchy develops. A strongly attached dog owner will treat their dog as if they are a child and themselves their pet's parent (Boya et al., 2012). A strongly attached dog owner will often spoil their dog, celebrate their birthday, seek out dog-friendly accommodations, and attribute various human characteristics to their dog. By viewing their dog as a member of the family, dog owners tend to make purchases that reflect this relationship, which can explain the growth of the pet industry over the years.

Dogs have been kept as members of human's families for over 10,000 years (Dotson & Hyatt, 2008). The strong attachment that humans have to dogs is often as strong as the attachment that one would have to a best friend, spouse, or child. Such an attachment greatly influences family dynamics. As a new member of the family, the dog often becomes fully engulfed into the family routine allowing for family bonds to grow around the daily needs of the pet (Hill et al., 2008). Responsibilities are distributed amongst all members of the family in regards to taking the dog on walks, feeding them, bathing them, and playing with them. In addition, children often view their dog as a sibling, without rivalry (Ellson, 2008). The development of the dog into the family dynamic becomes habitual and further promotes the desire for owners to care for them as if they are a child.

The responsibility of owning a dog results in various lifestyle considerations. Owners tend to make sacrifices for their dog when it comes to finding a spouse, car, profession, or dog-friendly living accommodation (Boya et al., 2012; Kylkilahti et al., 2016). Most dog owners consider their pet in a majority of their lifestyle consideration and are willing to make monetary sacrifices to include them (Kylkilahti et al., 2016). Such monetary sacrifices include adjusting household accommodations such as updated flooring, a fenced in backyard, landscaping, dog beds, and doggy doors. Such expenditures are fulfilled because of the dog's assumed need. Shared activities such as jogging, watching TV, and sleeping on the same bed result in co-consumption experiences which influence both the dog and the owner's lifestyle. Additionally, pet services such as doggy daycare, dog walking, pet-friendly hotels, pet-friendly airlines, and travel accessories have allowed for dog owners to conveniently include their dog in their mobile lifestyle (Dotson & Hyatt, 2008). The high involvement of a dog into the family dynamic is allowing business owners to develop new product and service offerings which contribute to the continuous growth of the pet industry.

#### Dog Owner Consumption Habits

It has been discovered that dog-related consumption is dependent on the heightened involvement in the dog-human relationship (Boya et al., 2012). The increased, time, money, energy, and effort people are spending on their dogs has led to a growth in the pet industry (Dotson & Hyatt, 2008). Based on the mutual relationship between owners and their dogs, it is important to understand what has caused consumers to purchase additional and luxurious products for their animal companions.

Ellson (2008) stated that "human consumption becomes a metaphor for human behavior" (p. 572). This statement is proven true when we examine the idea that dog owners buy for their dogs in the same way they would buy for themselves, by having a shared consumption experience (Tesform & Birch, 2010). Tesform and Birch (2010) analyzed what 1,300 dog owners feed their dogs and how often they take their dog to the veterinarian. They discovered that humans do in fact buy for their dogs in the same way they buy for themselves. This is evident in the consumption of healthy food and medical visits for owners and dogs alike. These findings are consistent with the fact that dog owners view their pet as a member of the family. It is clear that if a dog owner views their pet as a member of the family they are more likely to engage in behaviors that align their dog with the family's dynamic.

When a dog is considered a spoiled child and served through this metaphor, the dog's feelings, preferences, and needs are taken into consideration in the owner's co-

consumption experiences (Kylkilahti et al., 2016). The co-consumption experiences that are encountered are oftentimes initiated by the dog's willingness for adventure. Dogs often motivate their owners to go jogging or watch TV together. These activities result in manufacturers developing products that accommodate dogs and their humans on these adventures. Portable dog bowls, sturdy leashes, and harnesses are a few of the commodities that aid in dog owners bonding with their pets on a jog. Additionally, dog owners who regularly watch TV with their dogs might consider buying a leather or microfiber couch that accommodates their pet and reduces the accumulation of dog hair. Clearly, the passionate relationship between dogs and their owners, due to an increase in time, energy, and effort spent together, affects the purchasing behavior of consumers.

Second to food purchases, veterinary expenses are one of the largest purchases made by pet owners (American Pet Products Association, 2017). Pet owners are spending more on preventative care and are willing to acquire debt as a result of medical expenses to save their beloved dog's life (Hill et al., 2008). The American Pet Products Association (2017) states that a dog will visit the veterinarian approximately twice a year. In fact, vet care sales in 2017 exceeded \$17 billion dollars (American Pet Products Association, 2017). The American Pet Products Association (2017) also states that 28% of dog owners would buy an urn for their dog at death. The increase in veterinarian expenses, vaccines, and the process of grief upon the death of a dog relate to similar practices that are performed in human relationships. It is evident that a dog owner's willingness to care for their pet, as if they were a child, is reflected in the continuous growth of the pet industry.

#### Data from Sources

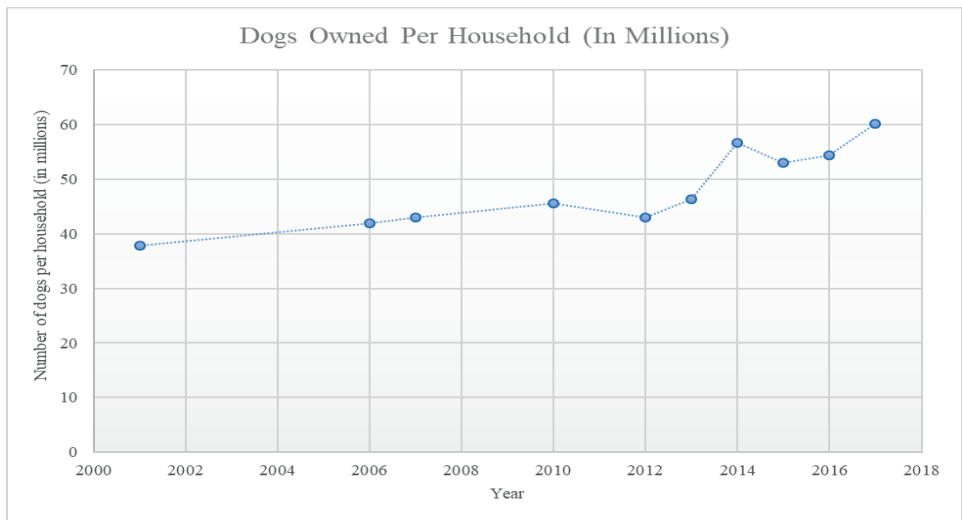
To truly understand how the consumer behavior of dog owners has changed, it is important to analyze the various statistics of this demographic. The American Pet Products Association (2017) conducts a yearly survey to compile data on pet owners. The objective of the organization is to analyze changing consumer habits to assist in the identification of short-term and long-term trends in the pet industry. As well as analyzing pet ownership and the consumption of pet products and services. In 2017, they conducted a screener and a detailed questionnaire of 22,202 pet owners. The results from this survey are vital components of this research.

As of 2017, 68% of all United States households owned a pet, of which 48% owned a dog (American Pet Products Association, 2017). This specifically means that 60.2 million United States households own a dog. The American Pet Products Association (2017) and the American Veterinary Medical Association (2012) have stated

that there has been a consistent upward trend in pet ownership over the last two decades, as shown in figure 1.

From 1994 to 2017, the total expenditure in the pet industry has increased from \$17 billion to \$69.51 billion. It is estimated that in 2018, spending will increase to \$72.13 billion (American Pet Products Association, 2017). In terms of demographics, the largest generational makeup of pet owners has shifted from baby boomers (in 2014) to millennials (in 2017). In addition, dog owners reported the highest level of marital status (American Pet Products Association, 2017).

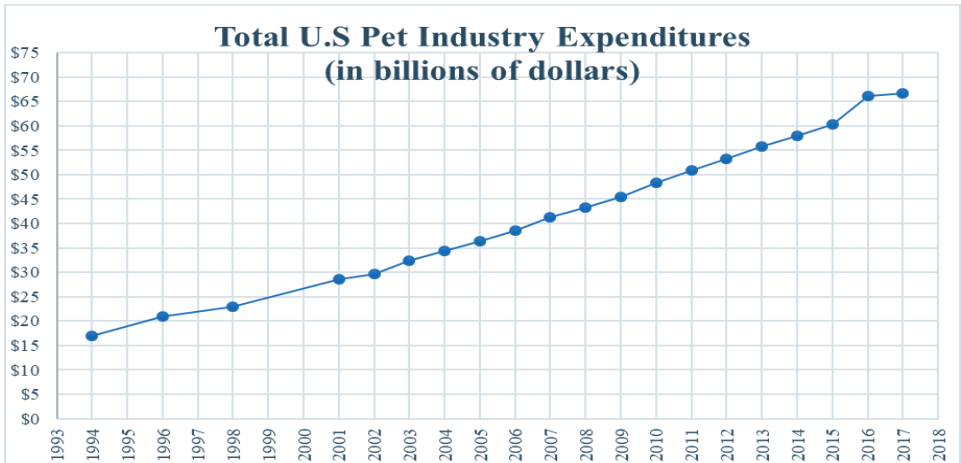
Figure 1:



Source: American Pet Products Association (2017).

Figure 2:

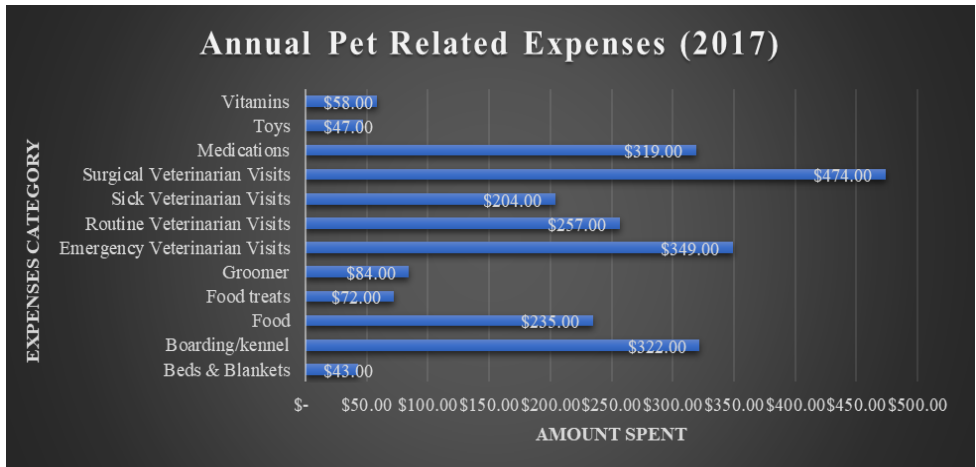




Source: American Pet Products Association (2017).

In regards to pet-related expenses, dog owners report spending the most on surgical veterinarian visits, emergency vet visits with boarding or kenneling, and medications (American Pet Products Association, 2017). A graphical depiction of the categories in which dog owners have the largest expenses is provided in Figure 3.

Figure 3:



Source: American Pet Products Association (2017).

From the categories in which dog owners report spending the largest sum of money, the American Pet Products Association (2017) classified the total sales in each of these major categories. The categories are broken down into food (treats and food), supplies (toys, beds, and blankets), veterinarian care (medications and all veterinarian visits), and pet services (grooming and boarding). A graph of the above-mentioned sales is shown in Figure 4.

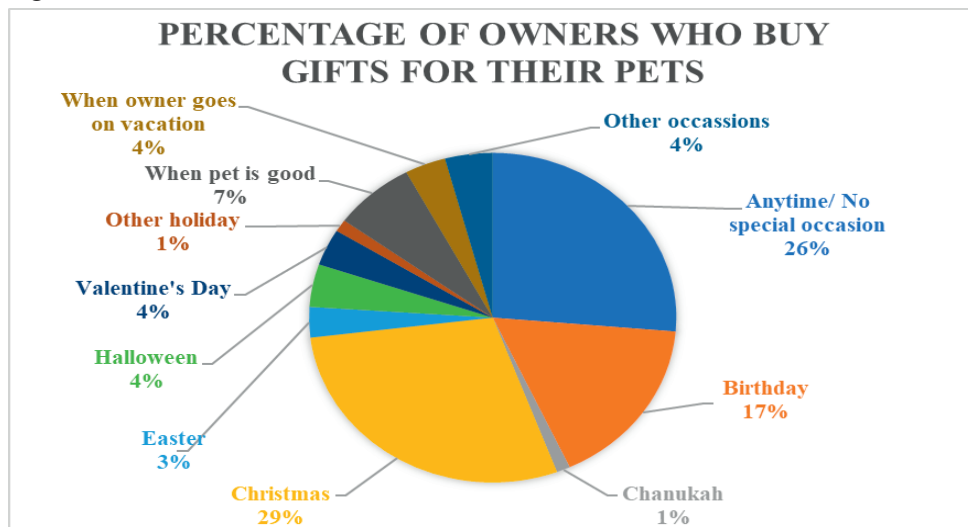
Figure 4:



Source: American Pet Products Association (2017).

Despite the various pets that are owned, all pet owners, surveyed by the American Pet Products Association, state that their pet provides them companionship, love, company, and affection (American Pet Products Association, 2017). In addition, a majority of pet owners state that their pets are a fun asset to their home, can help them relieve stress, and are considered to be a member of the family (American Pet Products Association, 2017). As a member of the family, dogs tend to receive the most gifts on birthdays and Christmas, besides receiving a gift for no special occasion (American Pet Products Association, 2017). The results on the percentage of pet owners who purchase gifts for their pets is depicted in Figure 5.

Figure 5:



Source: American Pet Products Association (2017).

On average, a dog owner will purchase five gifts a year at a cost of approximately \$14 apiece (American Pet Products Association, 2017). In addition, 11% of dog owners report that they will throw their pet a birthday or holiday party (American Pet Products Association, 2017). On the contrary, dogs are less likely to receive gifts on Chanukah, Easter, Halloween, and Valentine's Day (American Pet Products Association, 2017).

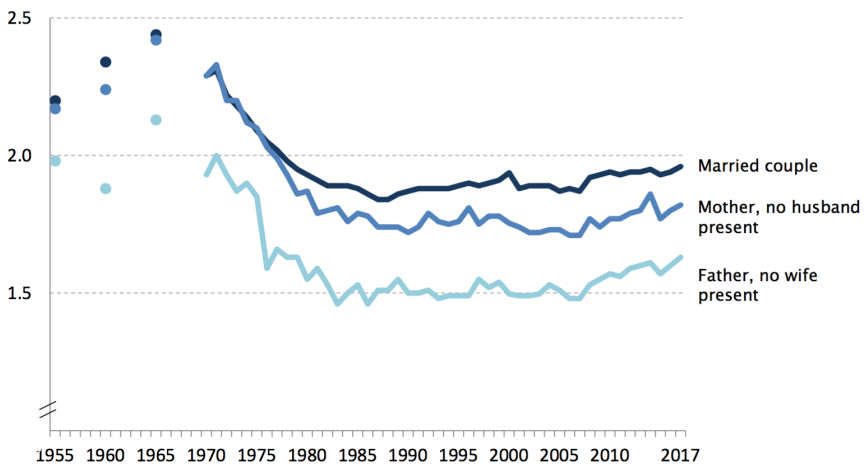
The American Pet Products Association (2012) identified millennials as the leaders in taking the pet industry to the next level. Millennials reported that they take their pets to the veterinarian more often, provide their pets with flavored vitamins and medications, pay for pet services such as daycare and boarding, take their dogs with them on errands, buy their dogs gifts for special occasions and birthdays, own designer items for their pets, and feed their dogs healthy, organic, and grain free food as they would themselves (American Pet Products Association, 2017). The influx of millennial dog owners (38%) compared to baby boomers (32%) leads researchers to uncover how the consumer behavior of pet owners continues to evolve.

Various researchers have stated that many millennials are delaying having children. Instead, some millennials are opting to get a dog to fill the parental void or prepare for a child while still having the capability to act as a maternal or paternal figure (Plenda, 2016; Ellson, 2008; Boya et al., 2012). In comparison, empty nesters, who no

longer have their children living at home, are getting dogs as a replacement for their grown children (Boya et al., 2012). A comparison of the average number of children per family and the change in household size since the 1940s to the number of dogs per household will assist in the analysis of the consumer behavior of dog owners. Two graphs from the U.S Census Bureau, Figures 6 and 7, show the change in the number of children per family and changes in household size negatively (U.S Census Bureau, 2018).

Figure 6:

**Average number of own children per family  
(for families with children under 18)**

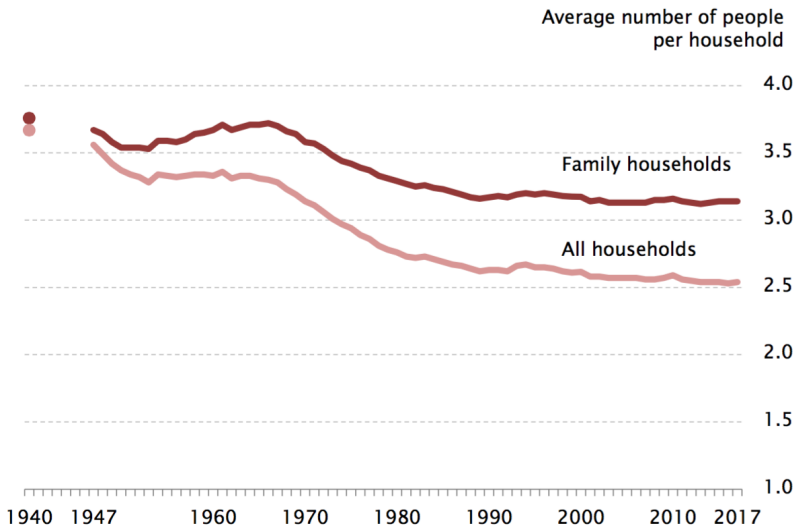


Source: U.S Census Bureau (2017).

When the decrease in family households (Figure 7) and the number of children per household (Figure 6) is compared to the increase in pet ownership (Figure 1) it can be concluded that the decline in the number of children per household has been followed by an increase in the number of pets per household.

Figure 7:

## Changes in household size



Source: U.S Census Bureau (2017).

## II. Methods

### Participants

Participants in this study included 100 dog owners located in New York, New Jersey, and Pennsylvania. There were 81 females and 19 males ranging from 19 years old to over 65 years old. All participants in this study were voluntarily asked to fill out a 10-question survey for the purpose of analyzing the consumer behavior of dog owners (questionnaire can be found in the appendix).

### Materials

Fifty surveys were distributed to dog owners while at a dog park in New York and Pennsylvania. The beginning of the survey explained the purpose of the research. The researcher asked dog owners if they would be willing to fill out a quick 10-question survey to analyze the consumer behavior of dog owners. The remaining fifty surveys were distributed online, through Google Forms, to those in New York, New Jersey, and Pennsylvania who have a dog.

The survey identified dog owners based on the demographics of age and gender. The survey asked an open-ended question to determine how many adults, children, and

dogs live in the participant's house. The remainder of the survey asked multiple choice and checkbox questions to uncover how participants view and interact with their dog. The multiple-choice questions asked participants how much they spend on their dog annually, if their pet influences their personal purchase and/or lifestyle decisions, and how often they take their pet to the vet. The checkbox questions asked participants if they have ever celebrated their dog's birthday, included them in a family card, purchased them clothing or accessories, chosen a place for its dog friendly nature (ex: outdoor seating restaurant, parks with pet accommodations), taken them to daycare, taken them to a groomer, outlined in their will what will happen to their dog, left the TV on for their entertainment when left alone in the house, or gave them healthy food (grain free, human grade, gluten-free, etc.). Additional checkbox questions asked what the participants motivation is for engaging in the activities previously mentioned, and how often they engage in the activities of talking to their pet, purchasing non-essential items for their pet (ex: toys, treats, gifts, etc.), calling themselves their pets' mom, dad, sibling, etc., and attributing human characteristics to their pet (ex: thinking their dog is smiling because he/she is showing their teeth). The frequency in which dog owners engaged in the activities previously mentioned was identified as daily, weekly, monthly, few times a year, or never. A copy of the survey can be seen in the Appendix.

#### Procedure

Testing occurred both in person and online. It took on average, 3 minutes to complete the survey. Participants were individually approached, in person and online, and asked if they were willing to fill out a short 10-question survey which will be used for an analyzation on the consumer behavior of dog owners. For the in-person surveys, the researcher was present and available to answer any questions that might have arisen. Surveys that were answered at the dog park took place over two, four-hour days. One day was at a dog park in Allentown, Pennsylvania while the other was at a dog park in Staten Island, New York. The online surveys were distributed throughout a week to various dog owners in New York, New Jersey, and Pennsylvania. Each participant that was approached willingly and enthusiastically filled out the survey.

### III. Survey

The survey sample size of 100 is an adequate representation of the general view of dog ownership that correlates to the purpose of this study. The fifty dog owners that were surveyed at dog parks demonstrate that they are owners who are willing to take their dog's out for play dates and exercise. It can be assumed that these owners care for their

dog as if they are a child because of their active effort and involvement in taking their dog out to play.

Each survey question was asked for the purpose of understanding the underlying behavior of dog owners based on how they view their relationship with their pet and how they consume for their pet. The question asking “do you consider your pet to be your child” required a direct yes or no answer. Based on the participant’s age and answer to this question an analysis on which generations view their pets as children will be examined. In addition, the check mark questions which focused on what activities dog owners have participated in for their pet provides insight into how the dog owner views their relationship with their dog. Activities such as celebrating their birthday, including them in a family holiday card, and purchasing them clothing or accessories, etc. are activities that are frequently done by parents with their children. If a dog owner participates in these same activities, it suggests that they view and treat their dog as a child. Correspondingly, the check mark question which asks participants to rank how often they participate in the activities of talking to their pet, purchasing non-essential items for their pet, calling themselves their pets mom, dad, siblings, etc., and attributing human characteristics to their pet provides further insight into how the humanization of dogs leads to treating them as members of the family. Participants who ranked these activities as daily, weekly, or monthly are more likely to purchase products and services that serve their dog as if they are children that need to be looked after and cared for.

The question of “how much do you spend on your dog annually?” will be used in connection to whether a participant views their dog as a child or not. If a participant views their dog as a child it can be inferred that they will spend close to \$1,000+ on their pet annually. The same can hold true to the question of “how often do you take your pet to the vet?”. The more likely a dog owner is to view their pet as a child, the more likely they are to take their pet to the veterinarian more than once a year. Finally, by asking whether dog owners consider their pet to influence their personal purchase and/or lifestyle decisions provides insight into how owners view their relationship with their dog and how they consume for and with them.

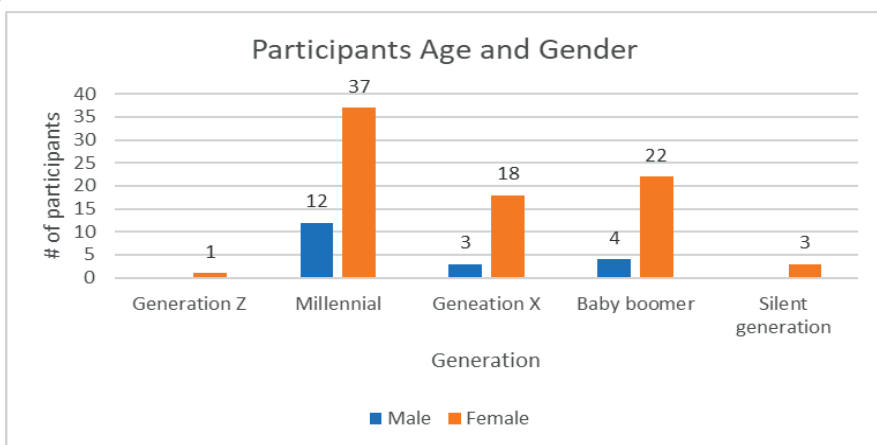
#### **IV. Results**

The last two decades have clearly shown an increasing trend of dog owners spending more than ever on their pets (American Pet Products Association, 2017). Researchers question, in what categories are dog owners spending more on their pets and what is their reasoning behind it? The results from this questionnaire strive to uncover

the reasoning behind why dog owners have increased their spending and if it can be related to the perception of a dog as a child.

The 100 participants of this survey are broken down to 81 females and 19 males. This makes the male to female ratio disproportionate. The largest age group surveyed were millennials aged 20-36 (49%) followed by baby boomers (26%) and Generation X (21%). The age groups that were least represented were those younger than 19 years old in Generation Z (1%) and those older than 65 in the silent generation (3%). The distribution of participants based on age and gender can be seen in Figure 8.

Figure 8:



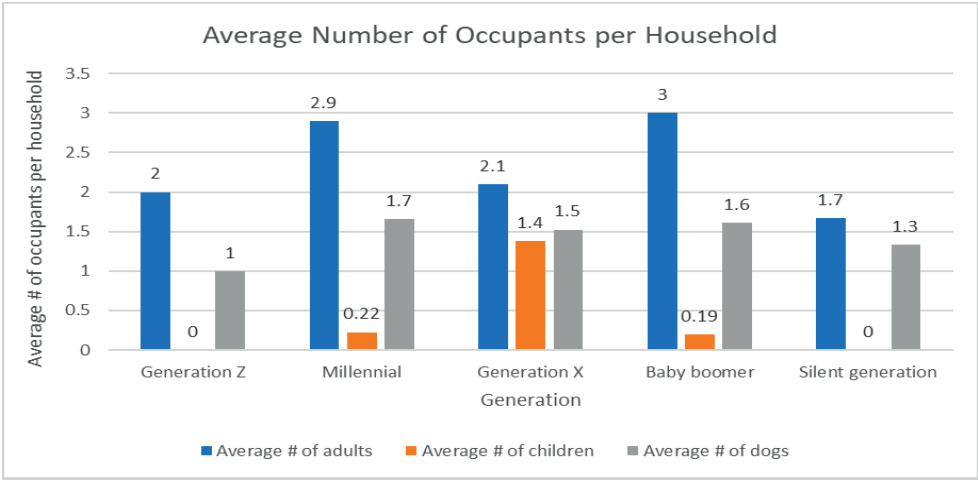
Source: Humphries (2018).

One of the most crucial questions that participants were asked was if they considered their pet to be a child. As predicted, a large percentage of participants answered yes to considering their dog to be a child (86%) while only 14% denied this statement. Based on gender, 90% of females consider their dog to be a child compared to the 68% of men who said they view their dog as their child. When this data is broken down to analyze the percentage of participants in each age group who view their dog as their child, baby boomers agreed to this statement the most (92%), followed by Generation X (90%), millennials (84%), and the silent generation (33%) (it should be noted that Generation Z was not considered in this analysis because of the false representation of only having one survey participant from this generation). If an owner views their dog as a child it is then critical to analyze whether they have any children living in their household.



Understanding the household occupancy of each participant supports the understanding of why an owner might view their dog as a child. The survey population concluded that there was an average of 1.6 dogs, 2.71 adults, and 0.45 children per household. Clearly, the dog owners that were surveyed had, on average, more dogs than children living in their house. However, based on age, only Generation X came close to having an equal proportion of children to dogs (1.4:1.5). On the other hand, millennials and baby boomers had less than one child and more than one dog per household. A graphical interpretation of these results is pictured below.

Figure 9:



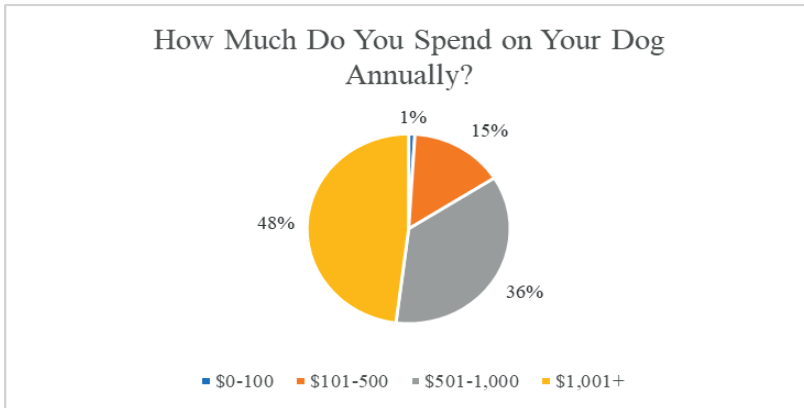
Source: Humphries (2018).

It is predicted that the annual expenditure allocated for a dog can be related to how an owner views their relationship with their pet. For this purpose, the question of “how much do you spend on your dog annually” was asked with the choices of \$0-\$100, \$101-\$500, \$501-\$1,000, and \$1,001+. Almost half of the participants responded with spending over \$1,001 on their dog annually (48%). While only 16% reported spending less than \$500 on their dog annually. The results from all participants are shown in Figure 10.

When these results are broken down by generation, baby boomers and Generation X reported spending the most on their dogs, 54% of baby boomers and 52% of Generation X spend over \$1,001 on their dog annually. Less than 50% of millennials stated that they spend over \$1,001 on their dog annually (47%). Both Generation Z and

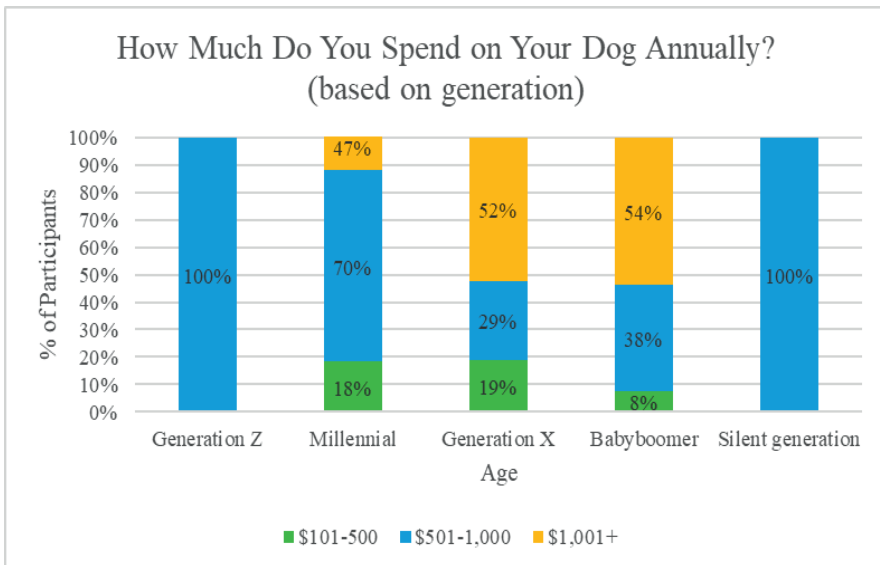
the silent generation said that they spend between \$501-\$1,000 on their dog annually. There were zero participants who reported spending less than \$100 on their dog annually. The annual expenditure per generation is pictured in Figure 11.

Figure 10:



Source: Humphries (2018).

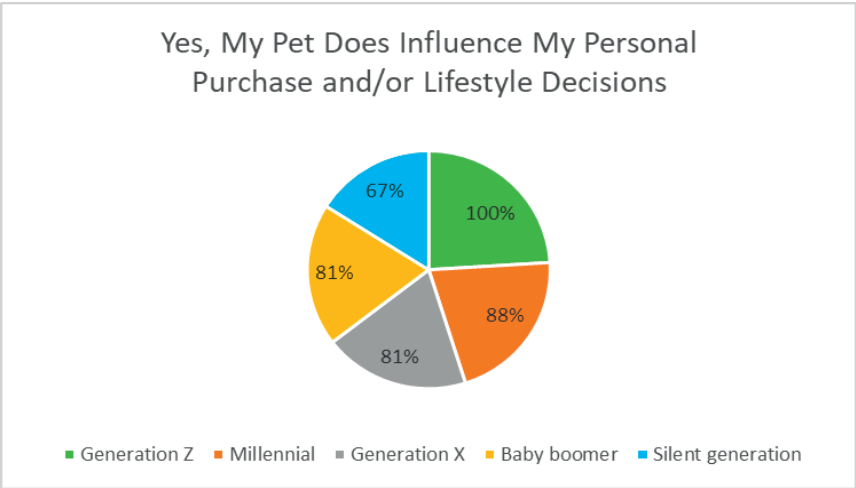
Figure 11:



Source: Humphries (2018).

When participants were asked if their pet influences their personal purchase and/or lifestyle decisions 84% said yes, while 16% said no. Over 80% of participants who stated that their pet influences their personal purchase and/or lifestyle decisions were baby boomers, Generation X, millennials, and Generation Z. Of those in the silent generation, 67% answered yes while 33% said no. As a general consensus, most participants reported that their pet does, in fact, influence their personal purchase and/or lifestyle decisions which can be related to their pets' heavy involvement as a family member. The data explained above is graphically depicted in Figure 12.

Figure 12:



Source: Humphries (2018).

Taking your dog to the veterinarian is an activity that is done by most dog owners. The participants of this survey were asked the frequency of their dog's veterinarian visits for the purpose of understanding if taking a dog to the veterinarian more often is related to how they are viewed within the family dynamic. A majority of participants (40%) revealed that they only take their dog to the veterinarian once a year. Generation X reported the highest frequency of taking their dog to the veterinarian more than two times a year (38%) compared to 35% of both baby boomers and millennials. Table 1 depicts the greatest frequency of veterinarian visits per generation in yellow.

The second to last question of the survey asked participants if they engage in a series of activities with their dog. Of the nine activities that were questioned, over 80%

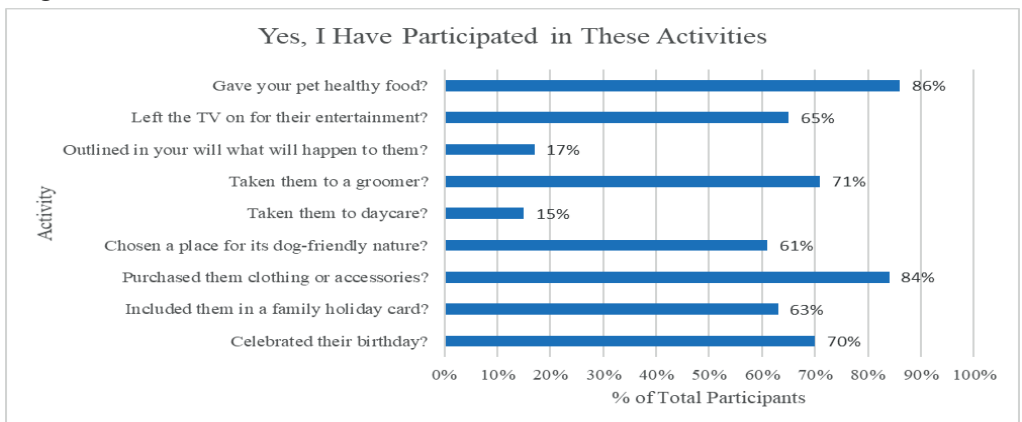
of participants said that they have purchased clothing or accessories for their dog and have given them healthy food. On the contrary, only 15% of participants said that they have taken their dog to daycare and 17% of participants stated that they have outlined in their will what will happen to them. As depicted in Figure 13, over 50% of participants said that they have taken their dog to a groomer (71%), celebrated their dog’s birthday (70%), left the TV on for their entertainment when left alone at home (65%), included them in a family holiday card (63%), and chosen a place for is dog-friendly nature (61%).

Table 1: How Often Do You Take Your Dog to The Veterinarian?

Generation	Annually	Semi-annually	More than 2x a year
Generation Z	100%	0%	0%
Millennial	41%	24%	35%
Generation X	33%	29%	38%
Baby boomer	38%	27%	35%
Silent generation	67%	0%	33%

Source: Humphries (2018).

Figure 13:



Source: Humphries (2018).

When the results to these questions are analyzed based on age, millennials had the largest yes response rate to almost all questions. The only categories which millennials did not have the largest yes response rate to were for leaving the TV on for their entertainment and outlining what will happen to them in their will. Baby boomers were more likely to leave the TV on for their dog’s entertainment and the silent generation was more likely to have outlined in their will what will happen to their dog. The results for those who responded yes to these activities is depicted in Table 2, in which yellow highlights the generation with the largest yes response rate.

*Table 2: Yes, I Have Participated in the Following Activities (based on age)*

	Generation Z	Millennials	Generation X	Baby boomers	Silent generation
Celebrated their birthday?	100%	73%	71%	65%	33%
Included them in a family holiday card?	100%	65%	2%	62%	33%
Purchased them clothing or accessories?	100%	88%	76%	88%	33%
Chosen a place for its dog-friendly nature?	100%	69%	57%	50%	33%
Taken them to daycare?	0%	22%	5%	12%	0%
Taken them to a groomer?	100%	76%	57%	73%	67%
Outlined in your will what will happen to them?	0%	20%	14%	12%	33%
Left the TV on for their entertainment?	100%	7%	57%	73%	0%
Gave your pet healthy food?	100%	92%	86%	77%	67%

Source: Humphries (2018).

The generation which answered no to a majority of these questions was the silent generation. When asked if they have taken their dog to the groomer or outlined what will happen to them in their will, the silent generation did not surpass the other generations with the largest no response. Generation X responded the most to not taking

their dog to the groomer (43%) while 100% of Generation Z responded to not outlining what will happen to their dog in their will. The results for the percentage of participants who answered no to these questions is given in Table 3. Yellow highlights the generation with the largest no response rate.

When participants were asked what their motivation was for participating in the above-mentioned activities, 88% said that they get joy out of providing for their pet. Feeling guilty for leaving their dog alone all day was the motivation for 6% of participants. Another 6% of participants stated that their motivation was due to keeping up with what other pet owners are doing.

*Table 3: I Have Not Participated in the Following Activities*

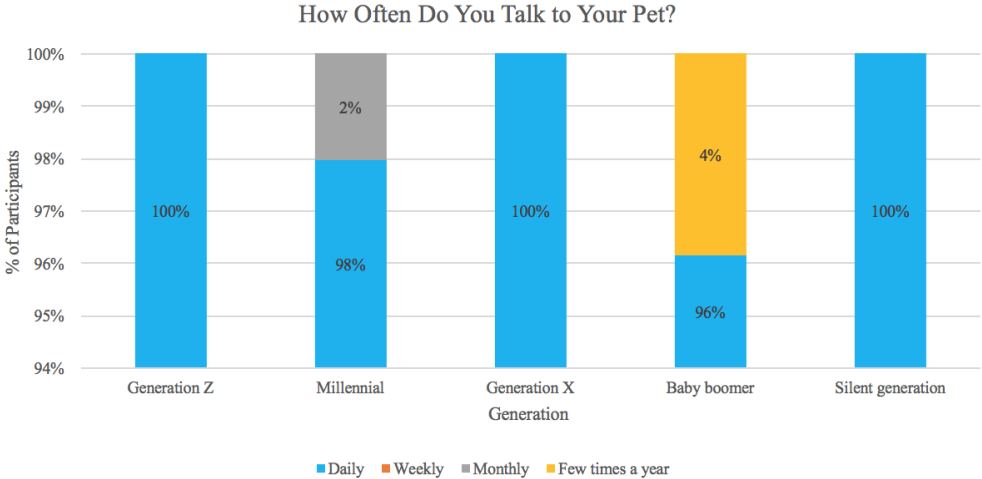
	Generation Z	Millennials	Generation X	Baby boomers	Silent generation
Celebrated their birthday?	0%	27%	29%	35%	67%
Included them in a family holiday card?	0%	35%	38%	38%	67%
Purchased them clothing or accessories?	0%	12%	24%	12%	67%
Chosen a place for its dog-friendly nature?	0%	31%	43%	50%	67%
Taken them to daycare?	100%	78%	95%	88%	100%
Taken them to a groomer?	0%	24%	43%	27%	33%
Outlined in your will what will happen to them?	100%	80%	86%	88%	67%
Left the TV on for their entertainment?	0%	33%	43%	27%	100%
Gave your pet healthy food?	0%	8%	14%	23%	33%

Source: Humphries (2018).

The last question participants were asked was to rank the frequency of how often they talk to their pet, purchase them non-essential items, call themselves their pets’ mom, dad, etc., and attribute human characteristics to them. Participants ranked the frequency as daily, weekly, monthly, a few times a year, or never. As shown in Figure 14, when asked how often they talk to their pet almost 100% of participants said daily.

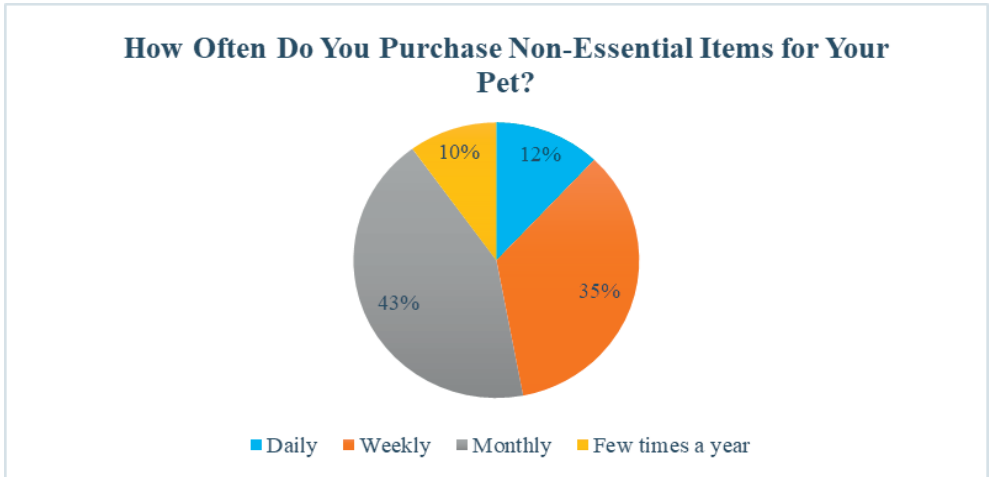
Most participants reported purchasing non-essential items for their pet monthly (43%). However, 48% of Generation X state that they purchase non-essential items for their pet daily as compared to the 33% of millennials who have this same behavior. A small percentage of participants’ report purchasing non-essential items for their pet only a few times a year or daily.

Figure 14:



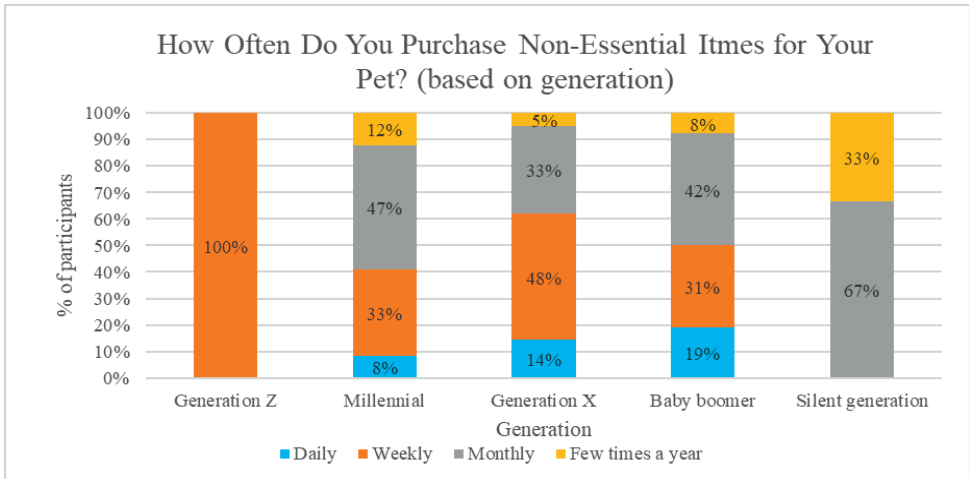
Source: Humphries (2018).

Figure 15:



Source: Humphries (2018).

Figure 16:



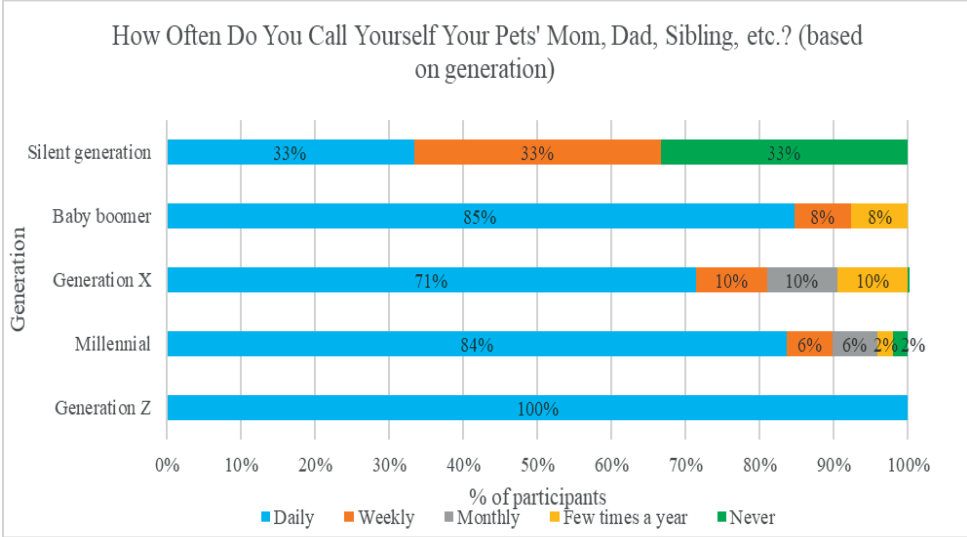
Source: Humphries (2018).

The question of how often do you call yourself your pets’ mom, dad, sibling, etc., resulted in an 80% engagement. The answers to this question were analyzed based



on generation and found that a large majority of participants take part in this activity daily, besides those in the silent generation.

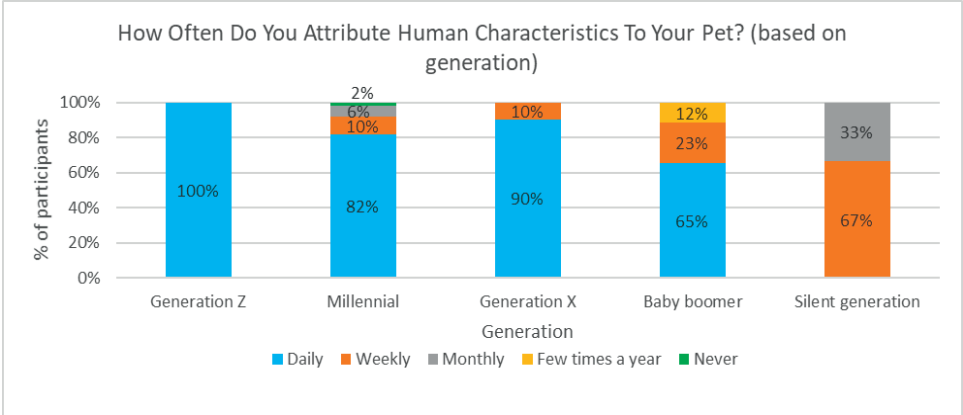
Figure 17:



Source: Humphries (2018).

When asked how often participants attribute human characteristics to their pet, a large majority of each generation said daily, as seen in the chart below.

Figure 18:



Source: Humphries (2018).

The information gathered from this survey is useful in providing an explanation for the growth of the pet industry. Analyzed in conjunction with the data from the literature, these results will offer an understanding of the consumer behavior of dog owners.

## **V. Discussion**

The recent growth of the pet industry is said to be caused by the increased humanization of pets (American Pet Products Association, 2017). The literature states that the extent to which a dog is incorporated into the family dynamic impacts how owners consume for their pet (Kylkilahti et al., 2016). The American Pet Products Association (2017) found that the millennial generation owned the most dogs as compared to baby boomers and Generation X. Based on this finding, as well as the humanization of pets, millennials and baby boomers should be more likely to treat their dog as a child and consume for them in a similar manner. This conclusion would help to explain the consistent expenditure increase in the pet industry.

The results of this study show that millennials and baby boomers have a greater number of dogs living in their house than children. Both millennials and baby boomers have less than one child and more than one dog living with them. Additionally, millennials reported participating in the greatest number of activities for their dog. Such activities included celebrating their dog's birthday, taking them to a groomer, buying them clothes or accessories, including them in a family holiday card, and giving them healthy food. Baby boomers reported purchasing non-essential items for their dogs such as treats, toys, and gifts daily, as well as having the largest annual expenditure for their dog. In addition, millennials and baby boomers stated that they call themselves their dog's mom or dad daily, 14% more frequently than Generation X.

On the contrary, Generation X lives with almost the same number of children and dogs. Generation X reported taking their dog to the veterinarian more than two times a year, more frequently than both millennials and baby boomers. Additionally, Generation X reported the largest number of participants stating that they attribute human characteristics to their dog and talk to them daily, 8% more than millennials and 25% more than baby boomers. When asked how often they purchase non-essential items for their dog, a large majority of Generation X reported that they engage in this activity weekly. Millennials stated that they mostly engage in this activity monthly. Lastly,

Generation X participants reported spending over \$1,001 on their dog annually, 5% more than millennials.

These findings are concurrent with the theory that baby boomers are more likely to treat their dog as a child and consume for them in a similar manner. However, these findings do not support the theory that millennials are more likely to treat their dog as a child and consume for them in a similar manner. Instead, the results state that baby boomers and Generation X are more likely than millennials to treat and consume for their dog as if they are a child. This may be due to the fact that baby boomers and Generation X are more likely to have already cared for a child, unlike most millennials, and have an inclination to care for their dog in a similar way.

Research states that the millennial generation leads when celebrating their dog's birthday and buying them gifts (American Pet Products Association, 2017). The survey conducted for this study reinforces how the celebration of dog birthday's is done more frequently by millennials, while the buying of gifts was seen to be done more frequently by Generation X. Additionally, as a general consensus, the purchasing of non-essential items such as toys, treats, and gifts were done on a monthly basis which is concurrent with the fact that Hill et al. (2008) stated that gift giving and gift receiving are activities that dogs are frequently involved in.

The literature also states that the humanization of dogs has led owners to treat them as a child (Boya et al., 2012). The results from Dotson et al.'s (2008) survey concluded that there is a consistent trend of delayed childbirth and an increase in empty nesters having more dogs. Correspondingly, the results from this survey reinforce that millennials and baby boomers do, in fact, have more dogs than children living in their house. This can be due to millennials delaying having children and baby boomers becoming empty nesters. This lifestyle change may result in their desire to maternally or paternally care for a dog as they would a child. However, Generation X was seen to take their dog to the veterinarian more frequently, talk to them daily, and purchase them non-essential items more so than any other generation. These findings suggest that consumers are bonding with their dogs in the same way they bond with their children (Boya et al., 2012). The fact that a dog has an equivalent intelligence level to a two-year-old can be an explanation for why owners with children, especially in Generation X, treat their dogs similarly by checking on their health, talking to them, and buying them products more frequently (Boya et al., 2012).

Due to the fact that dogs are viewed as possessing childlike characteristics, an owner tends to emphasize their maternal and paternal instincts (Hill et al., 2008). Owners

call themselves their dog's mom, dad, sibling, etc. almost daily which helps to expose their parental instincts (Hill et al., 2008; Boya et al., 2012). It has been found that 90% of dog owners who were surveyed talk to their pet daily. The literature states that dog owners who talk to their pet do so by utilizing baby talk, which once again relates to treating a dog like a child and exposing an owner's parental instincts (Hyatt, 2008). When comparing paternal instincts, women may be more likely to treat their pet as their child due to their innate and strong maternal instincts. The results from this study show that 90% of all surveyed women consider their pet to be their child, as compared to the 68% of all men. Strongly attached dog owners with innate paternal instincts will, in fact, spoil their dog, include them in the family, celebrate their birthday, and seek out dog-friendly accommodations as seen in this survey and previous research.

The human-dog relationship is proven to be reciprocal (Boya et al., 2015; Ellson, 2008). In fact, an owner's relationship with their dog is due to their willingness to have a significant bond with them (Dotson et al., 2008). This means that owners are treating their dogs as if they are a child because they get joy out of providing for their pet (Dotson et al., 2008). This study supports this finding because 88% of dog owners stated that they engage in activities with and for their dog because they get joy out of providing for them. However, the research also suggests that the extent to which an owner treats and spoils their dog is related to how they want to be viewed by society (Ellson, 2008). The findings from this study suggest that this is not a strong motivation for providing for them. Only 6% of all participants stated that they provide for their dog in human-like activities because they want to keep up with what other pet owners are doing. This suggests that further research must be conducted to gain a greater understanding on this topic.

### Implications

Various limitations were addressed after the conclusion of this survey. Dog owners mostly gave feedback on the question of how much they spend on their dog annually. Participants stated that there could have been options for spending between \$1,000-\$2,000 and \$2,000+. This was stated because some dog owners felt that although they spend over \$1,000 on their dog annually, they do not view themselves as consuming for their dog in the same way as someone who spends over \$2,000 annually. This statement raised the implication that owners may not be spending as much on their dog due to their income. Those with a higher income may have the ability to spend more on

their dog as compared to those whose income may not allow them to spend more than \$500 annually. This may apply to the millennial generation as they were seen to have the largest percentage of participants spending \$501-\$1,000 on their dog annually, but yet reported participating in the human-like activities of celebrating their dog's birthday, purchasing them clothing, taking them to the groomer, or leaving the TV on for them, etc. To gain a better understanding as to why consumers consume the way they do for their dog, the next study needs to calculate spending as a percentage of income.

The survey could have asked which specific areas, such as food, veterinarian visits, gifts, grooming, etc., that dog owners have expenses. This would have provided an opportunity for a deeper analysis of where dog owners spend their money, giving insight into how their relationship with their dog affects their spending patterns. Additionally, dogs of different breeds, ages, and sizes may require a larger annual expenditure. Older dogs and puppies generally have more expenses than middle-aged dogs (Ellson, 2008). Some breeds are naturally more high maintenance and require more expenses, such as a cocker spaniel compared to a German shepherd (Ellson, 2008). If the survey asked owners to specify their dog's age, breed, and size, in addition to the areas in which they spend money on their dog, the results could have allowed for a deeper understanding of the various consumer behaviors of dog owners.

Understanding the process that an owner went through to obtain their dog can potentially give further meaning to whether they view their dog as a child or pet. It can be assumed that those who have gone through an arduous adoption process may be more inclined to treat their dog as part of the family. On the contrary, owners who bought their dog at a pet store may only view their dog as a pet. Additionally, analyzing the buying behavior of those with children compared to those with only dogs, and those with dogs and children, would have allowed for a deeper analysis of the similarities between buying for children and buying for dogs.

It may be stated that the survey conducted contains some bias. This may be stated because the survey was distributed to those who can be assumed to be strongly attached dog owners. Owners who frequent the dog park and are known to be dog owners may already have a strong desire to care for their dog and express to others how important their dog is to them. Additionally, if there was an even number of participants for each generation the analysis conducted might have been more accurate. Currently, Generation Z is not a sufficient sample group because there was only one participant. Similarly, the silent generation only had three participants as compared to almost half of the participants being millennials. Despite the changes that could have been made, the

survey provided valuable information that is beneficial in a thorough analysis of the consumer behavior of dog owners.

### Assisting Marketers in The Pet Industry

Based on the research in the literature and the results from this study, it is important for marketers to understand the unique relationship that exists between owners and their dogs (Boya et al., 2012; Ellson, 2008; Dotson et al., 2008). By understanding the dynamics of this unique relationship, marketers have the potential to target their customers more strategically, build relationships, and develop brand equity.

The largest specialty food manufacturer in the United States, Blue Buffalo continues to be successful in creating marketing campaigns that emphasize the deep attachment Americans feel for their dogs (Boya et al., 2012). Blue Buffalo continuously runs campaigns that promote their mission of “when you love them like family, you treat them like family” (Boya et al., 2012, p. 134). By striking an emotional chord with pet owners who think of their dog in human terms, Blue Buffalo is among the successful pet corporations that have a proven record of building customer relationships and developing brand equity. The use of pervasive advertising has allowed Blue Buffalo to set themselves apart from the competition and attract the most loyal millennial and Generation X customers. (Boya et al., 2012).

Blue Buffalo has shown that developing a personality is vital in marketing pet-related products. Blue Buffalo is known for its commercials which show a dog happily running through a field of grass towards their owner for a hug in glowing sunlight (Boya et al., 2012). The utilization of attributing happy human characteristics to dogs allows Blue Buffalo to make people yearn to be part of something bigger than themselves (Boya et al., 2012). Another large pet corporation, Petco, introduced a canine CEO named Buster in 2012. By utilizing an anthropomorphic theme which showed Buster’s perspective on various products, the campaign communicated to dog owners that the “healthy dogs” go to Petco (Boya et al., 2012). Through this campaign, Petco illuminated the self-fulfillment that dogs bring to people and the internal focus that causes people to seek out products to satisfy their dogs. The campaigns by Blue Buffalo and Petco prove that marketers need to alter their marketing strategies to meet the emotional, social, and psychological needs of dog owners (Boya et al., 2012; Lancendorfer et al., 2008).

By meeting the emotional, social, and psychological needs of dog owners, marketers have come to identify that psychographic and lifestyle segmentation is more beneficial than demographic segmentation (Boya et al., 2012). Traditional demographic

segmentation, based on race, religion, ethnicity, etc., is no longer working in the dog-related market because of the modern and heightened involvement between a dog owner and their pet (Boya et al., 2012). Alternatively, by acknowledging the differences between dog owners based on how strong their relational attachment is with their dog, marketers can target their advertising campaigns towards their desired psychographic and lifestyle segments. In addition, it has been stated that marketing strategies should focus on persuading the moderately attached dog owner into becoming a strongly attached dog owner. This can be done by utilizing social influence and highlighting the benefits of a heightened human-dog relationship (Boya et al., 2012). Examples of the benefits of a heightened human-dog relationship include caring for your dog as a child, spending more time with them, seeing them become happier due to receiving new toys and treats, and emphasizing the advantages of companionship, love, and affection.

By meeting the emotional needs of customers, corporations can develop a sense of brand equity which can be highly beneficial for the creation of a lifetime customer and growing sales for the company. Dog owners are not going to give their dog a treat or toy they are not familiar with, they want to have trust in the product (Plenda, 2016). Marketers must align with their customer's lifestyle choices in order to succeed in the ever-growing pet industry.

Additionally, the emphasis on the humanization of dogs and the continuous growth in the pet industry allows small businesses that provide pet toys, food, boarding and grooming, training, and health care for pampered pets a greater opportunity in the market (Plenda, 2016). Dotson et al. (2008) address the fact that marketers once discovered that if they did not make allowances for children, families went out and spent less. The same can hold true for dog-owning households today. The development of creative accommodations and a wider variety of activities has been proven to assist in the development of a more highly attached dog owner who is treating their dog as a child (Boya et al., 2012; Dotson et al., 2008; Ellson, 2008). In addition, by focusing their efforts on the generations which spend the most on their dog, view their dog as a child, and participate in human-like activities with their dog, marketers have vast opportunities to emotionally connect with dog owners, develop brand equity, and make their companies successful in the growing pet industry.

## **VI. Conclusion**

There is a clear indication that the intensity of an owner's relationship with their dog is a deciding factor when determining how they consume for their pet. Those who are highly involved with their dog, and view them as a child, are more likely to make extravagant and more frequent purchases. The recent view of a dog as a child, or substituting a dog with a child, as seen by millennials and baby boomers, are responsible factors for the continuous growth of the pet industry. The acquisition of more dogs and the growing evolution of the intimate human-dog relationship will help the pet industry continue to grow by allowing for the introduction of more products and services. With the growth of the industry, marketers need to adjust their marketing strategies to reflect the needs and desires of dog owners by segmenting them based on psychographic and lifestyle behaviors.

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### Appendix A: Survey Utilized in the Study

The purpose of this 10-question survey is to analyze how dog owners view their relationships with their pets. The results from this survey will be used in relation to the researcher's senior year honors thesis.

1. What is your age?
  - Younger than 19
  - 20-36
  - 37-48
  - 49-64
  - 65+
  
2. What is your gender?
  - Male
  - Female
  
3. How many people and dogs live in your house?  
Adults (18+) \_\_\_\_\_  
Children (under 18) \_\_\_\_\_  
Dogs \_\_\_\_\_
  
4. Do you consider your pet to be your child?
  - Yes
  - No
  
5. How much do you spend on your dog annually?
  - \$0-100
  - \$101-\$500
  - \$501-\$1,000
  - \$1,001+
  
6. Would you say your pet influences your personal purchase and/or lifestyle decisions?
  - Yes

- No
7. How often do you take your pet to the vet?
- Annually
  - Semi-annually
  - More than 2x a year
8. Please mark all that pertain to you and your pet
- Celebrated their birthday?
  - Included them in a family holiday card?
  - Purchased them clothing or accessories?
  - Chosen a place for its dog-friendly nature? (Ex: outdoor seating restaurant, parks with pet accommodations, etc.)
  - Taken them to daycare
  - Taken them to a groomer
  - Outlined in your will what will happen to them
  - Left the TV on for their entertainment when left alone in the house?
  - Gave your pet healthy food (grain free, human grade, gluten-free, etc.)
9. If you do participate in the activities in question #8, what is your primary motivation for doing so?
- I get joy out of providing for my pet
  - To keep up with what other pet owners are doing
  - I feel guilty leaving my pet alone during the day and want to make it up to them
  - Other \_\_\_\_\_
10. How often do you do the following activities (daily, weekly, monthly, few times a year, or never)?
- Talk to your pet \_\_\_\_\_
  - Purchase non-essential items for your pet (Ex: toys, treats, gifts, etc.) \_\_\_\_\_
  - Call yourself your pets' mom, dad, sibling, etc. \_\_\_\_\_
  - Attribute human characteristics to your pet (Ex: thinking your dog is smiling because he/she is showing their teeth, thinking your dog felt guilty when they did something bad because of their facial expression, etc.) \_\_\_\_\_



# **Section III: The Social Sciences**



## **Improving Resources for Survivors of Sexual Assault on Staten Island**

Kathleen Leavey (Nursing) and Angela Zagami (Nursing)<sup>1</sup>

The Center for Disease Control states that sexual violence is a significant problem in the United States, and defines it as, “A sexual act committed against someone without that person’s freely given consent.” Survivors of sexual assault face physical, emotional, and psychological effects after the trauma inflicted upon them and include, but are not limited to: Depression; post-traumatic stress disorder; substance abuse; and increased suicide rates. As nurses and as leaders in our communities, we must ask: Are we doing enough to support survivors of sexual assault? The answer remains clear: No, we are not. Resources available for survivors of sexual assault on Staten Island remain disproportionate when compared to those available in other areas of New York City. Not all healthcare providers are specifically trained to provide care for these individuals; and, not all hospitals on Staten Island are equipped with the personnel and tools to provide quality healthcare to survivors. Nurses and healthcare providers must be educated and encouraged to pursue the role of Sexual Assault Forensic Examiners, so that all hospitals may provide thorough care to survivors. Additionally, education must be centered around the dynamics of consent so that incidents may be prevented.

### Improving Resources for Survivors of Sexual Assault on Staten Island

According to the Rape and Incest National Network (2018), a person in America is sexually assaulted every 98 seconds — and every 5 minutes, that victim is a child. Although the awareness surrounding sexual violence has risen over the years through activism and movements such as #MeToo and #TimesUp, the rate of occurrence has remained stagnant and frightening (O’Neil, Sojo, Fileborn, Scovelle, & Milner, 2018). As nurses and leaders in healthcare, and as committed members of our communities, we must ask ourselves: Are we doing enough to support survivors of sexual assault?

The answer is clear: No, we are not. In Staten Island, survivors of sexual assault lack the resources needed to cope from the trauma they have endured. More can and must be done to support survivors of sexual assault, so that these individuals are able to cope with the trauma inflicted on them. Nurses, and nursing students, must be educated on the

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<sup>1</sup> Written under the direction of Prof. Josephine Marcantonio in partial fulfillment of the Senior Program requirements.

role of the Sexual Assault Nurse Examiner (SANE) so that hospitals can provide thorough, accurate, and complete care to survivors. In turn, hospitals must strive to achieve SAFE status to optimize care for survivors in all communities. Education must be expanded on sexual health and the dynamics of consent to further enhance sexual assault awareness and prevention. Through these strategies, sexual assault survivors will receive the adequate care they need.

### Community Assessment and Analysis

Throughout the world, sexual assault has been a centralized topic of ethical debate for a number of years. In the United States, it has become one of the most prevalent topics of conversation. In addition to climbing sexual assault statistics, New York City communities have faced many challenges and changes over the past 30 years.

As one of the largest melting pots in the United States, New York City is home to people of all races, religions, genders, sexual orientations, economic statuses, and cultural backgrounds. Certain areas of New York City have experienced gentrification in recent years. Indeed, a spectrum, some areas have experienced gentrification in extreme cases – while other areas remain relatively unaffected by this process.

According to the NYU Furman Center as part of its State of New York City's Housing & Neighborhoods 2015 Report, areas are qualified as gentrifying neighborhoods if they were relatively low-income in the 1990s, but have seen a dramatic increase in median rent in the last 20 years. From this report, the areas with a Percent Change in Rent above 40% from 1990-2014 include: Williamsburg, Brooklyn (78.7% increase); Central Harlem, Manhattan (53.2% Increase); Lower East Side, Manhattan (50.3% Increase); Bushwick, Brooklyn (44.0% Increase); and East Harlem, Manhattan (40.3% Increase). Although sub-communities of every other borough in New York City are mentioned in the report as experiencing gentrification in some capacity over the past 28 years, notably missing from this report are the sub-communities of Staten Island (NYU Furman Center, 2015).

It is important to note that, according to the Furman Center Report (2015), along with gentrification in housing and median household income also includes urbanization in other forms. These include, but are not limited to: Establishment of hospitals and healthcare facilities; updates to pre-existing facilities; advancements in technology and equipment; and, improvements in public transportation accessibility and functionality. As Staten Island remains low on the gentrification spectrum, access to quality healthcare remains limited due to setbacks in transportation accessibility, and lack of health insurance coverage in low-income households. (NYU Furman Center, 2015).



As gentrification is a spectrum, the current economic environment of the community remains inconsistent. Although some areas have experienced gentrification, the Furman Report notes that this does not indicate that all members of that community meet the median household income (2015). Some individuals might rise above the financial income spectrum, while other community members indeed fall below the financial average.

Additionally, Staten Island is home to three major College Campuses: College of Staten Island, St. John's University, and Wagner College. Wagner College aims to educate the community on the dynamics of consent, as well as advertise their available resources, prior to any incidents of assault occurring. This is achieved through posting fliers in bathrooms with the "Ten Rules of Consent," as well as other prevention strategies, such as: Dynamic consent workshops with leaders from Safe Horizon; student-organized workshops involving the It's On Us campus pledge campaign; and, handing out informational pamphlets on Title IX. This has expanded the community's awareness and support surrounding sexual assault prevention; however, there is more that must be done to support survivors. (Dr. Ruta Shah-Gordon, personal communication, October 31, 2018).

While Wagner offers supportive services for survivors of sexual assault, including the right to a thorough investigation, there are currently no health care professionals employed in the school's Center for Health and Wellness who are specifically trained in completing an initial assessment on a survivor post-trauma. Additionally, there has been a significant delay in survivor reporting—on average, three to six months from the time of the incident to the time when school officials are notified. This was likely the case in the two reported instances of rape in 2017, as stated on Wagner's College's 2017 Clery Report. The delay in survivor-reporting contributes to the inadequate resources for survivors, which in turn negatively affects the ability for a survivor to effectively cope—especially in the immediate aftermath of the trauma. (Dr. Ruta Shah-Gordon, personal communication, October 31, 2018).

#### Problem in the Community

The CDC defines sexual violence as, "A sexual act committed against someone without that person's freely given consent." This includes, but is not limited to, "Completed or attempted forced penetration of a victim, or situations when there was an attempt to make the victim sexually penetrate a perpetrator without the victim's consent." According to the World Health Organization, these acts of violence may or may not be facilitated by drugs or alcohol.

Additionally, according to the World Health Organization (2002), a victim of sexual violence may also experience: Rape within marriage, forced abortion, denial of the right to use contraception, demanding sex in return for favors, or forced prostitution. As previously stated, according to the Rape and Incest National Network (2018), a person in America is sexually assaulted every 98 seconds— and every 5 minutes, that victim is a child. Of course, these statistics only include reported acts of sexual violence. Excluded from these percentages are the vast majority of cases which remain unreported to law enforcement agencies, hospitals, university and campus officials, spouses, family members, and friends of survivors.

According to the Rape and Incest National Network, sexual violence can have psychological, emotional, and physical effects on a survivor. One of the most common of these is depression; which occurs in 1 in 3 survivors (2018). In addition to coping with depression, survivors often deal with effects such as: Flashbacks; post-traumatic stress disorder; sexually transmitted infections; pregnancy; substance abuse; dissociation; eating disorders; and, sleep disorders. While these effects certainly have lasting impressions on survivors, they are often managed with thorough counseling and guidance from trained professionals.

Perhaps most importantly is that, according to the National Sexual Violence Resource Center, survivors of sexual assault have increased suicidal ideations (55% more than non-survivors). Additionally, survivors commit suicide at a rate of 13% more than others in the community; which raises the national suicide statistic from 14% in non-survivors to 27% in survivors (NSVRC, 2018). These statistics directly reflect the ineffective coping strategies survivors possess, which is largely in part due to the lack of adequate resources available post-trauma.

A report released by the Department of Justice in February 2018 stated that the NYPD investigated 122 rape claims that year, which is 39% higher than the 88 rape reports from one-year prior in February 2017. Out of the 39 rapes reported in February 2018 *alone*, 38% of them were domestic (15 cases), meaning that the rapist was a spouse or a family member. Another 56% were acquaintance rapes (22 cases), meaning that the perpetrator was someone who the survivor knew. Only the remaining 6% were stranger rapes (2 cases) (Bureau of Justice Statistics, National Crime Victimization Survey, 2014).

However, according to the National Joint Council, most cases of rape and sexual assault go largely underreported (NJC, 2014). On average, only 33.6% of rape and sexual assaults are actually reported to the police. The vast majority of occurrences in the United States, 66.4%, remain silenced. Worldwide, victims may be less inclined to report their sexual assault due to their societal norms and culture. According to the World Health

Organization, “In some societies, the cultural ‘solution’ to rape is that the woman should marry the rapist, thereby preserving the integrity of the woman and her family by legitimizing the union.” This is actually reflected in the law, and allows the perpetrator to be excused of the crime if he marries the victim.

Additionally, according to the World Health Organization, “Apart from marriage, families may put pressure on the woman not to report or pursue a case or else to concentrate on obtaining financial ‘damages’ from the rapist’s family.” Women may also be hesitant to report sexual assault, in fear of rejection from their spouse. In some countries, men reject their wives if they have been raped; or in extreme cases, they can be murdered (WHO, 2002). In some instances, sexual assault may be less explicit: for example, according to the World Health Organization (2002), free trade has caused an increase in the movement of people and goods around the world, specifically women and girls. These women are often used for labor, including sex work.

Unfortunately, sexual assault statistics have been climbing in recent years. According to an SI Live report in 2017, “Police have witnessed a 71-percent increase of alleged rapes on Staten Island so far this year, compared to the same time last year. Of the 12 incidents reported from January 1<sup>st</sup> through the middle of March, all of the female victims knew their alleged attackers” (Lawson, 2017). Lawson goes on to report, “Of the 12 rapes or attempted rapes reported so far this year, six were reported in the North Shore's 120th Precinct. Two were reported in the 121st Precinct, and two each were reported in the 122nd and 123rd precincts. Seven third-degree rapes have been reported so far this year: Three in the 120th Precinct, two in the 122nd Precinct and two in the 123rd Precinct” (Lawson, 2017). In contrast, Lawson states that, “Seven rapes had been reported at this time last year, according to NYPD statistics” (Lawson, 2017). The climbing rate of sexual assaults on Staten Island is incredibly disproportionate to the resources available to the survivors of these Staten Island communities.

The initial treatment of a survivor includes a thorough assessment, and the completion of a Sexual Assault Evidence Kit (commonly referred to as a “Rape Kit”). However, this assessment and collection of data can only be administered by specially trained healthcare professionals, such as Sexual Assault Nurse Examiners (SANE’s) and Sexual Assault Forensic Examiners (SAFE’s), at certain hospitals (RAINN, 2018).

As with other certifications and hospital-wide recognitions, such as “Magnet Status,” institutions often strive to achieve “SAFE Status,” an acronym for the recognition of a Sexual Assault Forensic Examination facility (NYC Department of Health, 2017). SAFE status is achieved through adherence to certain principles and guidelines. In New York State, hospitals must apply for recognition by delineating their

services and setting forth a commitment to continuous quality improvement. Once SAFE status has been achieved, hospitals must uphold their recognition through audits (NYS Department of Health, 2017).

According to the Rape and Incest National Network, the data collected in the preliminary assessment of a SAEK kit is necessary forensic evidence to support a criminal investigation (RAINN, 2018). According to RAINN, these examinations must be completed within 72 hours of a trauma in order to be analyzed by a crime lab – however, evidence may be preserved for longer periods of time, should a survivor decide he or she does not wish to pursue law involvement at the time of completion.

Yet, *not* completing this examination kit removes the possibility of collecting forensic evidence, which is absolutely necessary in a criminal investigation. As such, if a survivor is treated at a non-SAFE designated hospital following their trauma, the option of completing this kit is not possible. Therefore, the option of pursuing a criminal investigation supported by viable forensic evidence is thus eliminated (RAINN, 2018).

According to RAINN, the materials in a SAEK kit include: Paper bags and paper sheets, hair combs, paper envelopes, detailed instructions, materials for blood samples, swabs, and documentation forms. These examinations may take up to a few hours, and are rather invasive. Although most of the examination is comprised of a physical evaluation, there is an extensive health history intake. RAINN states that these questions include: Recent medications, pre-existing medical conditions, information pertaining to recent consensual sexual activity, as well as, “The details of what has happened to help identify all potential areas of injury, as well as places on your body or clothes where evidence may be located.” Medical care may also be targeted towards pregnancy prevention, treatment of injuries, and STI screening and treatment prophylaxis (RAINN, 2018).

In Manhattan, survivors of sexual assault have the option of being treated at several SAFE hospitals throughout the Borough, following their trauma. According to the Department of Health, these hospitals include: Bellevue Hospital; Mt. Sinai Beth Israel; Lenox Hill Greenwich Village; Mt. Sinai Hospital; Mt. Sinai St. Luke’s; Mt. Sinai West; Harlem Hospital Center; Metropolitan Hospital Center; Columbia University Medical Center; and, Weill Cornell Medical Center.

Yet, the only SAFE designated hospital equipped to treat survivors on Staten Island is Richmond University Medical Center, which is located on Staten Island’s North Shore. According to Richard Ortiz, the Forensic Director of the RUMC Emergency Department and a SANE himself, 15 nurses in the Emergency Department are certified SANEs. Additionally, at least one SANE is scheduled to work per 12-hour shift (Richard

Ortiz, RN-SAFE, personal communication, November 12, 2018). Yet, the lack of accessible healthcare for survivors in all Staten Island communities remains inconsistent as Staten Island University Hospital North (located in Midland Beach, Staten Island) as well as Staten Island University Hospital South (located on the Island's South shore) are not SAFE designated institutions. This impacts survivors, especially in lower income households, as the accessibility to quality healthcare remains limited (NYC Department of Health, 2017). The inconsistent resources available for survivors on Staten Island minimizes the care these survivors are entitled to receive, thus impinging on their ability to cope following their trauma (NYC Department of Health, 2017).

In recent years, sexual assault survivors have been given a platform to advocate for their rights, and to put an end to violent sexual crimes through movements such as #MeToo and #TimesUp (O'Neil et al., 2018). Survivors of sexual assault from all across the globe have come forward with accounts of trauma, both past and present. The world watched as survivors of all walks of life shared their most vulnerable accounts, in an effort to make a difference. However, there are skeptics who discount the validity of the #MeToo movement and the stories of those who have come forward (O'Neil et al., 2018).

According to research conducted by Courtney E. Ahrens, rape survivors who speak out about their assault experiences are often punished for doing so when they are subjected to negative reactions from support providers (Ahrens, 2006). Ahrens goes on to conclude, "Unlike other crimes such as burglary and assault, rape survivors must prove not only that the crime did in fact occur, but that they had no role in its occurrence (Ahrens 2006). When 'experts' doubt survivors, hold them responsible for the assault, or refuse to provide assistance, survivors may question both the effectiveness of such services and the usefulness of reaching out for help to anyone at all (Ahrens, 2006). As such, survivors often feel ashamed of their trauma and hold back in reporting the incident in fear of being misunderstood, disbelieved, or worse: Seemingly disproven. As leaders in healthcare and in our communities, we must do more to support survivors.

#### Proposed Solution

More can and must be done to support survivors of sexual assault, so that these individuals may cope with the trauma inflicted on them. The proposed resolution has been formed around Madeleine Leininger's Cultural Care Theory, which emphasizes individualized care on the principles of one's cultural background and upbringing, rather than solely on their medical diagnosis (Lancellotti, 2008).

This theory is important for survivors of sexual assault, as many survivors often blame themselves for the trauma inflicted on them. In certain cultures, sexual assault is an

accepted behavior. These solutions aim to not only expand the awareness of preventing sexual assault from occurring by exploring the dynamics of consent, but also to improve the resources available to survivors by making treatment accessible to all.

A specific goal for the community is for Staten Island University Hospital, North and South Campuses, to achieve SAFE recognition; and, to provide funding for their nurses to become SANE certified. Additionally, a goal for Wagner College is to employ a SANE certified provider on an on-call basis to tend to survivors in the immediate aftermath of the occurrence.

### Objectives

- To educate the community on SAFE hospital locations,
- To educate nurses and nursing students on the role of the SANE provider,
- To educate survivors on the resources available to them.

The community must be educated on the locations of their SAFE hospitals prior to any incident occurring. This primary prevention strategy seeks to inform the community members and equip them with the knowledge needed for safety planning. This education can be achieved through marketing strategies such as displaying informative posters and fliers in schools, supermarkets, and other public areas; as well as engaging in social media outreach efforts.

Additionally, nurses and nursing students must be educated on the role of the Sexual Assault Nurse Examiner (SANE) so that they may pursue this valuable career path. According to RAINN, these providers are not only specially trained to assess and treat patients after sexual assault; but also to therapeutically interview the survivor to facilitate coping and trusting relationships. According to RAINN, the responsibilities of a SANE also include: Providing immediate medical care to the survivor; treating injuries; completion of a SAEK kit; conduction of STD and pregnancy risk evaluations; assessment of the patient's emotional state to determine if additional evaluation or treatment is necessary; and, to provide referrals to legal aid and advocacy groups.

In the event that a case involves criminal investigation, SANEs are also required to testify in court. SANEs work as Registered Nurses in other areas of the hospital and complete normal shifts; however, they are required to live within 45 minutes of the facility and rotate through on-call shifts (RAINN, 2018). According to the International Association of Forensic Nurses, "To become a SANE, registered nurses must take a Sexual Assault Examiner Class comprised of 40 hours of classroom training, followed by an average of 40 hours of clinical training" (IAFN, 2014). As more Registered Nurses

and healthcare providers pursue this certification, care will be expanded for survivors of sexual assault.

Additionally, hospitals and medical facilities will achieve SAFE status through the expansion of the certifications of their personnel. As more hospitals strive to achieve SAFE status, quality healthcare for survivors in all communities will be enhanced. Further, there must be a continuity in care between members of a survivor's healthcare team to ensure that the survivor is equipped with the necessary coping skills after their trauma (RAINN, 2018).

In combating sexual assault and violent crimes from occurring, more prevention must take place. This can be achieved in many different ways, primarily through educating our communities. Nurses and other trained professionals may hold workshops on consent— not only to emphasize its importance, but to explore its dynamics. In doing this, our community members will better understand all aspects of giving and receiving permission. Additionally, bystander intervention training seminars may be held, in order to increase our community members' awareness on strategies to intervene in the case of a sexual assault or violent crime taking place. These prevention measures may be facilitated in conjunction with other community resource groups, such as Safe Horizon.

Through our research, we have confirmed that more resources must be available for survivors of sexual assault. In advocating for the safety of our citizens, we ensure that our communities, and all its members, thrive.

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# **Section IV: Critical Essays**



# **Balancing Masculinity and Humanity in the Relationship Between Macbeth and Lady Macbeth**

Lindy Pokorny (Theatre/Speech)<sup>1</sup>

Manhood is a central theme in *Macbeth*. Throughout the play, the concretization of what makes a man is constantly scrutinized. The word “man” is used incessantly, both to examine masculinity and mankind. This is most prevalent in the relationship between Macbeth and Lady Macbeth. At the beginning of the play, Macbeth is easily defined as a masculine figure— an honored war hero, there is no doubting his status as a man. However, with the introduction of the prophecy, his fear and hesitance prompt Lady Macbeth to assert her own masculinity, changing the dynamic of their relationship. She compels him to reassert his masculinity, and in doing so eventually seals her own fate as the subordinate feminine counterpart. In turn, Macbeth’s excessive masculinity ends up costing him his humanity.

Man is situated between God and beast in the Great Chain of Being (specifically, between angel and beast). He has, beyond the brute strength of the animal, the ability to reason. He does not have, however, the intuition or divine powers of the angel or God. By confusing these abilities (for instance, by assuming the power to challenge fate or converse with the dead), man can jeopardize his humanity, which is the trap that Macbeth eventually falls into. Masculinity cannot be used as a substitute for manhood; that requires a more even balance of the masculine and feminine, as well as a balance of the four humors, to ensure that the ability to reason (which defines mankind) is kept intact.

Masculinity is not inherently bad— the proper Elizabethan man is expected to display more masculinity than femininity (without tipping the scales too far). However, it is frequently defined too narrowly and transforms into a stereotype that disallows the balance that femininity can provide. “The male stereotype is associated with violence made socially and ethically acceptable through the ritual of warfare” (Asp 154). In the opening of the play, Macbeth has undisputedly achieved this— he is “noble Macbeth” (I,ii,67) to King Duncan by virtue of his glory in battle. Despite this, with the introduction of the prophecy, Macbeth is eventually compelled to fulfill the male stereotype to a disorderly degree by exhibiting violence not only on the battlefield but in

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<sup>1</sup> Written under the direction of Dr. Ann Hurley for EN 330: *Shakespeare Survey*.

his personal life, even against the very man that he won his honor by defending. Ironically enough, this transformation is encouraged and facilitated by his wife, Lady Macbeth.

Lady Macbeth is a woman, and therefore is man's subordinate by all Elizabethan accounts, and should be particularly subservient to her husband, whom God created her as a companion for. Yet Lady Macbeth is not a character many would dare to describe as "subservient." While she is not the first female character to display such traits— not even Shakespeare's first— she is a particularly clear example of an imbalance of masculinity and femininity, not entirely unlike Macbeth, but made entirely more inappropriate by the fact that she is a woman. Since we hear little of her character before her appearance, we have no true frame of reference as to the balance she possessed before the inciting action. However, we do know how she responded to the situation and to her husband's failure to act, and these are the examples we will focus on to examine her character.

Lady Macbeth is often perceived as villainous, and the driving force behind her husband's eventual ruin. Particularly in older examinations of the text, she is arguably given more blame than Macbeth himself for the events that transpire. In an article written in 1887, Munro asserted that "She knew his strength and weakness, his hopes and fears, and with a skill that is almost demoniac, and too horrible to conceive as existing in woman, the weaker vessel and ministering angel, she played upon his nature with as much ease as if she were fingering the strings of her native harp" (31). On the other hand, Macbeth is seen as a pure and innocent soul who is corrupted not by his own ambition but by his wife's evil. Munro writes that "He was a genuine Celt, to whom reputation for bravery was dearer than conscience, dearer even than life itself; and so he was goaded and lashed by the "valor" of his wife's tongue into the doing of an act from which his soul otherwise utterly recoiled" (32). He fails to address the existence of Lady Macbeth's own conscience, or the fact that by the end of the play Macbeth needs no urging from his wife and is perfectly capable of committing unspeakable crimes all by himself.

While Lady Macbeth is given total blame, she still isn't afforded acknowledgement of her ability. Even though Macbeth's decisions and actions are supposedly her responsibility, Munro hypocritically deems her "so constituted as to lack the muscular and nerve power needed for being such a great and persistent criminal as her brother man. Her intentions may be equally bad, perhaps even more subtle and diabolic, still she cannot carry them through as he can" (32). Her failure to act herself— perhaps he is thinking specifically of her refusal to kill Duncan as he slept on grounds that he looked like her father— is seen not as evidence of a conscience but rather as a

womanly weakness. However, we can assess Lady Macbeth instead as a character who willfully chose to disrupt her own internal balance and eventually came to regret it. One of the most famous passages in *Macbeth* is where Lady Macbeth declares:

Come, you spirits  
That tend on mortal thoughts, unsex me here  
And fill me from the crown to the toe topful  
Of direst cruelty! Make thick my blood,  
Stop up the access and passage to remorse,  
That no compunctious visitings of nature  
Shake my fell purpose, nor keep peace between  
Th' effect and it! Come to my woman's breasts,  
And take my milk for gall" (I,v,40-48)

She asks that she be "unsexed" to aid her in helping her husband, which she can do more readily with the masculine affinity for strength and violence at her disposal. "In a society in which femininity is divorced from strength and womanliness is equated with weakness, where the humane virtues are associated with womanliness, the strong woman finds herself hemmed in psychologically, forced to reject her own womanliness, to some extent, if she is to be true to her strength" (Asp 159).

Another early point of contention was her "demoniac" call to the spirits to alter her God-given nature as a woman in favor of a man's power. However, this was more of an internal plea than one meant to conjure devilish spirits. Elizabethans believed that melancholy was conducive to crime, aided by the presence of cholera for courage (or "gall," in Lady Macbeth's words) (Kocher 348). She asks that her blood be thickened, an effect of melancholy, in order to "stop up the access and passage to remorse" (I,v,43-44) to preemptively rid her of the torment that her conscience eventually wreaks upon her anyway.

It is clear that she is not inherently evil and struggles with the morality of her actions— if nowhere else, this is distinct in her eventual suicide. However, we see it earlier in the play as well, particularly during her sleepwalking episode, where she famously cried "Out, damned spot!" (V,i,35) She has an obvious reversal from her initial claim that a "little water clears us of this deed" (II,ii,64) to her lament that "all the perfumes of Arabia will not sweeten this little hand" (V,i,50-51). She, like Macbeth, is unable to prevent her conscience from calling into question her humanity.

Their relationship goes through a significant shift through the course of the play. It is apparent in the first act that Macbeth considers Lady Macbeth not only his wife, but his confidant and advisor. He writes to her "This have I thought good to deliver thee, my

dearest partner of greatness, that thou mightest not lose the dues of rejoicing by being ignorant of what greatness is promised thee” (I,v,10-14). He affords her here an

importance that is not given to her by any other man in the play (and that no men give to their wives). Macduff is a prime example. When Lady Macduff asks “what’s the business” (II,iii,81) he responds to her by saying “O gentle lady, ‘Tis not for you to hear what I can speak: The repetition in a woman’s ear, Would murder as it fell” (II,iii,84-86).

Conversely, Macbeth relies upon Lady Macbeth for not only advice, but physical aid in the implementation of plans which she initially makes for him. Lady Macbeth takes on a masculine form, actively participating in violence and taking up the slack when his conscience prevents him from fulfilling his manly role as she prescribes it. She taunts him by pointing out his femininity and weakness, saying things such as “From this time/ Such I account thy love” (I,vii,38-39). He responds by saying “I dare do all that may become a man,/ Who dares do more is none” (I,vii,46-47) and makes it clear the effect that her words have had on him. Less obvious is the contradiction that in order to encourage Macbeth’s masculinity, Lady Macbeth must sacrifice her own and use the more effective tool of femininity.

She uses images that actively refer to her female form, such as “I would... /Have pluck’d my nipple from his boneless gums” (I,vii,56-57). Macbeth’s response, although seemingly affirming her masculinity, ironically affirms her feminine, maternal instinct, saying “Bring forth men children only! For thy undaunted mettle should compose nothing but males” (I,vii,72-74). Asp asserts that “her dream of being partner to his greatness is doomed by the very means she has used to insure that greatness. By making him “manly” she has guaranteed that he will think of her as subordinate and unworthy of truly sharing power” (162).

In the second half of the play, it becomes apparent that Lady Macbeth is no longer her husband’s advisor or confidant. When she asks him “what’s to be done?” he responds “be ignorant of the knowledge... till thou applaud the deed” (III,ii,45-46). Effectively, he treats her exactly as Macduff did earlier with his wife, with no regard for his initial claim that she was his “partner in greatness” or the aid that she inarguably gave him. Even then, she continues to support him and encourage the masculinity that he feels the need to continually prove. When he sees the ghost of Banquo at their feast, she covers for him to the other guests, saying “Think of this, good peers, But as a thing of custom. ‘Tis no other” (III,iv,95-96) and privately challenges him by asking “Are you a man?” (III,iv,57). He replies “Aye, and a bold one, that dare look upon that which might appall

the Devil” (III,iv,58-59) which although she does not readily believe, is evidence that this is a continuous point of contention between them despite his earlier assumption that he no longer needs her as a partner. I would assert that it’s entirely possible that his dismissal of her significance is a contributing factor in her eventual suicide.

When Lady Macbeth dies, she is mourned by the cry of women. She is completely removed from the masculine world she tried to infiltrate that, in the end, succeeded in excluding her. “A victim of her “thick-coming fancies,” she, like her husband, loses touch with her humanity except within the ambiance of a dream world” (Asp 167). Macbeth, in turn, sacrifices his humanity by choosing to ignore the balance of masculinity and femininity in trying to fulfill some sort of unnatural, godlike potential. “The more Macbeth is driven to pursue what he and Lady Macbeth call manliness– the more he perverts that code into a rationale for reflexive aggression– the less humane he becomes, until at last he forfeits nearly all claims on the race itself, and his vaunted manhood, as he finally realizes, becomes meaningless” (Ramsey 286-287).

Perhaps Lady Macbeth’s simple question is the most significant in *Macbeth*: “Are you a man?” It asks us to define what exactly makes a man– is it the balance between masculinity and femininity? Is it the balance between the humors? Is it the balance in a marriage? Regardless of the right answer, it’s tragically clear that Macbeth and his wife never found it.

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## **“Her Lover, Her Husband, Her Brother, Her Father, Her Child”: Queering Ender Wiggin’s Multi-faceted Identities in Orson Scott Card’s *Speaker for the Dead***

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Ender Wiggin plays a variety of roles in Orson Scott Card’s *Speaker for the Dead*. His multifaceted identity blends into one compassionate, powerful, and knowing man, yet his relationships with others define him further as lover, husband, brother, father, mother, and child. Kelley Eskridge<sup>1</sup> writes “queer functions as a meta-descriptor for me, the word itself implying relativity, fluidity, defiance of categories . . . part of queer is the expansion and reconstruction of meaning, including the meaning of queer itself” (Griffith and Eskridge 46). With this understanding of queer not as LGBTQIA+ but as reconstructing and differing from the norm, Ender Wiggin is indeed a queer character. He experiences an array of sexual, asexual, romantic, fatherly, and fraternal loves, especially with his female counterparts, Valentine, Jane, and Novinha. Additionally, his layered identity as Ender, Andrew, and Speaker harkens to the queer experience of being in the closet, being outted or coming out, and reclaiming ownership of a vulgarized identity. While Ender is not an explicitly homosexual or queer figure, his relationships with Jane, Valentine, Novinha and her children, and the Hive Queen blur gender, familial, and sexual roles; thus, Ender is simultaneously mother, father, brother, and husband.

Beginning with his biological family, Ender’s love for his sister Valentine is asexual, but their love is a foil for a much needed romantic relationship. They rely on each other emotionally, and as they say goodbye, Valentine says she will be lonely without him to talk to. Ender replies, “Jakt is your husband, not me” (Card 79), implying that they have spoken with each other about things a husband and wife would, filling those roles for one another. Their relationship is deepened with the understanding that they are two-of-a-kind. Valentine and Ender are 3000-year-old humans with memories and roles in the histories which their modern peers misconstrue. Ender addresses his pain at losing Valentine hurrying his goodbyes, saying it is, “because it hurts me every time I see you and Jakt growing closer and you and me growing more distant, even though I know it’s exactly as it should be” (79). This also implies his own hunger for the

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<sup>1</sup> Written under the direction of Dr. Susan Bernardo for EN 323: *Aliens, Cyborgs and Time Travel in Literature and Film*.



emotional intimacy he used to share with Valentine. Thus, Valentine has stood-in as a wife for him, asexually sharing the emotional intimacy of marriage. However, since he has slowly lost her to Jakt, he hurries to leave for Lusitania, though they will mutually mourn each other's loss.

On the other hand, Ender's love for Jane is simultaneously asexual, romantic, fraternal, and paternal. Their romance is implied in their mutual understanding of one another. After Ender turns off the communication interface they share, Jane mourns the loss of "her lover, her husband, her brother, her father, [and] her child" (178). He is her lover and husband through their years together and their emotional intimacy. Yet, he is also her brother because of their shared experience as one-of-a-kind, products of the military which trained Ender and built the Fantasy Game Jane came from. He is her father because of the malfunction of the Fantasy Game—it centered on his psychology, his experience, and his training; thus, the game files are a product of Ender, the same files Jane's forming consciousness centered upon, giving rise to Jane. And vice versa, Ender was trained by the game, which formed so much of Jane's consciousness, making him also her child. All of these relationships coexist in the Jewel he wore in his ear. Thus, his relationship with Jane is queer in its blending of roles, its expansion and reconstruction of relationships and roles, and its redefinition of family and the origin of self. Furthermore, while Jane has a feminine name and Card uses feminine pronouns, Jane lacks the latent characteristics that define the sex and often define the gender of human beings. Jane instead transcends gender as humans know it, and, being one-of-a-kind, cannot be defined in a gender binary because she has no opposite. Thus, Ender's love of Jane is not strictly heteroromantic nor even strictly romantic. Their love expands and thereby queers the definitions of husband, brother, father, and child to encompass an interspecies romantic and parental love.

These asexual, romantic, and parental relations fill Ender's need for a family beyond Jane and Valentine. The narrator best explains Ender's emotional dependency in saying, "Jane and Valentine had been constantly with him. Even though they could not begin to meet all his needs; but they met enough of his needs that he never had to reach out and accomplish more" (180). Ender has never needed someone to know him as a wife because Jane and Valentine filled all the roles of his family, as sisters, wives, and—in Jane's case—mother and daughter. However, when he is without Jane or Valentine while traveling to Lusitania, Ender is frustrated, bored, and lonely (86). Yet later, once the Ribeiras replace Jane and Valentine's roles as mother, sister, wife, and child, Ender is not bored, lonely, or even jealous without Jane and Valentine (368). This shows not only his

development through the story, but also Jane and Valentine's paramount importance to him as asexual but deeply emotionally dependent family.

In contrast, Ender's love for Novinha is sexual and emotional by the end of the novel. However, it does not start that way. This love sees evolution throughout Ender's time on Lusitania as Ender's connection to Novinha shifts from a bond based on similarity to one based on romantic and sexual love. By way of introduction, Jane recites facts of Novinha's childhood to Ender who "knew her, and loved her, and his eyes filled with tears for her," and "in her brilliance, her isolation, her pain, her guilt, he saw his stolen childhood and the seeds of the pain that lived within him still" (65). Ender's initial love of Novinha is a kinship in recognizing their shared status as outsiders and a silent shared guilt. Having only seen a picture of her as an adolescent and heard the facts of her biography from Jane, Ender *loves* and *knows* Novinha. Yet, that love is almost fraternal, based on a shared childhood experience, the lack of true parenting and the trauma of guilt. The narrator states that, "he loved her, as you can only love someone who is an echo of yourself at your time of deepest sorrow" (83). Thus, their love story is queered from the start: love at first sight, but not the butterflies-inducing normative love of fairy tales, the love of a traumatized and lonely child recognizing their equal and their shared experience. This kinship is almost like the love an audience feels for a character who represents them, a queer person loving a gay icon or a person of color identifying with a celebrity of color based only on the shared trauma of their identity.

Much like a celebrity to their fans, that brotherly love or kinship is one sided. Novinha initially sees Ender as a threat to her family and way of life in the colony. She is enraged, wondering, "How dare this speaker invade her house and open all the curtains she has closed" (131). Of course, there are metaphorical curtains, barriers she had built between herself and the happiness she believed she did not deserve. Thus, while Ender sees Novinha as a reflection of his own guilt and trauma, she sees the Speaker as an invader of her home. In addition, he is a self-righteous stranger who believes he can, in one hour, bond with her children as she had not over the course of their entire lives (128). At the same time, Novinha is well aware of the Speaker's intent to heal her family. She distrusts this stranger but seems innately to know he wants to heal her family, "stringing [them] together whole again" (133). And moreover, she fears he will find her secrets in the process. Novinha does not hate him because he is a stranger or a threat to her family's safety. Rather, she hates the Speaker because he is threatening to heal them and deconstruct the barriers Novinha has carefully placed, the web of self-punishment she constructed as retribution for having killed Pipo.

Regardless of her distrust, Ender works his way into her home and heart. He first approaches Novinha through her family. In under an hour, Ender knows, “I’m in the family now. Whether you like it or not. Whether *I* like it or not” (121). He knows with certainty that his compassion and understanding have lent him unique access to the family. Though, in biological terms, Ender is male and Novinha is female, both have traits commonly associated with the other’s gender. At the beginning of the text, Novinha is far from nurturing and motherly. Instead, she takes a traditionally masculine role as breadwinner of the family and goes so far as avoiding coming home even though Marcão is not there to abuse her (124). She is characterized as cold and scientific, quite the opposite of the heteronormative role of the wife and mother. On the other hand, Ender is nurturing and empathetic to the Ribeiras. Ender is understanding and gentle (129), soft and warm (133). His motherly qualities enable Ender to serve as mother to the Ribeiras while he also fills the role of authority and father which the youngest child, Grego, needs in his mourning. Thus, upon meeting, while he loves Novinha through kinship, he loves the Ribeira children as family. Ender queers the heteronormative role of father, blending it with that of minister for a funeral, mother, and friend.

His parenting does not end with the Ribeiras though. Ender is the nurturing caregiver to the hive queen for 3000 years (or just 25 or so as he experiences them) carrying her fetus-like cocoon. He carried it with him for years and was the sole companion to the Hive Queen, much like a mother serving as the carrier and companion to a child. The Hive Queen telepathically tells Ender, “In all our life, you are the first person we’ve known who wasn’t *ourselves*” (70), harkening to the Lacanian idea of the mirror stage in which a child recognizes itself in their caregiver and the following stages in which the child understands itself in context of the other. Furthermore, before planting the Hive Queen’s cocoon Ender asks Novinha to develop food for the Buggers which would prevent them from catching the Descolada (368), providing an immune support and food source for the buggers much like a mother’s breast milk provides for a child. By finding a place for the cocoon on Lusitania, he becomes a mother to all Buggers, a maternal man. As mother to the Buggers and father to the Ribeiras, Ender blends the lines of gender and parental roles, queering not only his role as parent but also the definition of family, adopting the Ribeiras who are millennia younger and the hive queen, who is anciently older, as family.

Family itself is sometimes called the “f-word” in the queer community. As Bruce Gillespie explains, family values and the heteronormative idea of family has been, “used to bash queer people and illegitimize their relationships as something unnatural for a long time” (7). Thus, “reclaiming the concept of family is an act of empowerment

that is at once personal and political . . . [in reclaiming *family* queer people] realize what adoptive families have always known . . . there's an important distinction between whom you're related to and whom you consider your family" (7). This is to say that, not only does Ender's relationship to the Ribeiros, Jane, and the Hive Queen defy the normalized definition of family, but Ender's expanded definition of family also queers the term, resonating with the queer community's strife about the word family and the heteronormative institution of monogamous marriage which *family* is founded upon.

His legal family at the end of the text is the Ribeiros, with the now warmer and more traditionally feminine Novinha as his partner regardless of her previous transgressive sexuality. This, in and of itself, is not the homosexual conclusion to a queer tale one might expect. However, in order to find happiness with the Ribeiros, Ender has to come out, in much the same way a queer person must come out, taking ownership of multiple layers of identity. I have elected to refer to him as *Ender* because it is the name which captures most of his identities in one, yet, I refer to him as *the Speaker* when that is how Novinha perceives him. *Ender* is the name his siblings gave him as a child, unable to pronounce Andrew; thus, *Ender* captures his role in his family and specifically his love for Valentine. It also captures his role as the one who ended the Buggers. Ender becomes synonymous with the Xenocide, a vulgar word, much as the words of the queer community have been twisted into slurs and insults (such as *queer* itself). Furthermore, he must adopt a separate persona as Andrew, and yet another as the original Speaker for the Dead. Thus, Ender is closeted, and Andrew is passing, much like many queer people who hide their identities in order to pass in public.

Maintaining secrets and closeted identities can be hard, both for Ender and for queer people. While sharing an identity or facet of oneself can be empowering, it can also lead to vulnerability. This vulnerability comes to hurt and help Ender as his secrets are outted to the Pequenhos via the Hive Queen and Rooter, and then to Ouanda and Miro when Human outs him as the original Speaker for the Dead (Card 235-236). Similarly, Valentine outs him to Plikt when the latter researches too deeply into his past (80). These points of vulnerability are also points of connection--people in his adopted and biological family who know *Ender* rather than knowing only *Andrew*. Thus, *Ender* is a secret and a forbidden word to anyone who is not in his close circle of trust, just as a queer person's closeted identity is a secret, and sometimes a slur, to those outside their circle of trust. However, once one is outted, we see empowerment and ownership in the reclamation of an identity and term. We also see *Ender* reclaimed, to some small degree, just as some slurs have been by the queer community. After his departure, Valentine's family knew of "their long-lost Uncle Ender, who was thought in every world to be a monster, but in

reality was something of a savior or a prophet, or at least a martyr” (82). Thus, *Ender* is a child, a brother, a fighter, a killer, a slur, a reclaimed term of endearment and identity, a hero, and a martyr.

Ender’s layered identities and many roles in the families around him culminate in the boundary defying, brave, and kind man he is. In Card’s *Speaker for the Dead*, we see Ender closeted, exposed, and reclaimed, just as many queer people experience the coming out process. Additionally, Ender’s relationships with Jane, Valentine, the Hive Queen, and the Ribieras, including Novinha, redefine romantic and familial love, reconstructing and queering family and emotional dependency.

#### Note

1. Though Nicola Griffiths and Kelley Eskridge co-wrote the piece, they clearly denote who wrote each section as their article includes biographical context; thus, this quotation is attributed to Eskridge.

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