THE IMPACT OF CANNABIS LEGALIZATION ON CANINES

THE POLICY SHIFT:
THE LEGALIZATION OF CANNABIS AND ITS IMPACT ON CANINES IN CANADA

BY MARGHERITA ELENA GRACE DUESBURY, B.A.

A Thesis Submitted to the School of Graduate Studies in Partial Fulfillment of the Requirements for the Degree Master of Arts

McMaster University MASTER OF ARTS (2020)

Hamilton, Ontario (Health, Aging and Society).

TITLE: The Policy Shift: The Legalization of Cannabis and its Impact on Canines in Canada

AUTHOR: Margherita Elena Grace Duesbury, B.A. (McMaster University).

SUPERVISORS: Dr. James Gillett NUMBER OF PAGES: 122

ABSTRACT:

On October 17, 2018, the Canadian Federal government legalized the recreational use of marijuana. This shift in the legal status of recreational drug use is far reaching and is generating interest within the research community. One unanticipated consequence of this new law is its effect on canines. This paper analyzes media coverage of the way in which the legalization of cannabis has newly changed the lives of animals, specifically dogs. Through a content analysis there were two broad themes identified: (1) the reduced opportunities for working dogs; (2) the negative health effects of cannabis on dogs. Using a One Health framework, the analysis discusses the potential policy and program development responses available to address the increasing interaction between humans, animals and legal marijuana.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank my supervisor, Dr. James Gillett for everything. James, thank you for believing in my abilities and challenging me to push beyond my own perspective. If it weren't for our meaningful meetings about the world around us and our deep conversations about animal rights, Dogs at Mac and nature walks, I would never have been able to reach this level of thinking. By completing this project with you, I have been able to learn about resilience and the possibilities to make a difference within the research community. You have encouraged me every step of the way, allowing me to grow and learn to question myself with this thesis. Thank you for being my supervisor, offering me invaluable advice and supporting me with every step.

I would also like to thank a number of people who played an important role in both my life and academic career path: my mother, father, and Kevin, while you are not here with me now and were not able to see me reach this point, you always played a huge role in my life. Encouraging me to never give up on my dreams, loving me no matter how hard it got and allowing me to grow. I would not have been able to be the person I am today without each of you in my life. Jordan, my partner, thank you for giving me the support I needed during the finishing of my thesis. Even through some of the tougher times, you were always there to help guide me in the right direction and never let me give up. Thank you

for challenging me to be a better person, teaching me about the world and being my partner on this journey of life.

Thank you to all of my family and friends, who have not only been there for me during my entire academic career, but also for providing me support and assistance over the years. Without having such amazing and wonderful people in my life, cheering me on, I would not be as far in my academic studies. Thank you to the boys for helping me balance my life between work and teaching me to take a break. To those that have spent hours editing my work, thank you for being there and just know that I appreciate all that you have done for me. Thank you for struggling alongside me and being patient on this journey. To my mom, for loving me, caring for me and staying up with me on those late nights. Keeping me calm and level-headed, thank you mom for everything. Also, to my dad, thank you for caring and showing me that anything is possible with hard work. I love you both so much, and I could not have done this without you. For my unborn son, I am so happy that I was able to complete this thesis and I hope that one day you will far exceed me.

THANK YOU!!!!

This thesis is dedicated to my mom, the most amazing woman I know. Mom, you have made me who I am today. I love you more then you will ever know as you are my world. Forever and always my mother you will be.

TABLE OF CONTENTS

Chapter 6: Concluding Remarks and Discussion

Opening Remarks

It has always been a passion of mine to care for animals. For years I have spent most of my life caring and loving my animal companions. Having all types of pets throughout my childhood, from chickens to skinny pigs, I have always been an animal lover. In fact, my first pet to ever win my heart was my dog. Growing up with my strong attachment for my dog, it makes it quite fitting that I am writing my thesis for my Master of Arts about dogs. While she passed away just before the beginning of this research project, she still holds a place in my heart and in my studies. With my new companion, Elaine, I now find myself finishing this thesis and looking beyond animals as only pets. Although I could go on all day about my love for my dogs, it is important that I give you some background on what has brought me to this point in my academic career.

For as long as I can remember I have always wanted to work in a field that would make a difference in the world. At first this career path led me to study all of the various areas of research from science to humanities, until I stumbled upon the department of social sciences. Studying under the department of Health, Aging and Society, it occurred to me that researchers play a considerable role within society. Making a difference, showing a new perspective and even pushing the boundaries of knowledge. This is what made me want to combine my passions, the necessary need to search for greater understanding about the world around us and my love of animals. While I wasn't able to become a veterinarian, which has always crossed my mind as a career, my appreciation for

the academic thirst for bringing awareness to others about the issues in our society has brought me to where I am today. In many ways I can thank those who surround me for the opportunities and for supporting my dreams.

It has been a long journey, filled with both the ups and downs of life. I had lost an important person in my life before starting my Master of Arts degree. He was a man that had taught me about the importance of the balance of nature and respecting all that surrounds us as humans. As a child, I learned from him that humans and an animal can be interconnected in countless ways, making up what we know as life. It was from watching and experiencing life with that person that I was able to grow in my appreciation for the lives that exist around humans, the animals that live alongside us. Spending almost all my weekends at the cottage, I could watch the animals grow within their natural environment and observe many things that countless others might not have had the opportunities to see. For this I am grateful to him and will never be able to perceive the world without thinking of him and his lessons.

Growing up, my love of animals never went away, even after the cottage had been sold it forever remained with me. The interconnections between humans and animals, people and their pets, is something that can never truly be explained. It is a unique bond that we share with animals that allows us all to exist in harmony. Having been in university, a part of projects that examine people in nature and still examining animals in everyday life, I've noticed the

relationships. Even working with animals, particularly canines, in several of my volunteer experiences, this bond between animals and humans holds strong. I have always been one to believe in my pets, their love for me is unconditional and my love for them is just the same. Getting my dog Elaine after my stepfather passed away was one of the most memorable and most important moments of my life. Without her, I feel like I may not have made it through some of the more difficult times.

While my life has had its roller coaster ride of life events, getting here, finishing my Master of Arts degree and celebrating with those in my life that have helped me get to this point, is all part of the journey. It all began with a single step forward, an idea and the first word in this paper. I enjoyed every minute of both the positive and negative experiences of this path, and I would not change it for the world, because I am doing what I love.

1.0 CHAPTER ONE: Introduction

After nearly a century of prohibition, Cannabis is officially recognized as a legal substance in Canada. Publicly accepted for both medicinal and recreational substance use, this once illicit drug has now become the most prevalent substance used nation-wide. In Canada, this legalization process began with the medicinal use of cannabis, on July 30, 2001 (Fischer et al., 2019). Under the conditions outlined in the Marihuana for Medical Purposes Regulations managed by Health Canada, only the production of seed, grain, and fibre is acceptable (Abuhasira, Shbiro & Landschaft, 2018). On October 17, 2018 the federal Cannabis Act came into effect and made Canada the second country in the world to formally legalize the recreational use of cannabis. This in turn permitted the cultivation, possession, acquisition and consumption of cannabis and its by-products, bringing about broad societal changes.

This shift in the legal status of cannabis required changes in the everyday lives of Canadians. Questions regarding business locations, policy enforcement and implications for usage, especially for youth, became prevalent. Passing the Cannabis Act (Bill C-45), Prime Minister Justin Trudeau intended for this legislation to result in greater government control over the substance. As noted in the *Globe and Mail* on January 1, 2019, he states that this Act is meant, "to better protect our kids from the easy access they have right now to marijuana [and] to remove the criminal elements that were profiting from it" (Picard, 2019, p.1). In an effort to protect youth, this change in policy reflects a broader shift in

decriminalizing and legalizing cannabis use nationally. Maintaining a similar

regulation process to that of alcohol in Canada, it introduces limitations for home

production, distribution, consumption areas and sale items. However, while it

does strengthen punishment for those convicted of supplying cannabis to minors,

controversies about legalization persist. There are ongoing concerns about the

anticipated and unanticipated social ramifications of this major shift in public

policy.

Despite what seems often like widespread public support, there are still

concerns regarding the regulation of cannabis that are voiced in polls and public

forums. This includes the Canadian Automobile Association (CAA), whose 2016

poll indicated that, "almost two-thirds of Canadians are concerned that roads will

become more dangerous (due to impairment by the drug) with the legalization of

marijuana" (Hajizadeh, 2016). Not only are Canadians concerned with the effect

of cannabis on road conditions, but they hold concerns about the health

implications of increased use because of legalization. An October 2016 national

poll suggests that approximately five million adult Canadians now use cannabis

at least once a month; this is expected to increase by 19 percent after

legalization (Spackman et al., 2017). By 2021 it is estimated approximately 3.8

million persons will be recreational users.

1.1 Animal Rights

For animals, this increase in recreational usage and policy shift brings

forth several unanticipated consequences. As such, animal rights associated with

policy changes like the legalization of cannabis are brought into question. What are animals' rights? Do they have rights? The idea of animal rights is that all animals are entitled to the possession of their own existence (Regan, 2004). Similar to that of humans, the rights of animals are intended to address the welfare of animals and basic interests, these include the concept of pain avoidance and suffering (Jasper & Nelkin, 2007). For example, the rights surrounding animal testing or agricultural are considered for the purposes of reducing the inhumane treatment of nonhuman animals (Regan & Singer, 1989).

In turn, this idea of rights proposes that humans have an obligation to animals to be treated as individuals (Regan, 2001), with their own needs and desires rather than unfeeling property. It advocates for the assignment of moral values to the animal species. Currently, the laws that govern animal rights remains a grey area in terms of implementation and the rights that animals themselves have (Regan, 2004). While animal rights exist, including laws around animals as food and such, they do not address individual rights and freedom. In the case of cannabis legalization, animal rights are not considered, but if created should provide a sense of protection and consideration for animal welfare with this policy shift. However, with animal rights and personhood still under debate, this leaves animals as a vulnerable population.

On one hand, researchers argue that while animals are considered nonhuman entities, they still resemble normal humans in morally relevant ways. In particular, animals, like humans, possess a variety of sensory, cognitive, and

volitional capacities (Jasper & Nelkin, 2007). Feeling physical pain and pleasure, alongside emotions such as fear, contentment and satisfaction, many recognize animals as subjects-of-a-life (Regan, 2001). As such, advocates for animal rights state that nonhuman animals deserve fundamental protections on the basis of these humanistic traits. Across the literature, it is argued that animals should no longer be viewed as property, food, clothing, research subjects or beasts of burden. Extending the basic legal rights and personhood to include hominids would break through the species barrier to demand respectful treatment for animals. Further developing animal rights would not only bridge the gaps in the legal system but is also necessary to morally care for animals as subjects-of-a-life equally to humans.

Contrary to this argument, many critics of animal rights highlight that nonhuman animals are not capable of reasoning and therefore are undeserving of rights (Scruton, 2006). Unable to enter into a social contract, scholars note that it is nearly impossible to give animals rights. Therefore, it is argued that so long as there is no unnecessary suffering, animals are merely resources inferior in status to human beings (Regan, 2001). Yet, what counts as "necessary" suffering would therefore vary considerably (Sunstein & Nussbaum, 2004). While there may be some moral standing for animals, the interests in animal welfare and freedoms, it is suggested that it can be overridden by their human counterpart. Throughout history, this is how animal rights have been. However, as a result many animals suffer the consequences of lacking rights, freedoms and being at

the hands of humans. Are animals being forced into human society without a freedom of choice? Do we as humans have a duty to animals? These are questions that continue to persist.

In conclusion, it is clear that there are consequences as a result of this lack of clarification on what exactly animals' rights are and should be. In the case of cannabis legalization, without animal rights being clearly defined, considered or outlined, animals have come to suffer in various ways. In particular, for canines, this policy shift resulted in the rearrangement of these animals' lives. Therefore, addressing the ethical dilemma posed by this debate on animal rights such as ownership, protection against unjustified work, and freedom, in this case is necessary.

1.2 Purpose of the Study

One largely unanticipated consequence of cannabis legalization is the effect on companion dogs and working dogs. This oversight brought to light, largely through the media, several issues related to the health and wellbeing of dogs. In this thesis, I explore how cannabis legalization disrupted the lives of dogs in the workplace and in the home and family structure as companion animals. It takes the stance that there is a much closer interconnection between dogs and humans in shared social spheres. Yet, in making policy decisions, the implications for both the wellbeing of animals, or the way human and non-human lives are intertwined, is not sufficiently taken into consideration. In the case of dogs working in security or detection, this shift in legislation on cannabis led to

these occupied animals being devalued and jobless, raising questions about their status in the workplace and the contribution of their labour in institutional settings. With increased availability, legalization also put companion canines at greater risk of consuming cannabis – either by accident or intentionally - thereby putting their health in jeopardy. Taking into consideration each case, this analysis points to the need for research, and policy development, to look more seriously at the lives of animals and their place in human societies.

1.3 Conceptual Foundations of the Project

This thesis draws on two recent theoretical frameworks. First is a movement in public health toward the development of a "One Health" perspective. Evolved from "one medicine", a term coined by veterinary epidemiologist Calvin Schwabe (Narrod, Zinsstag & Tiongco, 2012) at the beginning of the 20th century, this framework is defined as a transdisciplinary approach that examines the interconnectivity between human, animal health and their environment (Schelling et al., 2005). Previous research, for example, from vaccination campaigns, highlights that the One Health approach provides a clear interdependency between the health of humans and animals alike (Hediger, Meisser & Zinsstag, 2019). This approach is key to research on the interactions between humans and nonhuman animals, due to its recognition of animals as part of human society and the implications of their mutual welfare (Asokan, 2015). As this framework recognizes the inextricable linkage of humans, animals

and their environment, it pushes the boundaries to examine research working at the local, regional, national and global levels (Chien, 2013).

Posthumanism is the second theoretical framework that informs this research. As a broad theoretical orientation, it is applied to a wide range of contemporary lines of inquiry across disciplines (Bolter, 2016). In particular, the framework is defined as a new way of understanding the human subject in relation to the natural world (Nayar, 2018). Posthumanism, as a general thread, rejects or questions many of the key binaries in traditional western humanism, (Haraway, 1990), like in the way a cyborg deconstructs the meaning of human and machine. It expands the conventional understanding of social research as being exclusively about humans and humanity (Bolter, 2016).

Each theoretical perspective offers a complementary view of questions related to cannabis legislation and dogs. One Health offers a pathway to think about wellbeing in a more inclusive and integrated lens so that policies like cannabis legislation can be critiqued and reformulated. Posthumanism gives us language to think about animals differently as they are embedded in humanities and then rendered neither human nor animal. This liminal status of dogs in the workforce and in the family, again, allows for a critique of what is missing in our consideration of policies like the case of cannabis legislation. At their intersection is a critique of the conventional boundaries that are articulated through institutional structures about what it means to be human and non-human. These perspectives bring to light the intricate complexities that surround the concept of

'humanism' and the relationships between human and animals. As there are gaps in both literature regarding the human-animal bond, the conceptualization of the human understanding of both humans and animals using a multi-framework methodology allows for the gaps to be filled. Interdependent and under a continuous exchange, further development on the theoretical perspectives within the area of human and animal relations will help to advance social science inquiry.

1.4 Contribution to Literature

In examining the legalization of cannabis and its effect on companion and working dogs, this research gives rise to the importance of animals as part of policy formation. Understanding the impact of this piece of legislation, it further develops existing literature regarding human-animal interconnectivity within society. Contributing to the concept of human-animal relationships as interdependent (Atlas et al., 2010), this research further highlights the coexistence of humans and animals as the foundation to the modern social structure (Waiblinger et al., 2006). While recent literature notes that human existence and sustainability is a result of the human-animal bond developed across time (Walsh, 2009), it fails to recognize the influence humans have on animals' lives. With the welfare of both companion and working canines influenced by human activity and policy decisions, it is necessary to fill these gaps in the literature.

Research on the impacts of cannabis legalization for companion animals, particularly canines, further develops this knowledge on the connection between humans and animals. Across the literature, the humanization of animals as "friends" and "family" (Epley, Schroeder & Waytz, 2013), can be highlighted as a growing phenomenon. Treating animals as humans, pets are considered to be part of human society (Ferencz-Flatz, 2017). However, with the legalization of cannabis, animals viewed as companions were not considered in the policy finalization. As a result, unanticipated negative implications occurred regarding the welfare of these animals. For companion canines, this research indicates a lack of awareness for animal welfare in human legislation.

In addition to companion canines, research on the legalization of cannabis in Canada further demonstrates the unanticipated consequences that policy shifts can have on working canines. Across the literature, non-human entities, such as animals, have long fought for rights (Sprigge, 1984; Zimmer, 2016). However, while these rights are acknowledged as important, studies indicate a lack of implication with regard to human policymaking. For working animals, the ethics that surround the rights to welfare, freedom and environmental stability are still limited (Koops, Hildebrandt & Jaquet-Chiffelle, 2010). Through the examination of cannabis legalization and its influence on working canines, this research further develops these areas of interest. In regard to human policy, both companion and working canines are influenced by the decision to legalize marijuana in Canada.

From these case studies, the concept of humanization and what it means to be human is another central point that gives rise to discussion. As the conceptualization of 'the human' varies amongst disciplines, this research further develops the concept in relation to policy creation. Across the literature, to be 'human' can be defined through several characteristics and features. For example, many scholars conceptualize the embodiment of 'the human actor' as a living being, in control of non-living and/or non-human entities (Pyyhtinen, 2016; Gane, 2006). However, this limited understanding of the human is extended through this research using a posthumanist framework, moving beyond the boundaries of the human as just 'human is human' (Haraway, 1990). Redefining the boundaries between human and non-human actors as both being members of society, part of the economy, etc., this perspective develops the importance of human-animal relations. As animals are part of society, such as companion and working canines, the rise towards understanding their rights, placement and welfare becomes apparent. This research will further the conceptualization of the human in relation to animals and policy creation.

Ultimately, research on the legalization of cannabis and its effect on both working and companion canines will lead to a greater comprehension to the future interrelationship between humans and animals. As part of a functioning society humans and animals interact daily for survival, however, animals are not as acknowledged as their human counterparts (Machan, 1991). Through this research, it is my intention to bring to light changes in policy development and

animal acknowledgement in all forms. With animal integration into society, this thesis aims to further develop animal rights and welfare to be recognized. For example, animals employed such as working canines, to have pensions and relatable benefits earned through their occupation. This is essential to consider, as animals are part of everyday human activities, their lives are imperative to human social structure.

1.5 Outline of the Thesis

This thesis is divided into six chapters. In addition to this introduction, there is a literature review chapter and a methodology chapter that sets the knowledge context and research design for the study. This is followed by a two case studies, a chapter on working canines and second on companion animals. The thesis ends with a concluding chapter.

In the literature review chapter, I examine existing knowledge on humans and animals across several areas of research with an attention to the nature of the human-animal relationship and its diversity within the research community. This includes research on the historical roots of the human-animal bond, human relations with companion animals and the role of working canines in society. The literature review focuses on the human-animal interactions within human societies across time including the domestication of canines in various forms, such as hunters or protectors of ancient colonies, and the mutual benefits between humans and animals. Looking at emotional intimacy, support, and partnership between humans and animals, I review material on the bonds that

exist across species. Humans comparing and treating companion animals similar to humans, such as children, is particularly a key knowledge base for this project. To understand the human-animal relationship within a workplace environment, the bond between humans and animals in various occupations such as human services and law enforcement, lays the foundation for the human-animal bond in the workplace.

In the methods chapter I discuss the research process used in this thesis. Focusing on the use of media analysis and the exploration of cannabis legalization on dogs within Canadian newspapers, it highlights the value of using this methodology of research. Specifically, this section notes the use of a case study approach which I was able to use to analyze the data set collected to gain a wider understanding of the impact of this legal shift. Focusing on the three phases of media analysis of preparation, organization and reporting, the chapter also further develops the steps to develop this research. To enable future studies to examine this area of research and support the findings of this thesis, within this section, I discuss the reason for the use of these methods. Essentially, this chapter aims to encourage research development in this area or in similar fields of interest.

The first substantive chapter focuses on one of the main themes found in the research, cannabis and working dogs. This chapter explores the relationship between humans and animals as part of the workplace. In the first section, I identify the existing literature on working animals and humans as within society.

This discussion includes the history of animals in a work environment alongside humans as both companions and employees. For the purposes of understanding the dynamics around animals in human society and the workplace, I analyze the literature expanding on the development of this relationship over time. The analysis examines case studies found across the newspaper articles discussing how canines are tools and experience of job loss and dislocation as a result of cannabis legalization.

The first case study investigates the human-animal bond that emerges from ownership and canine use in the workplace. Following this, the second case looks at canines as work implements to be used, such as detection tools, rather than companions or employees. In the last case study, I explore the recurring theme of canine job loss and retirement from their employment. Analyzing animal work and its importance within human society brings to light the debate on animal working rights and human legislation. Each of the case studies demonstrate the unanticipated impact of cannabis legalization on the occupational status, identity and rights of dogs as part of the workplace. This chapter highlights the importance of understanding the implications of this shift in human legislation on animals, specifically in relation to the legalization of cannabis.

Following the working dogs chapter, I discuss the controversial debate surrounding the impact of cannabis legalization on canine health and healthcare. In this chapter both the positive and negative influences of the passing of the legislation are discussed. For canines, the research shows a positive correlation

between cannabis health care products (CBD) and alternative treatments for companion animal ailments. However, in contrast, cannabis also results in poisonings for dogs. For the positive health implications, the chapter analyses the therapeutic usage, health effects and commodification of CBD for dogs. This includes the examination of previous literature and case studies regarding people and their personal use of cannabis for their pets illnesses, such as arthritis, cancer, and many other diseases. The use of cannabis as a form of holistic medicine is also discussed.

For the section on the public health risks of cannabis for dogs I analyze the public use of cannabis and subsequent increase in THC poisonings, obstruction of veterinary services and lack of awareness. Taking a One Health framework, this section examines the implication of the public usage on canines, specifically with regard to environmental disposal and canine health impacts. In analyzing both sides of this debate, the chapter aims to gain a broader understanding of the interrelationship between humans, animals and their environment in relation to the legalization of cannabis.

To conclude, this thesis highlights the need for further development on the implications that changes in legislation can have on the lives of animals. For policy changes, such as the cannabis legislation, more regulations are necessary to control the substance use. While the intention of cannabis legalization was meant to re-enforce strict guidelines and usage amongst young adults and children, the impact on animals' lives is overlooked. This thesis clarifies this and

highlights the complications, benefits and detrimental effects that this shift in legislation has presented. For this section of the paper, I introduce the next steps to be taken as a result of these findings. This includes implementing further restrictions and regulations around animal working rights, public cannabis use and environmental disposal. Ultimately, this thesis aims to bring forth the need for consideration toward animals as part of the human society and to develop future interest within this area of study.

As this thesis takes on a unique perspective, examining animals within the field of health studies, it pushes the boundaries beyond focusing only on the human. Compared to previous literature, this research brings to light the limitations surrounding our understanding of animals as part of human society. It is important that studies, like this, continue to progress as a way of expanding our current knowledge. For the field of health studies, exploring the interconnectivity between humans and animals under the exploration of the policy shift on cannabis, allows us to incorporate more provisions involving animals' lives. This thesis demonstrates that animals, particularly canines, make up a large portion of human society and while often overlooked, attention to the animals is imperative. By conducting research on cannabis and dogs, this thesis brings forth the neglection of animals and how they can be incorporated into health studies more.

2.0 CHAPTER TWO: A Review of the Literature

A growing body of literature involving human-animal studies highlight the importance of animal coexistence with humans (Rabinowitz & Conti, 2013). Over

the last three decades, research in the area of animal studies has expanded and diversified to include human influence on animals' lives. Areas of research most relevant to this thesis- animal studies, health studies and labour studies- in their own way provide a unique perspective on questions regarding the relationship between human and animals. Each field of research contributes to our understanding of human-animal interactions. They help to inform the questions central to this study: what animals are and how human social relations are shaped by companion animals. However, while these studies continue to extend on animal research, there are still many gaps in the literature. By looking at the legalization of cannabis in Canada and the impact it has on canines, I expand on these areas of research.

Although often less prominent in the social sciences literature, there is interesting research on the historical relationship between human and animals. For example, the history of human societies is widely recognized as being constituted through an interdependent relationship between human and animals that is sustained through the course of time (Prestrude, & O'shea, 1998). Looking at areas such as agriculture, transportation and the military, animals contribute historically to the development of these key elements of human social institutions. As such, humans and animals have continuously benefited from one another (Derr, 2011; Jensen et al., 2016). Through domestication, animals have taken up significant roles in human society as both companion and worker.

The domestication of canines as both workers and companions follows a similar history as other species. Fossil evidence supports that wolves were the first animals domesticated by humans (Prestrude, & O'shea, 1998). Acting as hunters, protectors and members of our early human societies, canines were a key component to human development. Studies documenting this relationship tend to focus on the human benefits of domestication. However, it is evident that there is a mutual beneficial relationship for canines in linking their own advancement as a species by becoming woven into the fabric of human societies. In this context, the literature most relevant as setting the knowledge context for unpacking the significance of cannabis legalization for canines is research on dogs as companion animals and research on dogs as workers.

2.1 Companion Animals

Research on dogs as companion animals is a key area of study in furthering our understanding of the human-animal relationship. At the foundation of this literature is the idea that there is a specific human-animal bond that can be understood, measured, and mobilized for various purposes. The human-animal bond proposes that there is a unique, historical and powerful affinity (Serpell, 1996) and emotional connection (Townley, 2010) shared between humans and domesticated non-human animals.

According to a study conducted by Zasloff (1996), humans demonstrate attachment to companion animals in the form of comfort and emotional support. Of the 87 cat owners and 58 dog owners, on a scale involving levels of

comfortability, the results proved to show a high level of emotional intimacy between these humans and companion animals. From this high level of companionship, owners were more likely to treat their pets as if they were humans. For instance, canines being treated as children are provided the same care as a human child, including human food or clothing, etc. The research in animal studies supports this by noting that animals are seen to be adopted by humans (Sanders, 1990; Townley, 2010) in order to provide social companionship, similar to but not exactly like children.

Similarly, studies indicate the shift in family dynamic in recent years to include companion animals as important family members. While the role of pets in the family system still remains unclear, often people will consider their companion animal to be equivalent to that of their children or as a replacement for having a child. According to Walsh, F. (2009), companion animals play an integral part in family relationships and their functionality. As more people adopt animals into their family, studies indicate that there is a correlation between animal ownership and familial benefits such as emotional happiness (Rosenkoetter, 1991). With companion animals becoming even more integrated into family dynamics, the greater importance is necessary to be placed on the human-animal bond.

Human interaction with the companion animal/person presents a variety of rewards. Like all primary relationships, that between people and pets predominantly affords intrinsic, rather than instrumental, social compensations.

The research on companion animals persuasively establishes that companionship and affection are the primary advantages of this unique relationship as defined by the human participant (McConnell, Lloyd & Buchanan, 2016; Kol et al., 2015). The animal is seen as non-judgmental, accepting, and genuine, requiring nothing from the relationship other than the affectionate reciprocation of attention.

Surveys of pet caretakers demonstrate the significance of the companionship and affection which are central to the animal-human relationship. For example, of the pet owners questioned by Bulcroft and his associates (1986), 94 percent agreed that pets are an important source of affection, 85 percent agreed that pets accepts them no matter what they may do, and 83 percent agreed with the statement, "my pet makes me feel loved" (p.2). This stable, emotionally rewarding, nonjudgmental relationship with the animal is defined by caretakers as reflecting their self-worth and self-definition, as deserving affection is reinforced by their experience of the presumed relational definition held by the animal counteractant.

Research on the human-animal bond indicates that for many people, their relationship with a dog as a companion animal is closer to that of a family member than a possession or even friend. In fact, one of the interesting questions in animal studies is the liminal identity of companion animals: are they a possession, a friend, a family member, or indentured servant? Studies indicate that the majority of companion animals are commonly referred to as falling across

a wide range of identities like friend, colleague, pet and family member (McConnell, 2016; Kol et al., 2015). Animals in many ways are perceived as "human but not quite human" and considered to be a supportive figure that will provide emotional stability or always be available.

For those in the aging population this is particularly true as companion animals are often perceived as an end of life partner as well as a child in later life. According to Cusack and Smith (2014), animals as pets can offer a form of therapeutic companionship (p.2). As companion animals form bonds and a dependency that are similar to that of a child, many people feel the need to treat them as a human. In the case of the aging population this is particularly evident. Across the literature, pet ownership is understood to provide a sense of belonging to a family unit. Dembicki, D., & Anderson, J. (1996) highlight that it can even be argued that pet ownership can improve health and can lead to better self-care in later life. For many pet owners, animals as a companion are essential to mental and physical wellbeing.

Given this relationship, people are inclined to treat their companion animals in a human way. In the case of legislation or policy changes, like the case of cannabis, this literature suggests that people would respond with regards to their dogs similarly to how they would respond for themselves and their family members. This work raises interesting questions about how people respond to the legalization of cannabis in the case of their companion animals. Will they treat their animals in a similar way as their friends, children or colleagues? In this

case, what is the identity of the companion animal when people consider

cannabis as either a potential benefit to the companion animal or a threat or both

depending on the context? The subsequent chapters explore these questions in

more depth as people consider and respond to the greater availability of

cannabis for themselves, their companion animals and in society in general.

2.2 Working Canines

Dogs perform various tasks for humans all over the world – in fact,

documented cases date as far back as ancient Rome (Fishman 2003). Dogs

have historically been used for protection and hunting, and eventually for herding

livestock (Chestley & Whiting 2015; Manwell & Baker 1984). Today, dogs can be

found in assistance roles all over the world, including in Australia, New Zealand,

Japan, the UK, Spain, Germany, Switzerland, Sweden, Norway, the US, and

Canada, among others (LaFollette et al., 2019; Audrestch et al., 2015). The main

types of assistance dogs are guide dogs for the blind, hearing dogs for the deaf,

and mobility assistance dogs (Audrestch et al., 2015). Guide dogs offer increased

mobility for the visually impaired by leading them around obstacles and aiding

them to arrive at their destination. This job is thought to be more difficult than

other assistance dog roles as these dogs must learn to avoid objects that their

owner may encounter even though the dog might not – for example, objects at a

greater height (Whitmarsh, 2005). Hearing dogs are trained to alert hearing-

impaired individuals to various sounds, such as fire alarms, doorbells, and

telephones, by nudging their owner with their paw or nose, and subsequently

leading their owner to the source (Audrestch et al., 2015). Mobility assistance

dogs allow individuals with mobility impairments to move around more easily by

opening doors, turning on lights, and retrieving objects for their owners

(Audrestch et al., 2015). In addition to guide, hearing, and mobility assistance

dogs, service dogs also assist people who have seizures and/or epilepsy, and

provide emotional support for individuals with mental health disorders (e.g.

PTSD, depression), individuals undergoing psychological therapy (Mims &

Waddell, 2016; Dell & Poole, 2015), and individuals with autism (La Follette et al.,

2019; Burrows et al. 2008; LFC, 2011).

Another common area in which dogs perform work for humans is in the

military. Military dogs have been employed across the globe for centuries, with

evidence of their use dating as far back as 4,000 BC (Kistler, 2011). In 2014, an

estimated 2,800 military working dogs served the US armed forces worldwide

(Cruse, 2014). Military working dogs are used for a variety of tasks, including

sentry, messenger, and scout/patrol duties, as well as explosives and narcotics

detection (Katz & Golembiewski, 2006); Sinn et al. 2010). In fact, military working

dogs are currently the most effective and versatile means of identifying

explosives (Sinn et al., 2010). Despite the key role dogs play in the military,

Cruse (2014) explains that the U.S. Armed Forces classifies military dogs legally

as "equipment". Cruse maintains that her preferred term "canine members" offers

a more accurate representation of dogs' role and dedication in the army, and

argues that given their circumstances, retired military dogs deserve to be

provided with federally funded medical care to treat both physical and emotional injuries resulting from their work, just as people are afforded.

In the literature, service and military dogs have been explored in terms of their selection criteria (based on behavioural and physical traits), the benefits they offer humans, and their welfare. Because the average dropout rate for dogs selected for training for various roles is approximately 50% (Weiss, 2002), many studies have sought to improve service and military dog selection and success by investigating dog behaviour and temperament. For example, Gazzano et al., (2008) assessed the behaviour of puppies in training to become guide dogs via participant questionnaires. The 80-item questionnaire was delivered to families who were fostering at least one puppy in training and asked about their dogs' behaviour. While the dogs' success was not assessed later, the rationale for the study was that puppy walkers might be able to contribute to early identification of potential behavioural issues, which are a major reason for excluding dogs from the program. The results of this study led the authors to recommend that when necessary, puppy walkers should intervene at the onset of undesirable behaviours, to decrease the number of dogs disqualified from the program, as well as decreasing the costs associated with rearing and training those dogs who do not end up making it through the program.

As another example of working dog selection in the literature, Foyer et al. (2016) were interested in identifying dogs that react favourably to potentially

threatening situations, in order to determine which dogs would be the most appropriate candidates to become military and/or police dogs. They reasoned that, since military and police dogs are often exposed to stressful situations, an inappropriate response such as exhibiting fear could lead to reduced working efficiency and welfare. To assess dogs' behaviour, the researchers analyzed video recordings of the dogs' behavioural responses to the standardized selection test used by the military. They also measured pre- and post-test salivary cortisol levels to determine stress (cortisol is a recognized biochemical marker of stress in dogs). The researchers found that, contrary to their hypothesis, dogs who were approved for future training as military working dogs exhibited greater emotionality and fear-related behaviours and had higher salivary cortisol levels both before and after testing, compared to nonapproved dogs. The explanation for this discrepancy was that selection tests might systematically misinterpret reactions of dogs or that there may be a bias in the selection procedure.

For canines occupied in the area of drug law enforcement, the debate on animal rights in this field of work continues to exist. As drug sniffing dogs, many canines that are part of the police force and other areas of the law enforcement industry are also perceived as employees and tools for the job. Across the literature, canines in the drug searching line of work are often subjected to harsh environments and dangerous substances (Church & Williams, 2001). As Katz and Golembiewski (2006) highlight, while several working dogs may become ill

on the job or put their wellbeing at risk for a task there is little protection for these employed animals. Policies on working animals' welfare within dangerous occupations, such as drug sniffing, are underdeveloped. According to Pivetti (2005), this is a result of the argument between human benefits outweighing animal rights. With animals often working under human occupations, their rights are often considered less than that of humans.

Across the literature, while working animals are considered employees and colleagues under human occupations, in many cases they are still not perceived as human. According to Regan (2004) nonhuman animals resemble humans in countless ways including morality and partnership, however, there are many that believe animals are not subject-to-a-life (p.3). This includes having a basic moral right to respectful treatment, occupational choice or freedom. As animals are part of human society, the debate surrounding the extent to which nonhuman animals deserve rights continues to persist.

Elizabeth Cherry (2010) highlights that, while animals are integral to human societal function, they do not deserve the same rights as humans as they are not human beings. As animal workers abilities, occupational status and hazards are not equivalent to that of their human counterparts, the rights of these animals are not considered important. However, in contradiction to this argument, many animal activists argue that every being deserves basic rights, including protection of welfare, health and freedoms (Herzog, 1993). With animals sharing similar qualities to that of humans, such as emotional and physical wellbeing,

countless studies suggest that animals should have access to rights. This debate on animal rights and its movement is imperative to the treatment of animals in the workplace. Without rights, many animals face mistreatment in their workplace which can lead to detrimental effects on their wellbeing.

In the case of cannabis legalization, this question of animals' rights as workers in human occupations is made particularly evident. From the shift in legislation, it has given further rise to this debate over the perception of working canines as employees, colleagues or tools. While the relationship between humans and animals remains tightly intertwined, the literature suggests that the protection of working animals remains a grey area. As legislation or policy changes are introduced, such as the cannabis legalization, previous studies suggest that human working institutions still lack regulations regarding animals under occupations and their freedoms, healthcare or rights. For example, sniffer canines in airports currently facing occupational termination as a result of the change in drug laws.

Though these dogs have a history of searching for drugs, with the legalization of cannabis, these canines are considered to be incapable of comprehending this change in laws and therefore unemployable. This gives rise to interest on the legalization of cannabis in the workplace and its influence over working animals' lives. Do working canines get a pension if laid off from a shift in legislation? From the example of this case on cannabis, what compensation will they receive after years of service? Will human employers consider the impact of

the new laws and welfare of working canines? In the following chapters, these questions are addressed in more detail as the case studies and employers respond to the legalization of cannabis for their animal employees and shift in the human workplace.

2.3 Conclusion

In conclusion, throughout the literature human-animal studies highlight the importance of animals as part of human society. With the area of research expanding across disciplines, these studies indicate the need for understanding the interconnection between human and animal lives. In particular, with this shift in legislation on cannabis, it is made evident that human decisions can impact animals in several ways. As highlighted above, both working and companion animals exhibit a strong connection to their human counterparts. Whether as employees or family, these studies suggest that animals are imperative to human society, yet in many ways are treated as nonhuman.

As both a companion and working animal, these canines are treated as partial humans. Given human occupations, duties and responsibilities in a workplace setting, they are treated as colleagues. Similarly, in the case of companion animals, people acknowledge their pets as children and family members. However, they are often not given the same rights as their human counterparts. Instead literature suggests that animals are under appreciated, regardless of position or status as family or colleague. Policy changes such as the cannabis legalization allows us to look in greater depth at this relationship

and the issues that arise when animals are not fully integrated, though perceived as essential to human society. While the literature continues to expand on animal research, there are still many gaps like the impacts of policy change, that need to be explored. For the purpose of extending this field of research, this thesis will further examine these areas of interest in relation to cannabis legalization.

3.0 CHAPTER THREE: Methodology

In social sciences research, the use of media coverage as a source of data is taken up in a variety of different ways. The meanings encoded in advertisements or Instagram posts are analyzed through semiotic analysis as an example. Newspapers articles can also be a source of qualitative and quantitative data for a longitudinal content analysis. In grounded theory the material from media sources are integrated into a range of different types of data including interviews and field notes from participant observation. Discourse analysis is yet another approach to analyzing the institutional forms of power that shapes our experiences and knowledge of social issues.

This study of cannabis legalization uses a qualitative case study approach relying on a media coverage as the primary source of data. To explore initial themes in media coverage at the intersection of animals and cannabis legalization, a content search for key terms was conducted from twelve daily newspapers. Four of the sources were chosen because of their status as the largest circulation, general interest newspapers in Canada. These are *The Globe and Mail*, *Toronto Star*, *National Post* and *The Hamilton Spectator*. The

remaining six publications were smaller newspapers that featured coverage of this issue. They were *StarPhoenix*, *Regina Leader-Post*, *Calgary Herald*, *Calgary Sun*, *The Daily Gleaner*, *The Gazette, Edmonton Sun* and *Telegraph-Journal.* Overall there were media sources represented from all regions of the country. All issues of these newspapers were examined over a five-year period, starting from Oct. 17, 2014 to February 25, 2019, including news articles posted on Oct 17, 2019 which were published during the legalization of cannabis in Canada. The number of articles that were examined as result of this research includes over 100 newspaper articles. To conduct a thorough investigation of the legalization of cannabis and its influence on both companion and working canines, each of the articles that were analyzed involved a clear correlation between this policy shift and within these positions.

3.1 Phases of Data Analysis:

   The initial phase of the data analysis followed an inductive, thematic approach analyse the articles in the data set to identify initial emergent themes. According to Denecke and Nejdl (2009), this approach is most effective when there is insufficient former knowledge about the phenomenon being studied which is the case with cannabis legislation and its consequences for companion and working animals. Moving from the specific to general I used an inductive approach "so that particular instances could be observed and then combined into a larger whole or general statement" (Chinn and Kramer, 1999). For the purpose of organizing the data and collecting the information, the process involved three

main phases: preparation, organizing and reporting. Through this process key themes were identified as they emerged from the newspaper article data that was collected (Weber, 1990; Burnard, 1996).

The preparation phase starts with selecting the unit of analysis (Hsieh & Shannon, 2005; Krippendorff, 2018). For this study, the unit of analysis was emergent themes at the intersection of cannabis use and companion animals and working animals. Utilizing the academic database *LexisNexis* to access computer-assisted legal research and newspaper documents across the provinces, the keywords searched include *canines*, *dogs*, *marijuana*, *cannabis*, *legalization, companion animals* and *work*. To ensure that the analysis process was not challenging and reduce the result of fragmentation, judgement sampling was also necessary. The newspaper samples chosen from this database were then all encompassed under the overarching theme of cannabis legalization effect on canines' lives. As suggested by Kruskal and Mosteller (1979), the samples were representative of the universe from which it is drawn. With a large amount of data collected from the resulting newspapers that had been selected, the content in each article was then analysed and organized.

Just as Graneheim and Lundman (2004) have pointed out that, "the most suitable unit of analysis is one that large enough to be considered as a whole" (p.3), it was also kept small enough as a context for providing a meaning unit during the analysis process. To properly thematically organize the newspaper articles and the data collected, the analysis involved mostly manifest content with

a small amount of latent content. With the aim of latent content to notice silence, sighs, laughter, posture and hidden meanings found in documents (Patton, 2014; Elo & Kyngäs, 2008), it was not the main focus of this study.

Guided by the aim and research framework of the study, the content was chosen for analysis and then divided into smaller categories. These three broad sub-themes to emerge for working canines included: (1) the negative health effects of cannabis on dogs; (2) the reduced opportunities for working dogs; (3) increasing interest in cannabis as a therapeutic measure for dogs and animals. Similarly, for newspaper articles regarding companion canines six broad sub-themes emerged, each divided into both the positive and negative impacts of cannabis on these animals. For the beneficial healthcare position on cannabis for dogs, the three sub-themes included: (1) Positive health effects of CBD; (2) Cannabis as a medicinal product/commodity; (3) Canines treated as children. On the contrary, from the examination of the newspaper articles the negative healthcare impact of this legislation three sub-themes also emerged, including: (1) (1) Increase in THC poisoning, (2) Obstruction of veterinary services, (3) Lack of awareness of symptoms.

3.2 Analysis of data

After the initial analysis of the data in creating themes from the analytic process, the data was then further examined, to make sense of it and to learn 'what is going on' (Morse & Field, 1995). As Tesch (1991) and Burnard (1991) highlight the importance of obtaining a sense of the whole, this study involved a

thorough analysis of the newspaper content and its meaning. Immersed in the data, the written material was read through several times, as Polit and Beck (2004) notes that, "no insights can spring forth from the data without the researcher becoming completely familiar with them" (p.2). After making sense of the data, further analysis was conducted using an inductive approach.

Employing an inductive content analysis, the data collected from the newspaper articles were then organized. This process involved open coding, creating categories and abstraction (Elo & Kyngas, 2007, p.3). For the open coding, notes and headings were written in the text while reading it. The written material was then read through again, and as many headings as necessary were written down in the margins to describe all aspects of the content (Burnard, 1991; 1996, Hsieh & Shannon, 2005). With the headings collected from the margins on to coding sheets (Cole, 1988; Downe-Wamboldt, 1992; Dey & Astin, 1993), the categories were then generated. After this open coding, the lists of categories were grouped under higher order headings.

The aim of grouping data was to reduce the number of categories by collapsing those that are similar or dissimilar into broader higher order categories (Burnard, 1991; Downe-Wamboldt, 1992; Dey & Astin, 1993). However, as Dey and Astin (1993) points out, "creating the categories was not simply bringing together observations that are similar or related; instead, the data was being classified as 'belonging' to a particular group" (p.3). This implies that a comparison could be made between this data and other observations that do not

belong to the same category. By creating sub-categories, it provided a means of which to describe the phenomenon, to increase understanding and generate knowledge (Cavanagh, 1997). When formulating the sub-categories through the inductive content analysis, the data was interpreted and then divided as to which things to put in the same subcategories.

Abstraction was then conducted as a means to formulate a general description of the research topic through generating these sub-categories (Walker, 1993; Burnard, 1996). Each sub-category was named using content-characteristic words, this was similar to thematic division. These subcategories include: (1) *working dogs*, (2) Companion canines, (3) *veterinary services*, and (4) *canines physical health*. The abstraction process continued as far as was reasonable and possible.

The analysis process was then completed, and the results were described in sufficient detail. This portion of the research was to ensure that readers would have a clear understanding of how the analysis was carried out and its strengths and limitations. By analysing the data completely and dissecting the analysis process, the validity of the results was not compromised. This involved a thorough examination of the data categories, database, article relevance and validity. After all the categories, themes and analysis were complete, resulting in specific sub-themes to emerge from the data, the results were then attributed meaning.

As Dey and Astin (1993) notes, creating categories can be both an empirical and conceptual challenge (p.3). Each of the sub-themes under the main theme of, *cannabis legalizations effect on canines*, emerged conceptually empirically from the data. Under the framework of the One Health approach, the data was simplified, and the categories were made to reflect how the legalization might facilitate direct effects on canines. Overall, the content analysis revealed findings and themes that inform issues surrounding the legalization of cannabis and its effect on dogs.

Across a five-year period, approximately 45 newspapers in Ontario including *The Globe and Mail*, *Toronto Star*, *National Post* and *The Hamilton Spectator*, indicate that working canines are experiencing job loss due to the legalization. During the coding process, key words such as *police force, lost jobs, relocation and canines*, were noted in both the headlines and in the content analysis. The phrasing of these particular news articles, each highlighted the 'detrimental effect' of cannabis for working dogs, specifically addressing:(1) the dogs were at risk because they were no longer necessary (2) the purpose and identity of the dogs came into question (3) the unclear status of the canines as technology to be replaced or colleagues working alongside professionals; (4) a loss of purpose because of the unavailability of retraining or reskilling.

Similarly, across the five-year period, approximately 55 newspaper articles in Ontario including the *Canadian Press, The Gazette, The Hamilton Spectator*, indicate that companion dogs have been exposed to both negative

and positive health implications due to the policy change. Within the coding process, key words including companion canines, poisoning, dog treats, THC and CBD, were indicated in the headlines of the newspapers and in the content analysis. Each of the articles examined noted either a beneficial or pragmatic influence on canines as pets due to this change in cannabis policy. Through these articles, the common cases addressed includes: (1) pet canines ingesting cannabis products resulting in poisonings, (2) the lack of education surrounding cannabis and canines (3) Public exposure to cannabis for canines (4) the consumption of cannabis as a commodity, and (5) cannabis as a holistic form of medicine.

3.3 Conclusion

For both overarching themes discovered through the examination of these newspaper articles that were investigated, it demonstrates a clear correlation between humans, animals and policy change. By examining the articles in close detail, following the procedures of qualitative media analysis, the emergent themes closely relate to the current literature on animals. During the analysis of the major themes of both working and companion animals, each related to previous studies regarding human-animal interactions and bonds from multiple perspectives. The theme of companion animals related to previous literature on human-animal interpersonal relationships and animal studies regarding emotional ties. Similarly, for the working animals' theme previous studies touched on the rights of these animals as workers in comparison to their

human counterparts. This includes cases such as pension supplements or healthcare benefits for these occupied animals, and their rights as employees. Overall, from a One Health framework, these themes connected to literature on human-animal and environmental interconnectivity including: (1) humans environmental impacts effect on animals, (2) the human-animal health and healthcare relationship, (3) animals' role and connection to humans and the environment.

In conclusion, the analysis of these newspaper articles in the case of cannabis legalization and its influence on canines uncover the need for more research. While this study offers further insight into the impacts of human policy changes on animals, particularly canines, there is still a gap in the literature. To continue the development within this area of research, it is imperative that literature examines animals that coexist alongside humans with a wider lens. This should include the examination of animals as both humans and nonhuman entities and their place within the realm of human society. As animals are perceived to contain human traits and given occupations similar to their human counterparts, it is an area of study that is necessary to explore. Analysing the case of cannabis legalization, this research gives rise to the issues that are forthcoming, particularly with animals, humans and policies so closely intertwined.

4.0 CHAPTER FOUR: Employment and Working Animals

On a daily basis at the Vancouver International Airport as many as twelve

dogs work on a variety of different tasks, from helping anxious travelers to

sniffing out narcotics and ensuring safety by identifying firearms among

passengers (Bonfanti, 2014). The capacity of canines to use their olfactory

receptors to 'sniff out' or uncover small traces of matter makes them valuable not

just in airports but a variety of workplaces (Lazarowski & Dorman, 2014).

Research on the involvement of animals in work identify a wide range of different

'occupations' that dogs take up, for instance police/military security (Gazit &

Terkel, 2003; Bamford, 2012), illness detection (Prestrude & O'shea, 1998),

environmental safety (Browne, Stafford & Fordham, 2006), agricultural protection

(Alomajan, 2013), and search and rescue (Savidge et al., 2011; Wiese, 2008;

Zanello, 2014). Animals that complete complex occupational-based tasks as part

of the workplace environment share a bond in tandem with their human

companions.

Across history, humans and canines have worked closely together and

through this formed a close social bond. Initially, humans acknowledged canines

as simply a 'being' or species other than themselves (Fritts et al., 2003).

However, over time humans incorporated wolves as hunters into these historical

communities. According to Gailbert et al., (2011), dog domestication began

around the Upper paleolithic period (~35,000 BP), well before any other animal

or plant domestication. Employing these proto-domesticated wolves into the

system of hunting and gathering, such as killing game, tracking herds of buffalo, etc., these animals helped in the nomadic lifestyle and human survival. Co-existing among humans, wolves became an essential element to agricultural societies. As Haraway (2003) reminds us, "humans are not and never have been autonomous, either as a species or as individuals" (p.3) and they are affected by others, especially animals, over time.

A number of issues arise in prior research regarding the status of animals in work, and dogs figure prominently in this work. Although therapy, detection and service dogs can be seen in workplaces with increasing frequency (Foreman et al., 2017), there is limited acknowledgement of their services as 'work' in the conventional sense of paid employment. According to Hoffman et al., (2013), while animals and humans have developed this co-existing bond over time, animals are mostly perceived as tools to better human lives (p.4). With humans and canines often involved in interspecies tasks within the workplace, this complex conception of animals' participation in work is particularly evident. Sharing both the traits of being a 'tool' and companion (Dunn & Degenhardt, 2009; Foreman et al., 2017), dogs are often not considered as working unless tasked with visible and physical labor clearly identifiable as 'work' (Blattner, 2020). For example, studies indicate 'working dogs' are mostly identified in relation to specific occupations, such as police detection or therapy/service dogs. However, the guidelines regarding the legal status of canines as employees remains unclear.

As an ongoing debate in the research, canines continue to be regarded within the workplace institutions as a 'worker' but lack the legal status of employee. Foreman et al., (2015) notes that animals in the workplace are often given limited rights in relation to their human counterparts. For canines, the workplace in which the labor is given out provides little compensation for the use of their abilities and skills or completion of tasks (Helton, 2009). Labor rights such as equal pay, vacation leave, refusal of dangerous work, etc., are often disregarded for canine workers. In occupations such as drug detection, border surveillance and disaster rescue services, health and safety rights are a serious concern. Baker, Truesdale and Schlanser (2009), highlight that working dogs, particularly those in the military, face many dangers both physical and psychological with regards to combat (p.1). Similar to the human service members, working canines take on work-based tasks that, while necessary for the job, are occupational hazards (Lesniak et al., 2008; Pfeifer & Goos, 1982). Protection for the rights, freedoms and wellbeing of canines as part of the workplace institution still remains as an area of interest. Therefore, decisions to accept dogs in the workplace must include many considerations, including the health, safety, and wellbeing of employees, legal and cultural sensitivities, and animal welfare (Lesniak et al., 2008).

Similarly, compensation and recognition for successful occupational tasks in the workplace is yet another lacking feature of animal work. For canines, little attention is given to the wellbeing, achievements or work environment in which

these working dogs are placed in (Baker, Truesdale & Schlanser, 2009). Although dogs have proven to provide many benefits and make up one third of the global populations' workforce (Foreman et al., 2015), the canines themselves are not recognized for the work. Instead institutions often accept the recognition, whether media oriented or in other forms. For Karl Marx (2000), as "we are not dealing here with those first instinctive forms of labour which remain on an animal level" (p.283), animals are not workers and therefore should not be given acknowledgement. However, researchers highlight that animals (ex. dogs) work in tandem with their human counterparts. As productive labourers, Hribal (2012) notes that animal workers should be repaid, given monetary compensation in the form of pensions or in any other form of financial support.

Research to further develop interspecies solidarity in the workplace and the working lives of dogs at the intersection between olfactory investigation and legal enforcement is necessary. One Health as a conceptual framework assists in broadening this scope and the way of which animals are seen in the workplace. The situation of cannabis legalization as shown in the media provides an interesting case study. To achieve this, what follows is initially a discussion of the general background of animals within the workforce drawing on literature surrounding human-animal workplace relations. This is followed by an analysis of findings from a qualitative case study of media coverage on the significance of cannabis legalization on the dogs working in the field of detection and enforcement. From this analysis, several key themes emerged regarding the

disruption of working opportunities for dogs in this area of employment. The four

sub-themes identified include (1) Increasing job loss for working dogs; (2)

Isolation from the institution of the workplace (3) Dogs as tools to be replaced.

Using a One Health framework, the analysis discusses the status of dogs in the

workplace and potential policy and program development responses available to

address the contribution of dogs to the workforce.

4.1 Research on Working Animals: Job Loss

In the literature on animals in the workplace the conceptualization of

employee rights continues to be a key area of interest. Since the beginning of

human societies, animals participated in work, be it for agricultural production or

human security (Hamilton & Taylor, 2013). While animals have contributed to our

society in countless ways, almost to the point of dependency, their rights as living

beings are still persistently brought forth into question. Garner, R. (2013),

highlights this issue, noting that animals have a right and a moral entitlement to

be treated in a way that is fair, particularly in the workplace (p.93).

This debate is especially salient currently as we continue to rely on dogs in

various areas of human economic production and social activity, including

medical science, law enforcement and mental health (Weisbord & Kachanoff,

2000). As Runhovde (2018) notes, sniffer dogs even contribute to preventing the

trafficking of illegal artifacts like ivory or other exotic items. Animals like sniffer

dogs, however, are not given the same consideration as their human

counterparts. According to Sunstein (2003) this has led to many animals, such

41

as dogs, to be placed in precarious working environments that could threaten their health and wellbeing (p.390).

The negative consequences of precarious employment is most notably seen in the wake of cannabis legalization which displaced many dogs working in this general sphere. Like humans, working dogs are not exempt to losing their jobs. Employed canines can become unemployed. However, dogs are unpaid and more vulnerable to changes in policies or social forces in part because they are not given compensation or employment rights. This is a result of canines being perceived as nonhuman, and therefore, less deserving of treatment that is similar to the humans in their occupations.

Throughout the media, these working canines are given the status of employees, portrayed as coworkers alongside humans. Yet, dogs in the workplace are not given the same opportunities, choices or freedoms within their occupations compared to their human counterparts. As highlighted by Harrison Jordan from *The Toronto Star*, the expectation of canines working within the police force is court challenges and several false positive tests due to the cannabis legalization (Deschamps, 2019). While these working dogs are perceived as imperative to seeking out drugs and trained to specialize in this area, the passing of the cannabis legislation has made their training obsolete. The consideration for these canines, their livelihood or wellbeing was not given, although they were perceived as workers in the police force.

In the case of cannabis legalization in Canada, the loss of work is due to the changes in legislation. As found in the news articles, canines were either forced into retirement or relocated as a result of this change. For one case in particular, fourteen RCMP drug sniffing canines including five in Alberta, face this exact reality due to the change in cannabis legalization laws. According to Gary Creed, senior trainer for the RCMP police dog services, "older dogs between the ages of seven and ten years old will have to be retired" (Holly Mckenzie-Sutter, 2018), as they are unable to be retrained. While this article notes that, some may keep their jobs or be sent to the United States, this case highlights the lack of rights these canines have to maintain their positions. Similar to their human counterparts, these working dogs are challenged by occupational instability and precariousness that surrounds their employment. Ultimately, in the case of Cannabis legalization, there were no provisions set into motion to protect these dogs or to understand the impact of the policy change on them.

Across the newspaper articles, these working dogs, like the drug sniffing police canines, are forced into their occupations and trained to specialize in certain fields. From the passing of this legislation, the purpose of the dogs in the workplace wasn't clear, and as a result, it is difficult to know what to do with them (Hribal, 2012). For Toronto cannabis lawyer Paul Lewin, he states that it is "ridiculous" that police forces plan to keep some of the cannabis-trained dogs (Holly Mckenzie-Sutter, 2018). As police canines are unable to detect the difference between illicit cannabis and legal cannabis or quantity, the passing of

this legislation forces these animals into retraining or to be useless. While several officers argue that these working dogs are imperative to the workplace and are understood to be colleagues to their handlers, they are also viewed as tools. The liminal identity of dogs is problematic, and this becomes evident in situations like changing legislation that makes them no longer relevant.

As highlighted above, it is clear that canines for years have been occupied in countless areas of human society. Ranging from drug sniffer to therapy dog, these working canines have been employed, encompassing their jobs as part of their lives. However, while studies acknowledge that these canines are hardworking (Schmidt-Nielsen & Duke, 1972), it fails to mention the impact of the jobs from the perspective of the canine workers themselves. According to Duhaime and colleagues (1998), working canines face similar challenges and danger on the job to that of their human companions. However, in most cases such as the Oklahoma K9 unit, Durhaime notes that these canines are not given proper safety measures or protection. While research continues to support animal rights, it doesn't include the needs or wants of the animals being employed. As such, in the case of cannabis legalization in Canada, the impact of this piece of legislation on animal workers was not considered and the result was job loss and dislocation.

4.2 Change in Social Status: Dislocation of Canines

The literature on working animals demonstrates that they have become closely integrated into the technical fabric of the workplace. From occupations

ranging from agricultural work to healthcare services, animals are used for their unique abilities to enhance our lives whether it is through their physical power or physiological abilities. For example, horses and donkeys providing essential transportation of resources such as carts, food, and people (Pritchard et al., 2005). Throughout history animals have provided resources working in tandem with humans for the purposes of societal advancement (Hamilton & Taylor, 2013).

However, studies indicate a shift toward technology advancement, and as such, working animals are often replaced. For example, one area in which this replacement of working animals is clearly demonstrated would be during the introduction of motorized vehicles. According to Gelber (2008), horse transportation became obsolete during the technological revolution of motor transportation (p.1). As horses could not provide or keep up with the services that automobiles promised, even horse drawn carriages were deemed unnecessary (Nakicenovic, 1986). This substitution of horses for vehicles resulted in the displacement of many working horses, and their livelihood. Similarly, for canines, modern technological advancements threaten to displace their jobs. As Banks and colleagues (2008) highlight, several animal-assisted therapy (AAT) dogs face replacement by robotic canines. While these working canines have yet to be replaced, the shift between using technology and real animals still exists. Based on the literature, technology has been dislocating animals throughout time, and

as it is not a new phenomenon, there is a promising pattern it will continue to occur.

For working canines, the legalization of cannabis in Canada proved that animals as part of the workplace can be replaced. Many dogs lost their jobs due to the passing of the cannabis legislation. In addition to completely losing their place at work- which is also often their homes or tied to their homes - these working canines were also displaced and at times relocated. According *The Vancouver Sun* (2018) newspaper, RCMP police dogs are only one of the many working canines that will have to be relocated for re-training. Displaced into a re-training facility where they will be, "trained to sniff out truly illegal substances, that would be heroine, methamphetamine and cocaine" (Manuel, 2013), according to Dusty's handler, officer Duke Roessel. As a result of the legalization these working canines will be forced into relocation and stripped of their statuses as working police dogs. Instead, these canines now face the threat of being completely replaced, having their lives disrupted and given less responsibilities in comparison to before the change in the legal status of marijuana. Essentially, due to the legalization of Cannabis, working canines now face the possibility of a new status as a pet and/or the relocation to a new facility for training.

Similarly, in experiencing job relocation and losing their status as working canines, these newspaper articles give rise to questions surrounding the purpose and identity of these dogs. Are they pets? colleagues? tools? During the analysis, numerous news articles identified working canines based on their

institutional job description. Labelled as 'pot-sniffer dogs', 'detection specialists', 'Police Services K9's', and 'bomb finders', these dogs, particularly within law enforcement institutions, are classified based on their occupational speciality. However, with the shift in laws in legalizing cannabis, the newspapers report that working canines have lost their ability to perform, and therefore their title in the institutions. According to the *Calgary Herald* newspaper, "a total of 14 RCMP sniffer dogs will be sent off into retirement- in Alberta, five will no longer be in service" (Laing, 2018, p. A4). Forced into retirement as the canines can no longer be put into action or establish grounds for search. As a result, these working canines experience a loss of purpose and personal status as employed.

Being relocated, retrained and pushed into this change resulting from the shift in the legislation, these working canines become vulnerable. Similar to their human counterparts, working dogs often can face the realities of being jobless, homeless and provided little benefits after retirement. For several working animals, such as drug sniffing dogs like Emma, (October 22, 2018 Monday), while she worked on the job for five years as part of the New Bruswick RCMP team, the legalization of cannabis forced her and another 12 percent of RCMP canines to retire. According to this newspaper article, while she could not be retrained due to age restrictions, she was pushed to retire after her long service to the police force. Yet, for these working canines the question of whether they want to retire or if there are provisions to protect them after displacement from the workplace is also raised. While this article highlights that Emma will, "be

enjoying her retirement with Const. LeBlank" (October 22, 2018 Monday), there is no mention of the rehoming of the other 12 percent of canines that were forced to retire alongside her. These working canines, instead, are pushed into a position with a change in status and employment. Ultimately, from this shift in legislation, it brings to light the vulnerability and lack of provisions surrounding canines in the workplace after retirement or being displaced.

As previous literature highlights that working animals, throughout history, have been replaced, the cannabis legalization in Canada is brought forward as a modern example of this. Integrated into the workplace setting, working canines are not only part of the services they provide but are perceived as colleagues by their fellow human companions. This case illustrates that and the importance of these working dogs as part of the economy. However, as noted above, these animals employed under human society can be replaced and relocated. The loss of a job from the perspective of the animals that work, including their feelings, choices and rights are not considered in the literature. Through this case of cannabis legalization, it is clear that the lives of these working animals can be negatively impacted by the decisions of human policy and therefore should be considered.

4.3 Animals in Relation to Technology: Tools

Across the literature, the research on the field of working animals identifies numerous ways in which canines are both integrated and assist in the workplace. Possessing highly developed olfactory and physical abilities, dogs are

extensively used to detect a variety of substances including narcotics (Adams & Johnson, 1994; Dean, 1972), humans (Bauer, 2011; Gwaltney-Brant et al., 2003), endangered species (Errico, 2012; Savidge et al., 2011). In specific occupations such as agricultural or culinary work, dogs are often given tasks such as herding other animals (Arnott et al., 2014), or sniffing out truffles (Alomajan, 2013; Wise, 2008). Even as part of the legal services, a well-established role for working dogs is the scent detection of landmines, roadside bombs and other explosive materials that pose a risk to civilian and military populations (Furton & Myers, 2001; Gazit & Terkel, 2003; Harper et al., 2005; Jones, 2011). With an invaluable sense of detection in several areas of work including, environmental protection (Errico, 2012), search and rescue (Castaldo, 2014; Gwaltney-Brant et al., 2003), illegal substance and drug detection (Marx, 2013; Barrus et al., 2016) and medical diagnosis (Prestrude & O'shea, 1998), canines have become instrumental to the workplace.

In particular canines' olfactory abilities are most crucial in occupations regarding surveillance work. For dogs, legal enforcement is one of the most acknowledged working positions in which the canines are employed (Pfeifer & Goos, 1982). As part of the legal services, a well-established role for working dogs is the scent detection of landmines, roadside bombs and other explosive materials that pose a risk to civilian and military populations (Furton & Myers, 2001; Gazit & Terkel, 2003; Harper et al., 2005; Jones, 2011).

49

According to Baker, Truesdale and Schlanser (2009), sniffer dogs have been used by law enforcement and civilian services worldwide as operational tools for more than 100 years (Lesniak et al., 2008). This makes these working dogs indispensable to the legal institutions such as the military, police force and airport services (p.1). With the ability to be trained, studies indicate that these dogs can be deployed to detect any odorous substance (Lesniak et al., 2008). Compared to instrumental methods, studies indicate that sniffer dogs represent a versatile detection device that remains reliable, even with interfering and distracting odors (Schoon, 1997; Furton & Myers, 2001; Porritt et al., 2015).

However, while this literature expands on the importance of canine workers, it often neglects the specific institution context in which dogs work. There is a danger to abstracting this work as having an equivalence without attention to the distinctive forms of labour that dogs are asked to do with humans (Lesniak et al., 2008). As part of the legal services, working dogs are often viewed as technology, tools, etc., and therefore face many dangers in these occupations. According to Gazit and Terkel (2003), sniffer dogs are continuously put under strenuous activity, often resulting in overheating and physiological exhaustion (p.1). For several working canines part of the legal and surveillance enforcement, risks can include serious situations such as close range to explosions, gun fire and criminals (Dunn & Degenhardt, 2009). This lack of attention in regard to the risks that canines take as part of their workplace tasks, is only one area of research that is limited.

In the literature, another area of research that has developed in recent years is the legal issues around the rights in the enforcement of canines. For working dogs' part of these legal institutions such as the police force, military, and airport surveillance, there are concerns regarding the rights and restrictions of olfactory surveillance (Baker, Truesdale & Schlanser, 2009). In a study by Marks (2007), he notes that drug detection dogs, while are the most common tool of olfactory surveillance, there is an absence of a code of practice (p.1). As working canines' as part of the legal services enable the odor detection of drugs, food, firearms, etc., that is undetectable by human senses (Holland, 2018), these dogs are perceived as a 'technology' (Beck & Madresh, 2006).

Defined in the New Oxford English Dictionary as 'the application of scientific knowledge for practical purposes' (Marks, 2007), the concept of 'technology' in this context are these dogs. Trained in accordance with the Pavlovian classical conditioning to recognise and detect materials such as narcotics (Pfeifer & Goos, 1982), these working canines are used as part of the 'new surveillance' (Marks, 2007). Gary Marx (2002), notes that, "the 'new surveillance is the use of technological means to extract or create personal data…the information implies the ability to go beyond what is offered to the unaided senses or voluntarily reported" (p.12). This suggests that dogs are 'technology', aiding humans in services and deployed in areas such as public transit routes, schools and licenced premises.

However, relatively little debate over the development and use of detection dogs has come forward. Without specific legislative authority or regulations around olfactory surveillance, legislative committees question this type of surveillance in relation to the right to privacy. With the aim of the rule of law and right to privacy being to, "protect the citizen from arbitrary interference by authorities" (Marks, 2007, p.258), this conflicts with the canines' search methods. Froh (2001) highlights this, noting that drug sniffing police dogs obtaining information through sense-enhancing technology are able to find information that could not otherwise have been obtained without physical intrusion (p.4). As working canines have the ability to search into constitutionally protected areas, the right to privacy comes into debate in this case.

In the case of cannabis legalization, the status of these canines has shifted from being useful to useless. Costing over $5,000 dollars to be retrained as a drug sniffing dog, according to Mark Linquist, the debate over the worth and potential value of working canines has also come into question (Hauen, 2018). Across the newspaper articles working canines, particularly in the field of law enforcement and drug detection, are treated as property or an object as a result of this shift in legislation. While previously considered as colleagues and workmates, the status of these canines has become closer to that of a tool or something that can be bought or sold. The health, wellbeing and consideration of the working dogs are not part of the employers concerns. According to *The Ottawa Sun*, the police force highlights that it might not even be worth retraining

these dogs as "judges might exercise the dog sniffer from their analysis of probable cause" (Ottawa Sun, 2018). Without the acknowledgement of being workers or useful to the workplace, these working canines are forced into retirement. As a result of the shift in cannabis legislation, these working canines are labelled as obsolete and unable to complete their tasks, and therefore nothing more than tools.

As highlighted in the literature, these dogs occupied within human society both provide a valuable contribution and are imperative to the workplace. Yet, throughout the newspaper articles, the contradictions in the purpose and use of working canines is evident. Given a value based on cost as noted in the above case study, the basis for how they are perceived and treated is considered by use. As a tool or technology that is implemented in the workplace by human handlers, working canines are at-risk of being discarded when deemed by the workplace institution as not necessary. Across the newspaper articles, this shift in cannabis legislation has led to many of these working canines, particularly in the law enforcement and drug detection fields, to be discarded. In the form of retirement, one such canine named Luke, "who has sniffed over $5 million in drugs during his time on the force, is one of 14 canines across the country who will be out of the job" (Edmonton Sun, 2018). While it is considered a meaningful retirement, suggesting that dogs like Luke get a home to rest and live out the rest of their lives, the acknowledgement of their previous work efforts is lost. Ultimately, this shift in legislation highlights that these working animals can be

forced out of their jobs, given no pensions, care or other provisions to protect their wellbeing. Instead, they are treated as tools, to be used and retired when no longer necessary.

The previous literature often neglects the specific institutional context in which dogs work. As a result, there is a danger to abstracting this work as having an equivalence without attention to the distinctive forms of labour that dogs are asked to do with humans. In many cases, the expertise that dogs bring to the work is their sense of smell, ability to communicate and the power of detection. Over time, dogs have made themselves almost indispensable to doing this institutional work.

4.4 Conclusion

In conclusion, the rights and freedom for working animals continues to be an ongoing debate. While many labour advocates may reject the idea that animals work or even refuse to see the prospects of greater concern for animal welfare in the workplace (Marks, 2007, p.1), animals are occupied within human society. As highlighted above, work has a profound impact on billions of animals' lives, greatly influencing their wellbeing and health in various forms. For several researchers such as Epstein (2002), the concept of animal rights is complex, as animal work is considered to be different in nature to human work (p.16). Across the literature, animals are perceived as ineligible for labour rights. Similar to many researchers, Karl Marx argues that animal production is conditioned by instinct, and therefore is not considered to be beings deserving of rights at all

(2000, p.64). However, as animals are employed under human control with `humane use` (Epstein, 2002, p.17), the concept of animals deserving rights intandem with their human counterparts is apparent in the research community. With the concept of rights, particularly for animals, has yet to be defined, the idea surrounding what working animals deserve as part of the workplace is still unclear.

As a result of this ongoing debate surrounding labour rights, the employment status of these working animals is brought forward. Across the literature, animal employment can be highlighted in various forms such as therapy (Sams, Fortney & Willenbring, 2006), security (Falvey, 1985) and transportation (Swann, 2006). While these animals are considered to be employed under their human companions or workplace, often they are not viewed as employees. Lacking benefits, rights and freedom of occupational choice, these working animals need a voice. Therefore, it becomes essential to reform employment to include animals further, this is to gain a greater understanding of these working animals and provide guidelines on the impacts occupations could have on their lives. As highlighted by Sams, Fortney and Willenbring (2006), these animals occupied by humans deserve equity and inclusion in their rights to working conditions and retirement. Overall, working animals need to be considered to expand on our human-animal relations and workplace productivity, particularly in the case of cannabis legalization in Canada.

5.0 CHAPTER FIVE: Health and Healthcare for Companion Animals: Introduction

The controversy surrounding the legalization of cannabis in Canada still exists to this day as a result of the confusion surrounding its provisions. While this continues to be an ongoing debate within society and the research community, there is limited knowledge encompassing the impact of marijuana on animals. For animal owners, the relationship between cannabis and their companion animals is paradoxical. In many cases, pet owners face the contradiction between cannabis as a positive or negative substance for their animals. With veterinary services historically lagging behind human medicine since its inception (Cital, 2019), animal owners lack the ability to seek out knowledge on this issue.

On one hand, people are using cannabis as a treatment for their animals. In applying cannabis medicinally to animals, owners are using it as a home remedy to their pet's ailments. These afflictions range from mental illness to physical disabilities, including conditions such as anxiety, and arthritis. For many people with companion animals facing these types of ailments, cannabis is presented as a more holistic approach to animal treatment. For example, instead of applying painkillers or medical treatments that may present side effects, pet owners are finding the CBD in cannabis as an alternative form of medicine to give their companions. In many ways, cannabis is perceived to have positive effects on companion animals and their healthcare similar to how people use medicinal cannabis.

At the same time, cannabis is also a health threat for animals. According to recent literature, cannabis can lead to many negative health effects. Veterinary services are now warning pet owners of the poisonous impact that THC in cannabis can have on animals (Botha & Penrith, 2009). For example, in the cases of dogs and cats, studies suggest that the ingestion of THC from cannabis can lead to symptoms of poisoning including, vomiting, diarrhea and dizziness (Brutlag & Hommerding, 2018). According to Fitzgerald and colleagues (2018), the result of increased animal ingestion of cannabis products has contributed to a rise in animal deaths. As a result, many veterinary services warn against the use of cannabis around companion animals and the safety hazard that it poses. For pet owners, this has become the source of debate between the benefits and repercussions of marijuana usage for their animals.

In the research community, there is a growing interest in this intersection between human health and animal health. One Health is a framework that links animal and human health showing how it is interconnected (Mitchell et al., 2020). According to recent studies, humans and animals' lives are interdependent, leading to the relational impact that each can have on one another. As animals continue to be woven into the social fabric of human society, this close interconnectedness can provide both benefits and drawbacks. In this chapter, I look at both dimensions starting with the ways that in the media cannabis is seen as a health care option. And, also how it can be a public health threat to companion dogs. Legalization brings each of these issues into a different frame

57

as people can now legally gain access to this once illicit substance, therefore leading to an increased presence of cannabis. Ultimately, this raises the questions of its benefit and risk.

5.1 Therapy Use Among Canines

With the shift in the legal status of recreational drug use occurred, more and more products are being created for both human and animal consumption. This still remains a grey area. One unanticipated by-product of this new law is its effect on canines healthcare. Particularly as a homeopathic medicine, cannabis is perceived to have a positive impact on canines. I discuss findings from a qualitative case study of media coverage on the significance of the legalization on the healthcare for dogs. Examining the intersection between human and animal health, this case study review furthers our understanding on the media use of human imagery as a means of promoting and portraying cannabis as a treatment for canines. Through this analysis there were three broad themes identified: (1) Positive health effects of CBD; (2) Cannabis as a medicinal product/commodity; (3) Canines treated as children.

5.2 Positive Health Effects

Across New York, dogs are indulging in peanut butter and grain-free CBD pet treats distributed by one of the many start-up companies, the Los Angeles-based business Leafy Dog (Haldeman, 2018). In the form of pet treats, sprays and even lip balms, canines are given medicine to provide relief from ailments including anxiety and cancer. As a companion species, dogs are often given

treatment, medicine and attention, similar to that of a human. In recent years, companion animals, primarily dogs, are becoming an increasingly important and common part of life for humans. In the United States the percentage of households with dogs increased from 31.6% in 2006 (AVMA, 2007). For many of these companion animals, humans perceive their pet as family or friends and even at times as a replacement for a lifelong partnership. Therefore, many humans want to provide the best health care and medical treatment for their companion animals, in this case, in the form of CBD treats.

The use of cannabis as a holistic alternative for animal healthcare has become a growing area of interest in the research community. According to Gerb and Puschner (2018), while cannabis is a relatively new product it has proven to provide many benefits to animal health as an alternative therapy in the form of CBD. Through their study of 632 pet owners that used the CBD products, 95% of them suggested that the CBD therapy was either equally or better than other standard medicines or therapies of care. Similarly, several other studies found that the cannabinoid CBD oils, food products and lotions can assist in animal ailments, such as arthritis and anxiety (Gyles, 2016; Kogan et al., 2019). However, as government regulations limit research on the effects of cannabis on animals, there have yet to be definitive studies on the impacts these products have on pets over the long term (Gerb and Puschner, 2018). Further research on the use of cannabis as a medical treatment and the effects of CBD over a long period of time is still necessary.

For pet owners cannabis is perceived as an alternative form of medical treatment for their companions that is both affordable and a healthier option than veterinary medicine that models itself on medical scientific approaches. In the case of Michael Fasman, a pet owner of a 12-year old dog named Hudson, while his companion suffers from pain caused by arthritis and an amputated toe, he doesn't want to give her painkillers because "they just knock her out" (Chea, 2017, p.1). To pet owners, such as Michael, the CBD cannabis products provide a more holistic form of treatment for his companion and relief without the use of traditional drugs. While veterinary services are unable to advise or provide these CBD products as a medical treatment due to the lack of scientific evidence, pet owners are convinced that cannabis has improved their pets' health based on their own observations. According to Lynne Tingle, owning an animal shelter for elderly dogs, she also supports the use of CBD oils to treat many of the ailments, stating that "you can see a difference in their spirit" (p.1). With veterinary services sometimes unable to provide any other alternatives to animal medical care, many pet owners turn to cannabis as a last resort, finding the results to be positive. While controversy still exists amongst pet owners and veterinary service providers, many are turning to CBD as an alternative treatment option.

5.3 Cannabis as a Commodity:

After the legalization of cannabis in Canada, the production of marijuana as a commodified product also began to expand dramatically beyond its previous and limited medicinal status. With humans not being the only species to benefit

from the use of cannabis, numerous businesses took to marketing cannabis for animals (Kogan et al., 2019). Alongside human cannabis commodities, animal products also became a major selling feature for companies. For example, TreatWell is one of many companies to sell cannabis tinctures- extracted from marijuana plants- that can be added to food or dropped directly into an animal's mouth (Chea, 2017). Products including CBD shampoo, oils, ointments and other such items have also become marketed for pet consumption, ensuring a more holistic treatment for animal care. Like many of these businesses, there still exists some concerns surrounding both the quality and effectiveness of these products. For pet owners, these cannabis products can be a form of natural medicine for their companion animals, that is 'better' or even 'less drug inducing' (p.2). Ultimately, the legalization of cannabis has pushed forth the expansion on marijuana products for companion animals (Gyles, 2016).

Since the legalization of cannabis, it has led to the commodification of marijuana for companion animals. With this, the debate surrounding its usage continues to exist as a market commodity. Researchers highlight that this piece of legislation has opened new opportunities in the business world for animal products. For Kogan and colleagues (2016), the legal status of cannabis has led to a surge in animal CBD health products for which pet owners can consume. Greb and Puschner (2018) highlight that this rise in production of commodities such as CBD treats, oils, etc., led to the popularization of CBD animal products as an alternative treatment for companion animals (p.1). However, while pet

owners have adopted these products as a legitimate medical treatment for their animals, research still remains very limited in this field (Kogan et al., 2016). Studies suggest that veterinary services, while continuing to gain further knowledge, still lack the information and education on the effects of cannabis as a treatment.

According to Potter (2018), while cannabis is perceived as a beneficial treatment, providing several benefits to ailments ranging from Attention Deficit Disorders to anxiety (p.1), vets cannot legally support these claims. As the legalization of cannabis does not include the federal acceptance for animal consumption as a medical treatment, the health care for companion animals using CBD remains unclear (Gyles, 2016). For several pet owners, while the vet services are unable to provide more clarity, cannabis is still circulating as an effective treatment option. In the case of Marion Chorney (June 8, 2013 Saturday), and her 11-year old coonhound that was diagnosed with bladder cancer, she found that most people she knew suggested cannabis for her elderly companion. She highlighted that while she was concerned about giving her dog the medical treatment due to its uncertainty, many people kept asking her "why isn't he on it" (p.1). For owners such as Marion, their companion animal is important to them and while cannabis has yet to be proven, many are willing and suggest that cannabis is beneficial. According to Kogan et al,. (2019), though, the majority of pet owners agree with cannabis as an effective treatment for their animals> It continues to be viewed as an alternative treatment. Ultimately, human

consumption of cannabis further perpetuates the production of animal CBD products, and pet owners continue to want to provide equalized treatment for their companions.

5.4 Animals Treated as Children:

As humans have interconnected with their animal counterparts throughout history, the bonds between them have always been strong. In countless ways, animals have assisted in building human society whether through transportation or food production and acquisition. However, as time continued the relations between humans and animals has shifted into more than just a worker-owner relationship. For several pet owners, their companion animal can be perceived as their 'child', 'friend' or even 'life partner' (Cain,1985). As a result of the rapid increase in people living alone, more and more people are viewing their pets as more than just an animal. For pet owners, these animals can provide a sense of companionship and connection, replacing feelings of loss and loneliness. In the case of cannabis legalization, this relationship between humans and their companion animals is only more evident. With more pet owners treating their pets as close members of the family, the quality of healthcare for their companions is becoming more important. As a result, cannabis products and healthy holistic alternative medical care such as CBD treatments, have become high demand for pet owners.

Studies support that the vast majority of pet owners consider their companion animals as important members of the family. Throughout history,

humans have been known to work alongside animals, and over time have developed a strong bond with them. Research in this area expands across multiple disciplines, each highlighting the importance of the human-animal bond resulting from social interactions (El-Alayli et al., 2006). Researchers note evidence supporting that animals are socially and emotionally beneficial to humans as family members (Moretti et al, 2011). For instance, social support theory and attachment theory help to explain the 'animal effect' arising from the human-animal bond (Mossello et al, 2011; Souter & Miller, 2007). In particular, companion animals are seen to be a key factor in ameliorating depression, providing love and support for their human counterparts.

For many pet owners, studies suggest that companion animals are a form of replacement for children. According to Volsche (2019), cross-species parenting continues to be a growing phenomenon as people are turning towards animals as children rather than having children. In a family dynamic, companion animals are often treated as children or babies (Souter & Miller, 2007), offering a source of comfort and familial support. Even in grief, Lagoni, Butler and Hetts (1994) highlight that pet owners want to provide the best quality care for their animals. In the case of cannabis usage, as it is perceived as a more holistic method of medical treatment, pet owners are seeking out cannabis as a healthy alternative of care for their companions.

With pet owners associating their animal companions as part of the family dynamic, people aim to provide the best quality form of care for their pets'

wellbeing. With the marketing of cannabis animal products rising after the passing of this legislation in Canada, more pet owners have sought out medicinal cannabis for their pets' ailments. While there still exist debate surrounding the benefits of cannabis for pets, many pet owners turn to cannabis as a last resort or alternative form of care. For Heather Johnson, a pet owner of a rescue cat named Manderine, this was particularly the case. According to her statement in the Montreal newspaper *The Gazeett*, she felt like the "deviant parent", giving her cat CBD oil in her cats treats. Being a rescue cat that continuously licked itself out of anxiety to the point of hair loss, Heather Johnson resorted to legal cannabis CBD oil to remedy the problem (October 16, 2018 Tuesday). While vets make the statement that there is a need for more "concrete evidence", many pet owners like Heather find that the medical cannabis works for their companion animals.

　　　While several pet owners consume and purchase these products for their pets, uncertainty surrounding cannabis for companion animals still exists. From this shift in legislation, cannabis products for animal healthcare continues to rise, however there is a lack of literature and studies regarding the effectiveness of cannabis for companion animals. At the forefront are dogs, with countless products directed at canines and their ailments, pet owners are purchasing cannabis with the intention of using it as an alternative and holistic form of medical treatment. Although these products suggest that cannabis is beneficial for companion animals, veterinary medical research highlights that there is still

not enough evidence to make this assumption. This shift in cannabis legalization brings to light these concerns surrounding animal healthcare products, and the lack of provisions governing the business of animal health.

5.5 Public Health Risks

With this shift in legislation, while there are many claims to the benefits of cannabis for companion animals, there are also several negative effects on animals. Through this paper, I examine the effect of Cannabis legalization on the intersection between humans and dogs health, specifically on canines wellbeing. Predominantly perceived as a public health issue, dogs have been mainly disregarded as a population of which might be at risk. However, research demonstrates that canines can be just at risk to health issues such as disasters, pollution, etc. In this case, the legalization of Cannabis on October 17, 2018. One unanticipated consequence of this shift into Cannabis legalization within Canada is the effect on the physical health of dogs. Across a five-year period, numerous newspaper articles indicate that canine's health is steadily decreasing due to the legalization. During the coding process, key words such as negative *health, dogs sick, canines high*, etc., were noted in both the headlines and in the content analysis. The phrasing of these particular news articles, each highlighted the 'detrimental effect' of cannabis for dogs, specifically addressing: (1) Hospitalization of dogs due to cannabis ingestion, (2) Lethal Symptoms associated with THC for Dogs, and (3) Dogs accessibility to cannabis.

5.6 Dog Hospitalization-increase in THC poisonings

For approximately one third of the articles from this analysis, the data

indicated that there has been a major increase (varied between 700-780% based

on year), in canine hospitalization as a result of consumption. According to a

Hamilton Spectator news article, after the legalization of marijuana, "a wave of

unintentional overdoses occurred, and this is only expected to continue to

increase" (September 17, 2019 Tuesday). The majority of health professionals

highlight in these news articles that cannabis is more potent today than it was 20

to 30 years ago (Bigham, 2018). As a result, one of the biggest causes of pet

poisoning is the concentration of the active ingredient tetrahydrocannabinol

(THC). Varying from less than 5 per cent to more than 40 per cent, according Dr.

Maggie Brown-Bury, "this makes it uncommon to see multiple dogs in the clinic

for cannabis toxicity at one time" (Knox, 2019). This demonstrates a problem, as

there is a clear correlation between cannabis consumption and dog

hospitalization.

In the literature, while there are many indications of cannabis impacting

animals in countless ways, the negative implications of THC on non-human

species still remains limited. Veterinary medicine continues to expand on

cannabis and animals in the research community, specifically examining the

physical influence of THC on animals, however studies continue to focus on

smaller animals. For example, Scallet (1991) highlights the negative impact of

cannabis on rats, noting that it negatively influenced the brain and physical ability

to learn (p.1). Similarly, studies indicate that there is a correlation between cannabis and hunger or thirst. For researcher E, L. Abel (1975), while a study on the effects of cannabis on animals can be completed, research the data is still unequivocal, raising more questions than answers (p.2). From this shift in legislation it is clear that further research is necessary to understand the impacts of cannabis, particularly with regards to THC for dogs.

With the rise in cannabis consumption continuing to grow as a direct result of this policy approval in Canada, there have been many cases in which pet owners have experienced THC poisonings with their companion animals. Lacking knowledge around the subject of cannabis and its influence on animals, particularly dogs, many pet owners' express concerns regarding this legislation. For Teresa Ollerenshaw-Ramsey, the negative impact of cannabis legalization on dogs became real when her puppy Lola ingested a joint that had been improperly disposed of. Highlighting that, there have been ongoing issues with people flicking marijuana cigarettes from the condo she lives in, Teresa as a pet owner calls on pot users to "Please be mindful of where you are disposing of your roaches" (Beaver, 2018, p.1). According to her statement to *the Toronto Star* newspaper, the incident occurred only two days after the legalization of cannabis and could have caused death to her dog Lola. In this case, the legalization of cannabis led to the hospitalization of a dog due to the improper disposal, care and regulations surrounding this piece of legislation. For several pet owners, such as Teresa, news articles highlight the rise in pet poisonings due to the THC

in cannabis and the fear surrounding the lack of control around its disposal.

Ultimately, as many people do not realize the effects of cannabis on animals the

debate continues.

5.7 Lack of Knowledge: Lethal Symptoms associated with Cannabis

  Across the newspaper articles, another theme that came to light is the

lethal symptoms associated with the consumption of cannabis products for

animals, particularly canines. Before the legalization of cannabis in Canada,

research advancement surrounding cannabis and animals had been limited

(Kogan et al., 2019). Specifically, for veterinary services and medical

practitioners, the knowledge regarding cannabis poisoning, properties and effects

had only become evident in recent years. According to Meola and colleagues

(2014), veterinary services have often been behind that of human medical

advancement and have often had gaps in research. As a result, there are several

areas of study that lay underdeveloped. In the case of this legalization, the

physiological, mental and emotional effects of cannabis on canines still remains

restricted. With the rise in cannabis products for canines, misjudgement

regarding safety, proper dosage and poisoning due to human consumerism, has

also become a concern. Mostly associated with THC, veterinary services

acknowledge that cannabis is causing animal poison cases. However, there is

not enough evidence to support these claims as there are few studies regarding

the matter. While in some studies, there is a significant correlation between

marijuana toxicosis in dogs and the legalization of cannabis, there is not

sufficient data (Meola et al., 2014). Ultimately, for countless pet owners, the symptoms regarding cannabis poisoning and access to the knowledge on the impact of cannabis on their companion animals' health remains limited.

Although the literature on the impacts of cannabis on canines continues to be restricted, studies on the toxic effects of drugs on animals as a benefit to human medicine still exists. For years, animals have repeatedly been used to further advance human medical research (Hajar, 2011). In several cases, animals have been subjected to substances to test the toxicological impacts, particularly to their physical and mental health for human benefit. In a study conducted by Scallet (1991), for example, animals such as dogs, rats and monkeys all demonstrated negatively altered hippocampus brain function due to high THC exposure (p.1). According to this research, concludes that from this trial that while more data is required, this would have similar effects to human health. Similarly, Łebkowska-Wieruszewska and colleagues (2019), highlight that high doses of THC exposure over a long period of time can lead to testicular dysfunction on the male reproductive organ in dogs (p.2). While the aim of the study focuses on the benefits to human medical advancement, indirectly, this study also proves that canines can be negatively impacted by cannabis. As Robinson, R. (2011) highlights, animal testing is imperative to the advancement of human medicine, however this can also be at the cost of animal welfare (p.1). In the case of cannabis legalization, while there is literature on the toxicological impacts of cannabis on animals, further research on canines is still necessary.

A considerable number of the articles also addressed the lethality of the substance on dogs and the symptoms. According to Dr. Diane Monsaro, approximately "two dogs alone have died after eating edibles containing THC in her clinic alone" (March 14, 2019 Thursday). Veterinarians from St. John's clinic, highlight that, "most of these cases of dog poisonings is a result of the dog consuming a cannabis product at home, or picking up a discarded joint, and the owner not coming fast enough" (January 8, 2018 Monday, p.1). These poisoning, while hold serious consequences for dogs, are often not obvious to the owners. As an unintentional poisoning, most owners have reported to have believed their dog is having a stroke over a cannabis overdose (September 17, 2019 Tuesday). Veterinarians across Canada highlight that the signs of marijuana-poisoning are very similar to that of a stroke, however it is imperative that people become aware. Signs of marijuana poisoning, according to Dr. Puchett in Toronto, include, "drooling, stumbling and loss of bladder control" (June 8, 2013 Saturday). As October's legalization date approached, veterinarians noticed an increase in these poisonings, "448-per-cent over the last 6 years" (October 30, 2019 Wednesday). Without pet owners becoming knowledgeable about the symptoms of cannabis overdose, it is expected to rise. Overall, these articles demonstrate that as a result of cannabis legalization, it in turn has affected the health of dogs negatively. Without proper acknowledgement and provisions, this can continue to be a major problem.

5.8 Accessibility of cannabis for dogs.

In addition to the rise in awareness regarding the toxicity of cannabis to animals, particularly canines, another theme to arise is an increase in accessibility to the substance. Following the legalization of cannabis, newspaper articles across this study highlight a relationship between the rise in human consumption and cannabis availability for animals (Igham, 2018). As a result of the passing of this legislation and lack of provisions pertaining to environmental disposal or containment, animals, such as canines, have been able to access the substance easily. In turn, this has led to an increase in cannabis poisonings for canines, highlighting this shift in legislation as a public health issue for animals. Pet owners, lacking guidance on the proper protocol for disposal or proper care for companion animal safety, are left unknowingly putting their pets' health in danger (Kogan, 2019). This can be notably highlighted in the news articles throughout this research, with specific regard to companion animals and their access to cannabis in homes. From this shift in legislation, it is clear that more provisions governing the public disposal and containment of cannabis for pet safety are necessary.

In the literature the impact of human influence on animals' public health continues to be an ongoing issue. For years, human activities have significantly affected animal health and wellbeing, both directly and indirectly (Rock et al., 2009). One example of this would be in the form of pollution, (Singer et al., 2017; Brès, 1988) including climate change, emerging pathogens, toxicant releases,

etc. Animals have suffered countless negative effects such as physical

degeneration (Fokunang et al., 2006) and mental alteration (Xiong, X. et al.,

2010) as a result. Bamberger and Oswald (2012) highlight this, noting negative

impacts on animals' directly correlating to human gas drilling. While the study still

remains inconclusive due to non-disclosure agreements and the need for further

testing, this study found that certain chemicals used for gas drilling induced

negative impacts on animal reproduction (p.3). Similarly, according to Catcott

(1961), air pollution caused by human waste has impacted animals to develop

diseases. As a result of environmental exposure, Catcott highlights the increase

in the diagnosis of cancer and bronchitis, to the morbidity and modality of animals

(p.297). In the case of cannabis legalization, improper environmental disposal of

the substance after human usage has also negatively impacted animal health.

Leading to an increase in THC poisoning in canines due to public accessibility

and human recreational activity, the exposure of cannabis to these companion

animals is devastating. Further research on preventative measures to animal

accessibility needs to be implemented to inhibit this reaction.

For several pet owners, concerns about the safety of their companion

animals has risen after the legalization of cannabis in Canada. In many cases,

pet owners report accounts of animals gaining access to cannabis through home

consumption, improper containment and public disposal, resulting in THC

poisoning. According to an article published in the *Globe and Mail*, pet owners

are finding it difficult to contain their cannabis at home and often find their

companion animal, particularly canines, searching for it. Dr. Joanne Cockshutt highlights that this is due to the fact that, "Dogs have a much stronger sense of smell" (Bigham, 2018, p.1). As a result, she notes that "they'll find your stash", therefore it is imperative to make sure it's completely inaccessible to them. With countless pet owners, this is incredibly difficult as it can also be found in public spaces.

For a pet owner named Koslowsky, his dog Sophie, the ingestion of cannabis resulting in THC poisoning occurred on a public bike trail. According to this news article, Sophie had found human feces containing THC and ingested it while on the trail with her owner. Koslowsky notes that, while he was watching her, she appeared to be attracted to the feces, vets stating that "The smell is like perfume to dogs" (January 8, 2018 Monday), there was not much he could do. Across the news articles, it is highlighted that this is a result of the lack of knowledge surrounding cannabis and its impacts on animal health. As such, more provisions to govern the substance and its accessibility is required for the public health and safety of animals.

While there are benefits to cannabis in the form of CBD, the psychoactive ingredient of THC can lead to serious negative consequences for animals' health and welfare. As highlighted above, across the newspaper articles several themes can be established including the (1) Hospitalization of dogs due to cannabis ingestion, (2) Lethal Symptoms associated with THC for Dogs, and (3) Dogs accessibility to cannabis. This shift in legislation regarding cannabis legalization

has given rise to concerns on the environmental impact, toxicity and improper protocol of cannabis containment. While research remains limited on the extent to which cannabis influences animals and their health, there is a clear correlation between its usage and animal welfare. As a result of the lack of conclusive evidence and knowledge, the debate amongst pet owners continues to exist.

5.9 Conclusion

      In conclusion, this chapter brings forth the need to further examine the effects of cannabis on animals' health and healthcare. With this shift in policy proving to inflict both a negative and positive impacts on animals lives, particularly for canines, it is imperative that the use of cannabis is regulated. As animals are closely influenced by the actions of humans in society, as highlighted above, in the recreational use, disposal and legalization of cannabis, the inclusion of animals is needed for proper policy implementation. To consider animals as part of our policy changes, this would assist in the prevention of unanticipated consequences, such as THC poisonings or veterinary services from being affected. In addition, this chapter allows for the consideration of beneficial uses of cannabis for canines. This includes the use of cannabis as a holistic treatment for animal aliments and therapy. However, while there are still limitations and a lack of knowledge surrounding the effect of the cannabis substance on animals, this makes it difficult to implement proper provisions for animal healthcare. Overall, with the usage of cannabis as a recreational

substance increasing after the legalization, there is a need to conduct further research in this field of study.

6.0 CHAPTER 6: Conclusion

This shift in the legal status of recreational drug use is far reaching and continues to generate interest within the research community. While cannabis offers many benefits to animals, there are also several drawbacks to its legalization. One unanticipated consequence of this new law is its effect on canines. Throughout the paper, we analyze the media coverage in the way in which the legalization of cannabis has newly changed the lives of animals, specifically dogs. Through a content analysis there were three broad themes identified: (1) the negative health effects of cannabis on dogs; (2) the reduced opportunities for working dogs. From these two broad themes, there is a clear correlation between the interconnectivity of human-animal relations, environment and cannabis usage.

6.4 Animal Rights Moving Forward

As highlighted across the thesis, animals are treated as containing human traits and yet lack the same rights when compared to their human counterparts. This shift in legislation only further defines this gap in basic rights for animals in human society. Whether it is as a working or companion animal, the rights of these nonhuman beings remain limited as their status of personhood is continuously brought into question. Throughout this thesis, there exists a

borderline between animals treated as human and simultaneously considered underserving of rights. This raises the question, should we give animals rights?

While animal activists suggest that animals, like canines, should have access to the same basic fundamental rights as humans, it is rather complex to outline. While animals given personhood would break the species barrier, the reconstruction of human society would also be necessary. To provide animals with equivalent rights to humans, the concept of moral values, ethics and laws would need to be revised. As noted in this thesis, the incorporation of animals as occupational collogues or family members would require careful consideration of their rights in relation to their placement within human society. For example, the concept of pensions for working canines, would working dogs receive the same pension as their human counterparts? Would the utility of these canines determine their pension amount? This is the type of questions that would need to be addressed. However, as animal rights are undefined, the extent to which these rights should cover are endless. Therefore, this thesis provides more of a foundation to build on with the aim to work towards identifying 'rights' generally in regard to animals.

For policy changes, such as the cannabis legalization, it only gives rise to more questions. How can human policies be adjusted to include animals? In what ways do policy changes impact animals' lives? As animals are closely integrated into human society, employed and considered companions adopted by humans, these are questions that need to be addressed. In this thesis, it uncovers that

though animals are considered to be nonhuman, they are closely intertwined within the fabric of human society. Using both a One Health and posthumanist framework, this analysis aims to address the need for future research to accommodate the increasing interaction between humans, animals and legal marijuana.

6.1 Policy Consideration for Animals as Key

As a piece of legislation that continues to shift the lives of both humans and animals alike, cannabis requires further policy implementation to regulate these ongoing issues. Being a once illicit substance that did not become public till after its legalization, the usage of cannabis had been under control of the government laws. However, since the passing of the Bill-C35, the recreational use of cannabis has initiated a surge in both public and private consumption. While the purpose of Bill-C35 was intended to reduce youth accessibility to marijuana and promote the restriction of its usage, the policy instead led to unanticipated consequences. Like the debate for young adults, for animals, the government regulation of this legislation still fails to completely address the distribution and usage of cannabis in public spaces. According to Kelsall (2018), while the legalization of cannabis restricts the sale of the substance to government regulated companies, the commodification and public usage of cannabis still remains unclear. The disposal of the substance in areas of which both animals and humans share, its usage for animal treatment and the promotion of cannabis continues to occur with little to no restrictions. This is a

direct contradiction of the law itself. While it is intended to protect young individuals from accessing the substance, animals were ignored in the passing of this piece of legislation. With no guidelines for animal healthcare, consumption or workplace compensation, this leaves countless animals vulnerable, leading to the question how effective is this legislation?

For animals, the legalization of cannabis also poses both beneficial and detrimental implementations on their health. Similar to that of the impacts it can have on human health, cannabis ingestion by animals can inflict both physical harm and healthy pain management. Unlike for humans, studies indicate that animals are sensitive to the psychoactive ingredient THC in cannabis (Abel, 1984). As highlighted above in our research, cannabis can lead to countless health complications such as poisoning, brain damage and long-term deterioration (Adams & Martin, 1996). However, the active ingredient of CBD can offer health benefits for animals. Across the literature, animals used for testing the application of cannabis have found that CBD can act as a form of alternative treatment for animals with mental disorders, arthritis, etc., (Batalla et al., 2014). Particularly, in a study on mice, CBD oil was found to reduce anxiety related behavior (Zieba, 2019). Although most of the research on cannabis and animals suggest a strong relationship between its usage and health implications for animal welfare, there is a lack of sufficient evidence.

While animal studies regarding cannabis consumption indicate positive and negative health implications, there is a need for policy regulations. As there

is limited knowledge regarding the effects of cannabis for both humans and animals, the restrictions around cannabis consumption, usage and disposal are necessary to consider. Without further implementing policy regulations and education surrounding the impact of the substance, it could lead to even greater unanticipated consequences. This would include the unnecessary hospitalization of canines, animal poisonings and even death.

Developing the knowledge around this new relationship between cannabis legalization and animal health, would further expand veterinary medical care. For example, as highlighted above, the type of cannabis provided for animals such as CBD in comparison to THC products, could be studied and monitored. This would allow for veterinary services to not only to identify the poisonings from animal cannabis consumption, but also allow for vets to prevent this from happening. Rather than treatment, the priority could be given to the prevention of animal cannabis consumption and informing pet owners of the dangers it may cause their companions. Regulating cannabis by implementing restrictions on distribution of products for animals without proper protocols or using warning labels, should be considered. Policy reform surrounding the cannabis legalization is necessary, as animals were not included in this process, it is clear that there are consequences as a result.

6.2 Next Steps in Research

As this shift in legislation has led to several unanticipated consequences, for the future it is imperative to consider the impacts of human policies on

animals. In the case of cannabis legalization, this change in policy has given rise to a series of concerns regarding animals' lives. For example, the impact of this substance on animals in regards to their physical, mental and psychological wellbeing has come to light from this legalization. However, that is not all. Expanding on the concept of public health to include animals and not just humans, is a major piece that came forward during this study. As animals continue to blur the lines between human and nonhuman, this legislation shift has demonstrated the vulnerability of these animals within society. Across countless newspaper articles, there are several factors that were not considered in the passing of Bill-C34. This includes the medical treatment, environmental disposal of cannabis and the rights of these animals, specifically dogs. As highlighted above, both working and companion canines were significantly impacted by this piece of legislation. However, little consideration was given for the implications this change in policy would have.

6.3 Working and Companion Canines Policy Reformation

This shift in legislation impacted working canines occupational lives and positions in human society. As the legal status of cannabis changed from an illicit substance, all trained canines in law enforcement were either forced to retire or relocated. This led to countless working dogs to experience job loss, isolation and to be perceived as tools. Losing a sense of purpose in human society, this legislation impacted the lives of these canines. While the legalization of cannabis

and its policy was considered for human usage, the policy did not consider the impact it would have on animal workers.

For working canines, the policy reformation surrounding cannabis should consider the workplace of these animals. With canines' part of the law enforcement and contribute to human society in countless ways, policies around cannabis legalization, its usage and the retraining for these working animals should be considered. The policy shift could be better reformed to include working dog pensions as compensation for job loss, the facilities for re-training and the impact it would have on these animals as occupational workers. While animal rights continues to be an ongoing debate, the need for some form of consideration is apparent from this legislation.

Similarly, for companion animals, the legalization of cannabis both positively and negatively impacted the public healthcare system and wellbeing of these animals' lives. From this shift in legislation, it has led to the production of cannabis consumer products for animals, particularly dogs. As highlighted above, these marijuana CBD treats, medicine and other animal health products, offered to assist in promoting alternatives to animal medical treatment. However, with the lack of knowledge and research surrounding the impact of cannabis on animal health, there are limited regulations around the consumption and production of these products. While the legislation offers some boundaries around human consumption, sales and production of cannabis products, there is a lack of consideration for animals around this part of the policy.

In addition, the legalization of cannabis led to an increase in human recreational usage. As a result, companion animals, specifically dogs, were found to ingest the substance and become poisoned. From the newspaper articles, it is clear that the psychoactive ingredient THC can result in serious health complications for animals. However, there are no policies in place regarding the environmental disposal of cannabis since this shift in legislation. There is a need to reform the policy surrounding cannabis usage to include safety measures such as public usage, disposal and at home containment for animal healthcare. Without these policy implementations, there will continue to be a rise in active pet poisonings and veterinary service congestion.

In conclusion, consideration of both human and animal health in relation to policy legalization is necessary. While this legislation surrounding cannabis as a legal substance aims to protect and govern human health and usage, the policy fails to incorporate non-human animals in society. Taking a One Health perspective, there is the ability to reframe this piece of legislation to incorporate and acknowledge the interconnection between humans, animals and the environmental impacts of this legalization. To further develop and avoid unanticipated consequences in future policies, we need to examine the legal boundaries across species and look beyond the human benefits and drawbacks. By adopting the One Health framework, specifically in regard to cannabis and dogs, we are able to gain a greater understanding of the impacts policies such as

this can have on other species. As an advancing society that includes animals as a portion of human societal functionality, this is imperative to consider.

6.4 Future Research for Human Policies

Further research on the influences of cannabis, both negatively and positively, should be implemented within the field animal studies, to expand on the protection of animals as part of this piece of legislation. With the limitations surrounding the information and research regarding the topic, it has led to many unanticipated consequences, as highlighted above. However, by developing the knowledge within this area of research, it is possible to broaden our understanding and push for better policy regulations. To expand on the questions, what does it mean to be a human or animal? Do they deserve rights? What regulations are in place for them as part of this legislation? These are important to consider, all to ensure that there are not any unanticipated consequences. Understanding what animals' role is in society and their status as human or nonhuman, is needed for implementing future regulations in policies, such as this one.

Throughout this thesis, it expands on the case of cannabis legalization to examine the impacts that policy changes can have on animals' lives. By analysing the literature and media case studies on the influence of cannabis on canines, both working and companion, I was able to identify the relationship between humans and animals within society. For working canines, studies suggest that these animals are perceived as employees, colleagues and tools to

their human employers. Similarly, for companion animals, people view their pets as important family members, children and friends. Yet, these animals, particularly canines, were given limited rights, freedoms and impacted significantly by the shift in human legislation. This thesis highlights the lack of consideration given towards animal welfare and lives.

From this case of cannabis legalization, it further develops this concept of human-animal relationships, animals containing human traits and the treatment of animals in a human society. Looking at the workplace and healthcare systems for dogs, the legalization of cannabis both negatively and positively impacted these animals' lives. Forcing working canines to retire, giving rise to public poisoning and contributing to the holistic medical care of dogs, this legislation has unanticipatedly influenced these animals. As these animals remain alongside humans as both containing human traits but perceived as nonhuman entities, the debate over their rights as part of human society continues to exist. This thesis brings forth that debate, noting the gap between humans and animal rights within the enforcement of policy implementation.

6.5 Concluding Remarks:

Using the case of cannabis legalization, this research contributes to the literature on animal rights in regards to human policies, and the future of policy making to include animals. By examining this shift in legislation and its impact on canines, further research development on animal rights and policy implementation can be studied. Expanding on our existing knowledge on the

treatment of animals as humans yet exempt from the same rights as their human

counterparts, this thesis can bring to light this issue through the case of cannabis

legalization. For companion animals, implementing policies surrounding family

law, the treatment of animals as property and their freedoms, should be

addressed. Similarly, for working canines, implementing policy reforms for

workers rights to include animals, is yet another change that could be made.

Analysing the policy change of cannabis, this thesis gave rise to the opportunity

for a change and more in-depth examination of these implementations. Further

research about thinking about the status of animals and to rethink animal rights in

different areas is necessary for the future expansion of animal studies.

REFERENCES

Abel, E. L. (1984). Effects of delta 9-THC on pregnancy and offspring in rats. *Neurobehavioral toxicology and teratology*, *6*(1), 29.

Abel, E. L. (1975). Cannabis: effects on hunger and thirst. *Behavioral biology*, *15*(3), 255-281.

Abuhasira, R., Shbiro, L., & Landschaft, Y. (2018). Medical use of cannabis and cannabinoids containing products–Regulations in Europe and North America. *European Journal of Internal Medicine*, *49*, 2-6.

Adams, G. J., & Johnson, K. G. (1994). Sleep, work, and the effects of shift work in drug detector dogs Canis familiaris. *Applied Animal Behaviour Science*, *41*(1-2), 115-126.

Adams, I. B., & Martin, B. R. (1996). Cannabis: pharmacology and toxicology in animals and humans. *Addiction*, *91*(11), 1585-1614

Allsopp, N. (2012). *K9 Cops: Police Dogs of the World*. Big Sky Publishing.

Alomajan, M. (2013). *Dogs in Action: Working Dogs and Their Stories*. Exisle Publishing.

Audrestch, H. M., Whelan, C. T., Grice, D., Asher, L., England, G. C., & Freeman, S. L. (2015). Recognizing the value of assistance dogs in society. *Disability and health journal*, *8*(4), 469-474.

AVMA, A. (2007). Guidelines on euthanasia, formerly report of the AVMA panel on euthanasia. 20.

Arnott, E. R., Peek, L., Early, J. B., Pan, A. Y., Haase, B., Chew, T., ... & Wade, C. M. (2015). Strong selection for behavioural resilience in Australian stock working dogs identified by selective sweep analysis. *Canine genetics and epidemiology*, *2*(1), 6.

Asokan G. V. (2015). One Health and Zoonoses: The Evolution of One Health and Incorporation of Zoonoses. *Central Asian journal of global health*, *4*(1), 139. https://doi.org/10.5195/cajgh.2015.139

Atlas, R., Rubin, C., Maloy, S., Daszak, P., Colwell, R., & Hyde, B. (2010). One health— attaining optimal health for people, animals, and the environment. *Microbe*, *5*(9), 383-389.

Bamberger, M., & Oswald, R. E. (2012). Impacts of gas drilling on human and animal health. *New solutions: a journal of environmental and occupational health policy*, *22*(1), 51-77.

Bamford, K. A. (2012). Canine Olfaction: An Overview of the Anatomy, Physiology and Genetics.

Banks, M. R., Willoughby, L. M., & Banks, W. A. (2008). Animal-assisted therapy and loneliness in nursing homes: use of robotic versus living dogs. *Journal of the American Medical Directors Association*, *9*(3), 173-177.

Baker, J. L., Truesdale, C. A., & Schlanser, J. R. (2009). Overview of combat trauma in military working dogs in Iraq and Afghanistan. *J Spec Oper Med*, *9*(2), 105-8.

Barker, S. B., & Barker, R. T. (1988). The human-canine bond: Closer than family ties?. *Journal of Mental Health Counseling. Animal Labour: A New Frontier of Interspecies Justice?*. Oxford University Press.

Barrus, D. G., Capogrossi, K. L., Cates, S. C., Gourdet, C. K., Peiper, N. C., Novak, S. P., ... & Wiley, J. L. (2016). Tasty THC: promises and challenges of cannabis edibles. *Methods report (RTI Press)*, *2016*.

Batalla, A., Crippa, J. A., Busatto, G. F., Guimaraes, F. S., Zuardi, A. W., Valverde, O.,

... & Martin-Santos, R. (2014). Neuroimaging studies of acute effects of THC and

CBD in humans and animals: a systematic review. *Current pharmaceutical

design*, *20*(13), 2168-2185.

Bauer, N. B., Er, E., & Moritz, A. (2011). Influence of blood collection technique on

platelet function and coagulation variables in dogs. *American journal of veterinary

research*, *72*(1), 64-72.

Beck, L., & Madresh, E. A. (2008). Romantic partners and four-legged friends: An

extension of attachment theory to relationships with pets. *Anthrozoös*, *21*(1), 43-

56.

Blair Bigham. (October 15, 2018 Monday). With cannabis legalization looming, doctors

foresee uptick in emergency-room visits; Health professionals share tips on how

to avoid a marijuana-related trip to the hospital. *Breaking News from

globeandmail.com.* Retrieved from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

m:5V50-D8D1-F072-J45K-00000-00&context=1516831.

Blake, A., Wan, B. A., Malek, L., DeAngelis, C., Diaz, P., Lao, N., & O'Hearn, S. (2017). A selective review of medical cannabis in cancer pain management. *Annals of palliative medicine*, *6*(suppl 2), s215-s222.

Blattner, C. E. (2020). Animal labour: Toward a prohibition of forced labour and a right to freely choose one's work. In *Animal Labour*. Oxford University Press.

Bolter, J. D. (2016). Posthumanism. *The international encyclopedia of communication theory and philosophy*, 1-8.

Botha, C. J., & Penrith, M. L. (2009). Potential plant poisonings in dogs and cats in southern Africa. *Journal of the South African Veterinary Association*, *80*(2), 63-74.

Bonfanti, M. E. (2014). From sniffer dogs to emerging sniffer devices for airport security: an opportunity to rethink privacy implications?. *Science and engineering ethics*, *20*(3), 791-807.

Brès, P. (1988). Impact of arboviruses on human and animal health. *The arboviruses: epidemiology and ecology*, *1*, 1-18.

Browne, C., Stafford, K., & Fordham, R. (2006). The use of scent-detection dogs. *Irish Veterinary Journal*, *59*(2), 97.

Brutlag, A., & Hommerding, H. (2018). Toxicology of marijuana, synthetic cannabinoids, and cannabidiol in dogs and cats. *Veterinary Clinics: Small Animal Practice*, *48*(6), 1087-1102.

Bulcroft, K., & O'Connor, M. (1986). The importance of dating relationships on quality of life for older persons. *Family Relations*, 397-401.

Burnard, P. (1996). Teaching the analysis of textual data: an experiential approach. *Nurse education today*, *16*(4), 278-281.

Burnard, P. (1991). A method of analysing interview transcripts in qualitative research. *Nurse education today*, *11*(6), 461-466.

Burrows, K. E., Adams, C. L., & Millman, S. T. (2008). Factors affecting behavior and welfare of service dogs for children with autism spectrum disorder. *Journal of Applied Animal Welfare Science*, *11*(1), 42-62.

Cain, A. O. (1985). Pets as family members. *Marriage & Family Review*, *8*(3-4), 5-10.

Castaldo, N. F. (2014). *Sniffer Dogs: How Dogs (and Their Noses) Save the World*.

Houghton Mifflin Harcourt.

Cavanagh, S. (1997). Content analysis: concepts, methods and applications. *Nurse*

researcher, *4*(3), 5-16.

Chea, T. (March 8, 2017 Wednesday). Pot for pets: Owners treat sick animals with

cannabis; Pot for pets: Owners treat sick animals with cannabis. *Canadian Press.*

Retrieved from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

m:5N1W-98D1-JBVR-331N-00000-00&context=1516831.

Cherry, E. (2010, September). Shifting Symbolic Boundaries: Cultural Strategies of the

Animal Rights Movement 1. In *Sociological Forum* (Vol. 25, No. 3, pp. 450-475).

Oxford, UK: Blackwell Publishing Ltd.

Chestley, S. T., & Whiting, T. L. (2015). Conceptualizing the ethical questions in the use

of livestock protection dogs. *The Canadian Veterinary Journal*, *56*(6), 625.

Chien, Y. J. (2013). How did international agencies perceive the avian influenza

problem? The adoption and manufacture of the 'One World, One

Health'framework. *Sociology of health & illness*, *35*(2), 213-226.

Chinn, P. L., & Kramer, M. K. (1999). Theory and nursing integrated knowledge

development.

Church, J., & Williams, H. (2001). Another sniffer dog for the clinic?. *The Lancet*,

358(9285), 930.

Cital, S. (2019). 16 Laboratory Animal Medicine. *Mosby's Comprehensive Review for

Veterinary Technicians E-Book*, 338.

Cole, F. L. (1988). Content analysis: process and application. *Clinical nurse

specialist*, *2*(1), 53-57.

Compitus, K. (2019). Traumatic pet loss and the integration of attachment-based animal

assisted therapy. *Journal of Psychotherapy Integration*, *29*(2), 119.

Cruse, S. D. (2014). Military working dogs: Classification and treatment in the US Armed

Forces. *Animal L.*, *21*, 249.

Cusack, O., & Smith, E. (2014). *Pets and the elderly: The therapeutic bond* (Vol. 4, No.

2-3). Routledge.

Beaver, D. (October 26, 2018 Friday). Oakville dog poisoned by eating marijuana joint;

    Veterinarian believes the dog survived because the amount of cannabis ingested

    was small. *The Hamilton Spectator (Ontario, Canada).* Retrieved from

    https://advance-lexis-

    com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

    m:5TK5-6GD1-JDH1-C4HV-00000-00&context=1516831.

Dean, E. E. (1972). *Training dogs for narcotic detection.* SOUTHWEST RESEARCH

    INST SAN ANTONIO TX.

Deschamps, T. (October 29, 2019 Tuesday). Can cannabis treat certain types of cancer

    in dogs?; Vet says 'decades' of research to come as University of Guelph looking

    in to tumour treatment. *The Toronto Star.* Retrieved from https://advance-lexis-

    com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

    m:5XCW-PDG1-JDH1-C318-00000-00&context=1516831.

Dell, C. A., & Poole, N. (2015). Taking a PAWS to reflect on how the work of a therapy

    dog supports a trauma-informed approach to prisoner health. *Journal of forensic*

    nursing, 11(3), 167.

Derr, M. (2011). *How the dog became the dog: from wolves to our best friends.* Abrams.

Dembicki, D., & Anderson, J. (1996). Pet ownership may be a factor in improved health of the elderly. *Journal of Nutrition for the Elderly*, *15*(3), 15-31.

Denecke, K., & Nejdl, W. (2009). How valuable is medical social media data? Content analysis of the medical web. *Information Sciences*, *179*(12), 1870-1880.

Dey, E. L., & Astin, A. W. (1993). Statistical alternatives for studying college student retention: A comparative analysis of logit, probit, and linear regression. *Research in higher education*, *34*(5), 569-581.

Downe-Wamboldt, B. (1992). Content analysis: method, applications, and issues. *Health care for women international*, *13*(3), 313-321.

Duhaime, R. A., Norden, D., Corso, B., Mallonee, S., & Salman, M. D. (1998). Injuries and illnesses in working dogs used during the disaster response after the bombing in Oklahoma City. *Journal of the American Veterinary Medical Association*, *212*(8), 1202-1207.

Dunn, M., & Degenhardt, L. (2009). The use of drug detection dogs in Sydney, Australia. *Drug and Alcohol Review*, *28*(6), 658-662.

El-Alayli, A., Lystad, A. L., Webb, S. R., Hollingsworth, S. L., & Ciolli, J. L. (2006). Reigning cats and dogs: A pet-enhancement bias and its link to pet attachment, pet-self similarity, self-enhancement, and well-being. *Basic and Applied Social Psychology*, *28*(2), 131-143.

Enders-Slegers, M. J., & Hediger, K. (2019). Pet ownership and human–animal interaction in an aging population: Rewards and challenges. *Anthrozoös*, *32*(2), 255-265.

Epley, N., Schroeder, J., & Waytz, A. (2013). Motivated mind perception: Treating pets as people and people as animals. In *Objectification and (de) humanization* (pp. 127-152). Springer, New York, NY.

Epley, N., Schroeder, J., & Waytz, A. (2013). Motivated mind perception: Treating pets as people and people as animals. In *Objectification and (de) humanization* (pp. 127-152). Springer, New York, NY.

Epstein, R. A. (2002). Animals as objects, or subjects, of rights. *U Chicago Law & Economics, Olin Working Paper*, (171).

Errico, M. (2012, January). Asian longhorned beetle detector dog pilot project. In *23rd US Department of Agriculture Interagency Research Forum on Invasive Species 2012* (p. 18).

Falvey, J. L. (1985). *An introduction to working animals*. lindsay falvey.

Feinberg, J. (September 13, 2019 Friday). Dog poisoned on Chilliwack trail by feces tainted with cannabis. *Chilliwack Progress.* Retrieved from https://advance-lexis-com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentItem:5X22-WDC1-JDH1-C1FP-00000-00&context=1516831.

Ferencz-Flatz, C. (2017). Humanizing the animal, animalizing the human: Husserl on pets. *Human Studies*, *40*(2), 217-232.

Ferencz-Flatz, C. (2017). Humanizing the animal, animalizing the human: Husserl on pets. *Human Studies*, *40*(2), 217-232.

Fischer, B., Russell, C., Rehm, J., & Leece, P. (2019). Assessing the public health impact of cannabis legalization in Canada: core outcome indicators towards an 'index'for monitoring and evaluation. *Journal of Public Health*, *41*(2), 412-421.

Fishman, G. A. (2003). When your eyes have a wet nose: the evolution of the use of guide dogs and establishing the seeing eye. *Survey of ophthalmology*, *48*(4), 452-458.

Fitzgerald, K. T., Bronstein, A. C., & Newquist, K. L. (2013). Marijuana poisoning. *Topics in companion animal medicine*, *28*(1), 8-12.

Fritts, S. H., Stephenson, R. O., Hayes, R. D., & Boitani, L. (2003). Wolves and humans.

Froh, A. S. (2002). Rethinking Canine Sniffs: The Impact of Kyllo v. United States. *Seattle UL Rev.*, *26*, 337.

Fokunang, C. N., Tembe-Fokunang, E. A., Tomkins, P., & Barkwan, S. (2006). Global impact of mycotoxins on human and animal health management. *Outlook on Agriculture*, *35*(4), 247-253.

Foreman, M. R., Keng, D., Lopez, J. R., & Arnold, S. (2017). Whispering gallery mode single nanoparticle detection and sizing: the validity of the dipole approximation. *Optics Letters*, *42*(5), 963-966.

Foreman, A. M., Glenn, M. K., Meade, B. J., & Wirth, O. (2017). Dogs in the workplace: a review of the benefits and potential challenges. *International journal of environmental research and public health*, *14*(5), 498.

Foyer, P., Svedberg, A. M., Nilsson, E., Wilsson, E., Faresjö, Å., & Jensen, P. (2016). Behavior and cortisol responses of dogs evaluated in a standardized temperament test for military working dogs. *Journal of Veterinary Behavior*, *11*, 7-12.

Furton, K. G., & Myers, L. J. (2001). The scientific foundation and efficacy of the use of canines as chemical detectors for explosives. *Talanta*, *54*(3), 487-500.

Gane, N. (2006). When we have never been human, what is to be done? Interview with Donna Haraway. *Theory, Culture & Society*, *23*(7-8), 135-158.

Galibert, F., Quignon, P., Hitte, C., & André, C. (2011). Toward understanding dog evolutionary and domestication history. *Comptes rendus biologies*, *334*(3), 190-196.

Garner, R. (2013). *A theory of justice for animals: Animal rights in a nonideal world*. Oxford University Press.

Gazit, I., & Terkel, J. (2003). Explosives detection by sniffer dogs following strenuous physical activity. *Applied Animal Behaviour Science*, *81*(2), 149-161.

Gazzano, A., Mariti, C., Alvares, S., Cozzi, A., Tognetti, R., & Sighieri, C. (2008). The

  prevention of undesirable behaviors in dogs: effectiveness of veterinary

  behaviorists' advice given to puppy owners. *Journal of Veterinary Behavior*, *3*(3),

  125-133.

Gelber, S. M. (2008). *Horse Trading in the Age of Cars: Men in the Marketplace*. JHU

  Press.

Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing

  research: concepts, procedures and measures to achieve trustworthiness. *Nurse*

  education today, *24*(2), 105-112.

Greb, A., & Puschner, B. (2018). Cannabinoid treats as adjunctive therapy for pets:

  gaps in our knowledge. *Toxicology Communications*, *2*(1), 10-14.

Greaves, P., Williams, A., & Eve, M. (2004). First dose of potential new medicines to

  humans: how animals help. *Nature Reviews Drug Discovery*, *3*(3), 226-236.

Gwaltney-Brant, S. M., Murphy, L. A., Wismer, T. A., & Albretsen, J. C. (2003). General

  toxicologic hazards and risks for search-and-rescue dogs responding to urban

  disasters. *Journal of the American Veterinary Medical Association*, *222*(3), 292-

  295.

Gyles, C. (2016). Marijuana for pets?. *The Canadian Veterinary Journal*, *57*(12), 1215.

Hajar, R. (2011). Animal testing and medicine. *Heart views: the official journal of the Gulf Heart Association*, *12*(1), 42.

Hajizadeh, M. (2016). Legalizing and regulating marijuana in Canada: review of potential economic, social, and health impacts. *International journal of health policy and management*, *5*(8), 453.

Hall, W. (2009). The adverse health effects of cannabis use: what are they, and what are their implications for policy?. *International Journal of drug policy*, *20*(6), 458-466.

Hamilton, L., & Taylor, N. (2013). *Animals at work: Identity, politics and culture in work with animals*. Brill.

Haraway, D. (1990). A manifesto for cyborgs: Science, technology, and socialist feminism in the 1980s. *Feminism/postmodernism*, 190-233.

Harper, R. J., Almirall, J. R., & Furton, K. G. (2005). Identification of dominant odor

chemicals emanating from explosives for use in developing optimal training aid

combinations and mimics for canine detection. *Talanta*, *67*(2), 313-327.

Hediger, K., Meisser, A., & Zinsstag, J. (2019). A one health research framework for

animal-assisted interventions. *International journal of environmental research and

public health*, *16*(4), 640.

Helena Pedersen (2010) Is 'the posthuman' educable? On the convergence of

educational philosophy, animal studies, and posthumanist theory, Discourse:

Studies in the Cultural Politics of Education, 31:2, 237-250, DOI:

10.1080/01596301003679750

Helton, W. S. (Ed.). (2009). *Canine ergonomics: the science of working dogs*. CRC

Press.

Herzog Jr, H. A. (1993). "The movement is my life": The psychology of animal rights

activism. *Journal of Social Issues*, *49*(1), 103-119.

Hribal, J. (2012). Animals are part of the working class reviewed. *borderlands*, *11*(2), 1-

37.

Hines, L. M. (2003). Historical perspectives on the human-animal bond. *American Behavioral Scientist*, *47*(1), 7-15.

Hodgson, K., & Darling, M. (2011). Zooeyia: an essential component of "One Health". *The Canadian Veterinary Journal*, *52*(2), 189.

Hoffman, C. L., Chen, P., Serpell, J. A., & Jacobson, K. C. (2013). Do dog behavioral characteristics predict the quality of the relationship between dogs and their owners?. *Human-animal interaction bulletin*, *1*(1), 20.

Holland, K. (2018). Sniffer Dogs. *International Journal of Security Studies*, *1*(1), 1.

Holly Mckenzie-Sutter. (July 26, 2018 Thursday). Pot-sniffing canines out of a job; cannabis legalization forces 14 RCMP dogs into early retirement. *Simcoe Reformer.* Retrieved from https://advance-lexis-com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte m:5SWJ-4K61-JC55-T0ND-00000-00&context=1516831.

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative health research*, *15*(9), 1277-1288.

Hyshka, E. (2009). The saga continues: Canadian legislative attempts to reform

cannabis law in the twenty-first century. *Canadian journal of criminology and*

criminal justice, *51*(1), 73-91.

Jacobus, J., & F Tapert, S. (2014). Effects of cannabis on the adolescent brain. *Current*

pharmaceutical design, *20*(13), 2186-2193.

Hauen, J. (October 16, 2018 Tuesday). New drug laws blur the future for Canada's K9

units; Some pot-sniffing dogs have retired, but those staying raise legal

issues. *The Toronto Star.* Retrieved from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

m:5TH1-FTY1-DY91-K02D-00000-00&context=1516831.

Jasper, J. M., & Nelkin, D. (2007). The animal rights crusade. *Life in society: Readings*

to accompany sociology, a down-to-earth approach, 225-232.

Jensen, P., Persson, M. E., Wright, D., Johnsson, M., Sundman, A. S., & Roth, L. S.

(2016). The genetics of how dogs became our social allies. *Current Directions in*

Psychological Science, *25*(5), 334-338.

Jones, N. (2011). *Structural impact.* Cambridge university press.

Katz, L. R., & Golembiewski, A. P. (2006). Curbing the Dog: Extending the Protection of the Fourth Amendment to Police Drug Dogs. *Neb. L. Rev.*, *85*, 735.

Kelsall, D. (2017). Cannabis legislation fails to protect Canada's youth.

Kelsall, D. (2018). Watching Canada's experiment with legal cannabis.

Kistler, J. M. (2011). *Animals in the Military: From Hannibal's Elephants to the Dolphins of the US Navy: From Hannibal's Elephants to the Dolphins of the US Navy*. ABC-CLIO.

Knox, J. (March 13, 2019 Wednesday). Dogs catch whiff of marijuana poisoning. *Times Colonist (Victoria, British Columbia).* Retrieved from https://advance-lexis-com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte m:5VMJ-Y561-JBKR-914S-00000-00&context=1516831.

Kogan, L. R., Hellyer, P. W., & Robinson, N. G. (2016). Consumers' perceptions of hemp products for animals. *J Am Holist Vet Med Assoc*, *42*, 40-8.

Kogan, L., Schoenfeld-Tacher, R., Hellyer, P., & Rishniw, M. (2019). US veterinarians' knowledge, experience, and perception regarding the use of cannabidiol for

canine medical conditions. Frontiers in Veterinary Science, 5, 338.Toxicology

Communications, 2(1), 10-14.

Kogan, L. R., Hellyer, P. W., Silcox, S., & Schoenfeld-Tacher, R. (2019). Canadian dog

owners' use and perceptions of cannabis products. The Canadian Veterinary

Journal, 60(7), 749.

Kol, A., Arzi, B., Athanasiou, K. A., Farmer, D. L., Nolta, J. A., Rebhun, R. B., ... &

Borjesson, D. L. (2015). Companion animals: Translational scientist's new best

friends. *Science translational medicine*, *7*(308), 308ps21-308ps21.

Koops, B. J., Hildebrandt, M., & Jaquet-Chiffelle, D. O. (2010). Bridging the

accountability gap: Rights for new entities in the information society. *Minn. JL Sci.

& Tech.*, *11*, 497.

Krippendorff, K. (2018). *Content analysis: An introduction to its methodology*. Sage

publications.

Kruskal, W., & Mosteller, F. (1979). Representative sampling, III: The current statistical

literature. *International Statistical Review/Revue Internationale de Statistique*,

245-265.

LaFollette, M. R., Rodriguez, K. E., Ogata, N., & O'Haire, M. E. (2019). Military veterans

and their PTSD service dogs: associations between training methods, PTSD

severity, dog behavior, and the human-animal bond. *Frontiers in veterinary*

science, *6*, 23.

Lagoni, L., Butler, C., & Hetts, S. (1994). *The human-animal bond and grief*. WB

Saunders Company.

Lazarowski, L., & Dorman, D. C. (2014). Explosives detection by military working dogs:

Olfactory generalization from components to mixtures. *Applied Animal Behaviour*

Science, *151*, 84-93.

Łebkowska-Wieruszewska, B., Stefanelli, F., Chericoni, S., Owen, H., Poapolathep, A.,

Lisowski, A., & Giorgi, M. (2019). Pharmacokinetics of Bedrocan®, a cannabis oil

extract, in fasting and fed dogs: an explorative study. *Research in veterinary*

science, *123*, 26-28.

Laing, Z. (July 27, 2018 Friday). Marijuana legalization puts sniffer dogs on ice; RCMP

retires 14 canine members. *The Calgary Herald (Alberta).* Retrieved

from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

m:5SWR-TVY1-JBKR-C132-00000-00&context=1516831.

Machan, T. R. (1991). Do animals have rights?. *Public Affairs Quarterly*, *5*(2), 163-173.

Manuel Valdes. (June 1, 2013 Saturday). Drug-sniffing dogs go back to school; Officers

    in states where cannabis is legal must retrain animals to ignore the herb. *The*

    Vancouver Sun (British Columbia). Retrieved from https://advance-lexis-

    com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

    m:58JF-0521-JBKR-P4MC-00000-00&context=1516831.

Manwell, C., & Baker, C. A. (1984). Domestication of the dog: hunter, food, bed-warmer,

    or emotional object?. *Zeitschrift für Tierzüchtung und Züchtungsbiologie*, *101*(1-

    5), 241-256.

Marks, A. (2007). Drug detection dogs and the growth of olfactory surveillance: Beyond

    the rule of law?. *Surveillance & Society*, *4*(3).

Marx, G. T. (2002). What's New About the" New Surveillance"? Classifying for Change

    and Continuity. *Surveillance & Society*, *1*(1), 9-29.

Marx, K. (2000). *Karl Marx: selected writings*. Oxford University Press, USA.

McConnell, A. R., Lloyd, E. P., & Buchanan, T. M. (2016). Animals as Friends. *The Psychology of Friendship*, 157-174.

Meola, M., Lazzaro, A., & Zeyer, J. (2014). Diversity, resistance and resilience of the bacterial communities at two alpine glacier forefields after a reciprocal soil transplantation. *Environmental microbiology*, *16*(6), 1918-1934.

Mims, D., & Waddell, R. (2016). Animal assisted therapy and trauma survivors. *Journal of evidence-informed social work*, *13*(5), 452-457.

Mitchell, M. E., Alders, R., Unger, F., Nguyen-Viet, H., Le, T. T. H., & Toribio, J. A. (2020). The challenges of investigating antimicrobial resistance in Vietnam-what benefits does a One Health approach offer the animal and human health sectors?. *BMC public health*, *20*(1), 1-12.

Moretti, M., Valvassori, S. S., Varela, R. B., Ferreira, C. L., Rochi, N., Benedet, J., ... & Quevedo, J. (2011). Behavioral and neurochemical effects of sodium butyrate in an animal model of mania. *Behavioural pharmacology*, *22*(8), 766-772.

Morse, J. M., & Field, P. A. (1995). *Qualitative research methods for health professionals* (No. 610.73072 M6).

Mossello, E., Ridolfi, A., Mello, A. M., Lorenzini, G., Mugnai, F., Piccini, C., ... &

    Marchionni, N. (2011). Animal-assisted activity and emotional status of patients

    with Alzheimer's disease in day care. *International psychogeriatrics*, *23*(6), 899-

    905.

Nakicenovic, N. (1986). The automobile road to technological change: diffusion of the

    automobile as a process of technological substitution. *Technological Forecasting

    and Social Change*, *29*(4), 309-340.

Narrod, C., Zinsstag, J., & Tiongco, M. (2012). A one health framework for estimating

    the economic costs of zoonotic diseases on society. *EcoHealth*, *9*(2), 150-162.

Nayar, P. K. (2018). *Posthumanism*. John Wiley & Sons.

Palley, L. S., O'Rourke, P. P., & Niemi, S. M. (2010). Mainstreaming animal-assisted

    therapy. *ILAR journal*, *51*(3), 199-207.

Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and

    practice.* Sage publications.

Peter Haldeman. (July 5, 2018 Thursday). The Secret Price of Pets. *The New York

    Times.* Retrieved from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte
m:5SR2-3DR1-DXY4-X4MY-00000-00&context=1516831.

Pfeifer, W. K., & Goos, M. W. (1982). Guard dogs and gas exploders as coyote
depredation control tools in North Dakota. In *Proceedings of the vertebrate pest
conference* (Vol. 10, No. 10).

Polit, D. F., & Beck, C. T. (2004). *Nursing research: Principles and methods*. Lippincott
Williams & Wilkins.

Porritt, F., Mansson, R., Berry, A., Cook, N., Sibbald, N., & Nicklin, S. (2015). Validation
of a short odour discrimination test for working dogs. *Applied Animal Behaviour
Science*, *165*, 133-142.

Potter, B. A. (2018). *Cannabis for Canines*. Ronin Publishing.

Prestrude, A., & O'shea, J. (1998). Dogs in service to humans. *Comparative
psychology: A handbook*, 386-392.

Pritchard, J. C., Lindberg, A. C., Main, D. C. J., & Whay, H. R. (2005). Assessment of
the welfare of working horses, mules and donkeys, using health and behaviour
parameters. *Preventive veterinary medicine*, *69*(3-4), 265-283.

Picard, A. (January 1, 2019 Tuesday). OPINION; The highs and lows of cannabis

legalization; Canada ended 95 years of prohibition on Oct 17. So, how is the

social experiment going?. *The Globe and Mail (Canada).* Retrieved

from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

m:5V3F-B7J1-F06S-3114-00000-00&context=1516831.

Pivetti, M. (2005). Animal rights activists' representations of animals and animal rights:

An exploratory study. *Anthrozoös*, *18*(2), 140-159.

Pyyhtinen, O. (2016). *More-than-human sociology: A new sociological imagination*.

Springer.

Rabinowitz, P., & Conti, L. (2013). Links among human health, animal health, and

ecosystem health. *Annual Review of Public Health*, *34*, 189-204.

Regan, T. (2004). *The case for animal rights*. Univ of California Press.

Regan, T. (2001). *Defending animal rights*. University of Illinois Press.

Regan, T., & Singer, P. (1989). Animal rights and human obligations.

Robinson, R. (2011). 3Rs of animal testing for regenerative medicine products. *Science translational medicine*, *3*(112), 112fs11-112fs11.

Rock, M., Buntain, B. J., Hatfield, J. M., & Hallgrímsson, B. (2009). Animal–human connections, "one health," and the syndemic approach to prevention. *Social science & medicine*, *68*(6), 991-995.

Rosenkoetter, Marlene M. "Health promotion: The influence of pets on life patterns in the home." *Holistic Nursing Practice* 5.2 (1991): 42-51.

Runhovde, S. R. (2018). Merely a transit country? Examining the role of Uganda in the transnational illegal ivory trade. *Trends in Organized Crime*, *21*(3), 215-234.

Sams, M. J., Fortney, E. V., & Willenbring, S. (2006). Occupational therapy incorporating animals for children with autism: A pilot investigation. *American Journal of Occupational Therapy*, *60*(3), 268-274.

Sanders, C. R. (1990). The animal'other': self definition, social identity and companion animals. *ACR North American Advances*.

Savidge, J. A., Stanford, J. W., Reed, R. N., Haddock, G. R., & Adams, A. A. Y. (2011).

    Canine detection of free-ranging brown treesnakes on Guam. *New Zealand*

    Journal of Ecology, 174-181.

Scallet, A. C. (1991). Neurotoxicology of cannabis and THC: a review of chronic

    exposure studies in animals. *Pharmacology Biochemistry and Behavior*, *40*(3),

    671-676.

Schelling, E., Wyss, K., Bechir, M., Moto, D. D., & Zinsstag, J. (2005). Synergy between

    public health and veterinary services to deliver human and animal health

    interventions in rural low income settings. *Bmj*, *331*(7527), 1264-1267.

Schmidt-Nielsen, K., & Duke, J. B. (1972). *How animals work*. Cambridge University

    Press.

Schoon, G. A. A. (1997). *The performance of dogs in identifying humans by*

    scent (Doctoral dissertation).

Schwabe, C. W. (1998). Integrated delivery of primary health care for humans and

    animals. *Agriculture and Human Values*, *15*(2), 121-125.

Scruton, R. (2006). *Animal rights and wrongs*. A&C Black.

Serpell, J. (1996). *In the company of animals: A study of human-animal relationships*. Cambridge University Press.

Singer, R. S., Cox Jr, L. A., Dickson, J. S., Hurd, H. S., Phillips, I., & Miller, G. Y. (2007). Modeling the relationship between food animal health and human foodborne illness. *Preventive veterinary medicine*, *79*(2-4), 186-203.

Sinn, D. L., Gosling, S. D., & Hilliard, S. (2010). Personality and performance in military working dogs: Reliability and predictive validity of behavioral tests. *Applied Animal Behaviour Science*, *127*(1-2), 51-65.

Souter, M. A., & Miller, M. D. (2007). Do animal-assisted activities effectively treat depression? A meta-analysis. *Anthrozoös*, *20*(2), 167-180.

Sunstein, C. R. (2003). The rights of animals. *The University of Chicago Law Review*, *70*(1), 387-401.

Sunstein, C. R., & Nussbaum, M. C. (Eds.). (2004). *Animal rights: Current debates and new directions*. Oxford University Press.

Swann, W. J. (2006). Improving the welfare of working equine animals in developing

countries. *Applied Animal Behaviour Science*, *100*(1-2), 148-151.

Spackman, E., Haines-Saah, R., Danthurebandara, V. M., Dowsett, L. E., Noseworthy,

T., & Clement, F. M. (2017). Marijuana use and perceptions of risk and harm: a

survey among Canadians in 2016. *Healthcare Policy, 13*(1), 17.

Sprigge, T. L. S. (1984). Non-human rights: An idealist perspective. *Inquiry*, *27*(1-4),

439-461.

Tesch, R. (1991). Computer programs that assist in the analysis of qualitative data: An

overview. *Qualitative Health Research*, *1*(3), 309-325.

Thompson, R. A. (2013). Parasite zoonoses and wildlife: one health, spillover and

human activity. *International Journal for Parasitology*, *43*(12-13), 1079-1088.

Townley, C. (2010). Animals as friends. *Between the Species*, *13*(10), 3.

Volsche, S. (2019). Understanding cross-species parenting: a case for pets as children.

In *Clinician's Guide to Treating Companion Animal Issues* (pp. 129-141).

Academic Press.

Waiblinger, S., Boivin, X., Pedersen, V., Tosi, M. V., Janczak, A. M., Visser, E. K., & Jones, R. B. (2006). Assessing the human–animal relationship in farmed species: a critical review. *Applied Animal Behaviour Science*, *101*(3-4), 185-242.

Walker, M. L. (1993). Participatory action research. *Rehabilitation Counseling Bulletin*, *37*, 2-2.

Walsh, Froma. "Human-animal bonds I: The relational significance of companion animals." *Family process* 48.4 (2009): 462-480.

Weber, R. P. (1990). *Basic content analysis* (No. 49). Sage.

Weisbord, M., & Kachanoff, K. (2000). *Dogs with jobs: working dogs around the world*. Simon and Schuster.

Weiss, E. (2002). Selecting shelter dogs for service dog training. *Journal of Applied Animal Welfare Science*, *5*(1), 43-62.

Wise, R. A. (2008). Dopamine and reward: the anhedonia hypothesis 30 years on. *Neurotoxicity research*, *14*(2-3), 169-183.

Whitmarsh, L. (2005). The benefits of guide dog ownership. *Visual impairment research*, *7*(1), 27-42.

Wiese, W. H. (2008). Farm dogs and other dogs of agriculture.

Wood, P. B., Schweinhardt, P., Jaeger, E., Dagher, A., Hakyemez, H., Rabiner, E. A., ... & Chizh, B. A. (2007). Fibromyalgia patients show an abnormal dopamine response to pain. *European Journal of Neuroscience*, *25*(12), 3576-3582.

Xiong, X., Yanxia, L., Wei, L., Chunye, L., Wei, H., & Ming, Y. (2010). Copper content in animal manures and potential risk of soil copper pollution with animal manure use in agriculture. *Resources, Conservation and Recycling*, *54*(11), 985-990.

Zanello, L. N. (2014). To Sniff or Not to Sniff: Making Sense of Past and Recent State Federal Decisions in Connection with Drug-Detection Dogs-Where Do We Go from Here. *Alb. L. Rev.*, *78*, 1569.

Zasloff, R. L. (1996). Measuring attachment to companion animals: a dog is not a cat is not a bird. *Applied Animal Behaviour Science*, *47*(1-2), 43-48.

Zieba, J., Sinclair, D., Sebree, T., Bonn-Miller, M., Gutterman, D., Siegel, S., & Karl, T. (2019). Cannabidiol (CBD) reduces anxiety-related behavior in mice via an

FMRP-independent mechanism. *Pharmacology Biochemistry and Behavior*, *181*, 93-100.

Zimmer, M. (2016). Extending Court-Protected Legal Person Status to Non-Human Entities. In *IJCA* (Vol. 8, p. viii).

Zinsstag, J., Schelling, E., Waltner-Toews, D., & Tanner, M. (2011). From "one medicine" to "one health" and systemic approaches to health and well-being. *Preventive veterinary medicine*, *101*(3-4), 148-156.

(March 14, 2019 Thursday). You might like pot but your dog won't. *Prince George Citizen (British Columbia).* Retrieved from https://advance-lexis-com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte m:5VMT-81G1-JCDW-24G1-00000-00&context=1516831.

(January 8, 2018 Monday). Pets going to marijuana, eating and inhaling it, veterinarians warn. *The Daily Gleaner (New Brunswick).* Retrieved from https://advance-lexis-com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte m:5RC3-8R91-JCT2-K03Y-00000-00&context=1516831.

(July 26, 2018 Thursday). 14 RCMP sniffer dogs retiring. *Ottawa Sun.* Retrieved from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

m:5SWH-GGH1-JC14-707D-00000-00&context=1516831.

(July 26, 2018 Thursday). 14 RCMP sniffer dogs retiring. *Edmonton Sun.* Retrieved

from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

m:5SWH-GD41-JC14-14J3-00000-00&context=1516831.

(June 8, 2013 Saturday). Canine cannabis used for medicinal purposes. *The Telegraph-*

Journal (New Brunswick). Retrieved from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

m:58KX-FCP1-JCT2-N160-00000-00&context=1516831.

(October 16, 2018 Tuesday). Cannabis cats and dogs: Mandarin likes CBD and she's

not the only pet. *The Gazette (Montreal).* Retrieved from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentItem:5Y3

0-C9W1-DY2T-C2YP-00000-00&context=1516831.

(October 22, 2018 Monday). With pot legal, Emma the police dog is out of work. *The*

Times & Transcript (New Brunswick). Retrieved from https://advance-lexis-

com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentIte

m:5TJ8-S381-F084-B0TT-00000-00&context=1516831.

(October 30, 2019 Wednesday). Pups on pot? Could cannabis treat cancer in Burlington woman's dog?. *The Hamilton Spectator (Ontario, Canada).* Retrieved from https://advance-lexis-com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentItem:5XCW-JCP1-JDH1-C4Y0-00000-00&context=1516831.

(September 17, 2019 Tuesday). Evidence suggests jump in number of stoned dogs being taken to vets. *The Hamilton Spectator (Ontario, Canada).* Retrieved from https://advance-lexis-com.libaccess.lib.mcmaster.ca/api/document?collection=news&id=urn:contentItem:5X2P-TRF1-F103-30JF-00000-00&context=1516831.