STUDENT STRESS SURVEY: A PILOT STUDY AT THE WESTERN COLLEGE OF VETERINARY MEDICINE

A Practicum Report
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Abstract

This report presents the findings of a master of social work research practicum at the Western College of Veterinary Medicine (WCVM). The research question for this study asks: “What are the stressors for the students at the WCVM, and what practices could potentially mitigate their stress?” The purpose of this research study is to pilot a survey for the WCVM student population that assesses the student’s objective and subjective stress, causes and symptoms of stress, the student’s current coping mechanisms for stress, and the effectiveness of the current practices in place. The aim is to identify the causes of stress and provide recommendations to the WCVM that may help alleviate stress experienced by veterinary medicine students, interns and residents. The report begins with an introduction explaining the purpose and goals of the research practicum. It follows with a review of the literature, which includes an overview of the search terms, and further explores suicide in veterinary medicine and the contributing factors to suicide risk, the impact of euthanasia on risk factors and on students, contributing factors to stress and burnout in veterinary medicine, gendered differences in reported stress, student stress and coping strategies in veterinary colleges, and student stress examined. The methodology is presented including the survey development, data collection methods, participant recruitment, procedures used, and a data analysis. The findings are discussed, including the themes that emerged from the data analysis and an overview of the survey findings. This paper concludes with recommendations for the WCVM for a future study.
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"Every day may not be good, but there's something good in every day." --Unknown
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Chapter 1: Introduction

Many people say I look like my mom, but I am my father’s child. As I grow older and have observed my parents, I can confidently say this is 100% true. I am the youngest of two children, my older brother being severely asthmatic and allergic to everything. I remember always wanting a pet, and my dad being an animal lover would always bring a stray animal home; however, it was short lived as my brother could not tolerate any animals with fur. Even though we lived in the city, we had more cats than I could name, a dog named Licorice that needed to be re-homed due to my brother’s allergies, fish, a turtle, and rabbits, one of which became a house pet. As my brother’s allergies worsened my mother put her foot down and told my dad he could no longer bring animals home. I remember around the age of ten my dad was spending an unusual amount of time out in the shed. My inquiring mind led me to sneak out to the shed without my father knowing. To my amazement he had two of the cutest stray cats that he was cuddling. I looked around, he had a heat lamp to keep them warm, had insulated the shed for them, had a litter box, toys and food, and yes, my mother was unaware. My dad and I spent all our free time out there until my mom found out. Although she made us re-home the kittens, she also realized she could no longer prevent me (and my dad) from having a beloved pet. She researched hypoallergenic dogs and we made a four hour drive to pick up our first family pet; a black and white Lhasa Apso named Sundae. Since then I have never been without a dog, and am the proud mother of two Boston Terriers named Lily and Lola.

Throughout my professional experiences I have always veered towards fast-paced, multifaceted careers. My first career in social work was working with high risk youth in a government group home. After that I worked as a Child and Family Services Worker, completing investigations on child physical abuse, sexual abuse and neglect. Currently I am employed as a Probation Officer and work with adult offenders. I have enjoyed not knowing what my day was
going to bring, even if it had been pre-planned. I quickly found that as social workers we are put in risky situations daily. Additionally, I realized how imperative advocacy is throughout my social work career; advocacy for clients, for services, for self-care and wellness, to name a few. These realizations drove me to pursue my masters of social work, as my passion is to have a voice for others. I wanted to further my education in order to enhance my social work skills and I enrolled in the master of social work (MSW) program at the University of Regina (U of R).

As I was completing my classes, an opportunity for a MSW research practicum placement came up with the Western College of Veterinary Medicine (WCVM) through the University of Saskatchewan (U of S) where the focus of the research practicum placement was to contribute to the development of a survey to measure veterinary student stress. This research practicum appealed to me immensely for many reasons. First, as indicated above I am a lover of animals. Second, I was extremely interested in student stress. As a former Child and Family Services Worker where the burnout is extremely high, I myself have experienced stress and knew I could relate. Last, I had never completed research independently and wanted to push myself and expand my knowledge in the social work field. I quickly expressed my interest and after a few meetings I started my MSW research practicum on a part time basis in January 2016.

1.1 Purpose and Goal of the Research Practicum

The WCVM, located at the U of S, identified a need to study the perceived stress among their veterinary medicine students. Recent literature outlines concerns related to student mental health, stress, and an increasing rate of suicide among veterinary medicine students. A recent document released by the Centers for Disease Control and Prevention found that “14.4% of males and 19.1% of females who are veterinarians have considered suicide since graduation”, (AVMA, 2015, para. 4) which is three times more than average. Additionally, Miller, Mavis,
Lloyd, Grabill, Henry and Patterson (2015) identified the veterinary medicine program is demanding on students, both academically and personally, and that “some students report depression and anxiety rates higher than the general populations and other medical students” (p. 353). Hence, the research question for this study asked: “What are the stressors for the students at the WCVM, and what practices could potentially mitigate their stress?”

The purpose of this research practicum was to revise and pilot an existing survey for the WCVM student population that would assess the effects of the students’ objective and subjective stress, causes and symptoms of stress, the student’s current coping mechanisms for stress, and the effectiveness of the current practices in place. The survey instrument proposed for use in this study was adapted from the Student Stress in Veterinary Medicine: Examining the College’s Role Student Questionnaire conducted in 2005 by Student Counselling Services, University of Saskatchewan (Herman, Weber, & Witzel, 2006).

Recent literature on student stress outlines concerns related to student mental health, stress, and an increasing rate of suicide among veterinary medicine students (Bartram & Baldwin, 2010; Collins & Foote, 2005; Hafen Jr., Reisbig, White, & Rush, 2008; Larkin, 2013; Larkin, 2015a; Miller et al., 2015; Platt, Hawton, Simkin, & Mellanby, 2012). This research is intended to define student stress more accurately and address support needs. It is intended that this study will have practical relevance by producing a survey that when implemented will support the need for clinical student resources and inform the development of self-care strategies for veterinary medicine students. Moreover, this research will also contribute to the body of literature within the field of social work on the value of collaboration between clinical supports and veterinary medicine professionals. Also, this study will form the basis of a follow-up survey that will be implemented to the entire student population at the WCVM.
As required within a research practicum placement, I developed a proposal outlining my learning goals and objectives for a graduate level practicum placement. My learning objectives were to: gain an in-depth knowledge of stress, perceived stress, and coping mechanisms of the WCVM student population; strengthen my skills in social work research, and more specifically, survey design and implementation; contribute to the collaboration of research between social work and veterinary medicine and evaluate my personal research practice effectiveness; and produce a required final report that would capture my learning and provide the WCVM with a document from which to build a future study.

My research practicum objectives were accomplished through first, the completion of a literature review. This review included examining the literature pertaining to suicide in veterinary medicine, contributing factors to suicide risk, impact of euthanasia on risk factors, impact of euthanasia on students, incidences of stress and burnout in veterinary medicine, coping strategies in veterinary medicine, student stress in veterinary college, an examination of student stress, gaps in the literature, and implications and initiatives for veterinary medicine and veterinary colleges. Second, I revised a survey tool that would measure student stress specifically for the WCVM. Third, I obtained ethics approval from University of Regina and University of Saskatchewan to conduct a pilot study of the survey tool using a focus group design. Finally, I analyzed the data from the pilot study and offered recommendations that will inform a future study with the intent to survey the entire student population at the WCVM.

The next section will present a review of the literature that discusses the main themes that emerged, which include: The contributing factors for stress and suicide within veterinary medicine and veterinary students; and current wellness initiatives and implications within veterinary medicine and veterinary colleges.
Chapter 2: Literature Review

2.1 Overview of Search Terms

The goal of the literature search was to locate scholarly articles that reported on veterinary professionals or veterinary students, suicide, burnout, and stress. A systematic search using both Boolean operators and combining concepts was used to exhaust all areas of the literature from the publishing dates of 2000 through to 2016, using variations of the following search terms: Veterinary, stress, suicide, burnout, and euthanasia. The majority of literature was found in a number of key journals. These included: the Australian Veterinary Journal, The Veterinary Journal, BioMed Central Medical Education, Veterinary Record, Journal of the American Veterinary Medical Association (JAVMA), and the Journal of Veterinary Medical Education (JVME). I also conducted a hand search of the reference lists in many of the articles that were located. Other literature was passed on directly to me from Erin Wasson if she felt it was relevant to my research. Relevant websites were also searched, including the American Veterinary Medical Association (AVMA), Canadian Veterinary Medical Association (CVMA), and the Saskatchewan Veterinary Medical Association (SVMA).

In selecting articles, those that were English language, peer-reviewed empirical literature and relevant to veterinary professionals and veterinary medical students, explored stress, burnout, suicide, or euthanasia were included. All of the literature examined was organized within an excel spreadsheet according to author, publishing date, title of the article, the database it was received from, the theme, and the search method. The key theme areas from the literature review are presented in the following sections. They include: suicide in veterinary medicine and the contributing factors to suicide risk, the impact of euthanasia on risk factors and on students, contributing factors to stress and burnout in veterinary medicine, gendered
differences in reported stress, student stress and coping strategies in veterinary colleges, and student stress examined.

### 2.2 Suicide in Veterinary Medicine

In August 1998, Dr. Patty Gaddis carefully wrote out instructions for her patients at her veterinary practice and then died by suicide (Wolfe, 2016). Like Dr. Gaddis, Doctors Jacox, Jeffries, Ca-son (Wolfe, 2016), Koshi (American Veterinary Medical Association [AVMA], 2015) and Yin (Grossman, 2014; AVMA, 2015) are all notable veterinarians that have died by suicide. Unfortunately, the literature is beginning to demonstrate that death by suicide is a growing concern in the veterinary profession (Bartram, Yadegarfar, & Baldwin, 2009a; Halliwell & Hoskin, 2005; Mellanby, 2005; Skipper & Williams, 2012).

As reported by Witte, Correia, and Angarano (2013), “veterinarians die by suicide more than people of any other professions” (p. 126). Additionally, “there have been concerns for many years that mortality due to suicide is higher in the veterinary profession than in the general population” (Mellanby, 2005, p. 415). Also, Skipper and Williams (2012) report that “suicide is the eleventh most common cause of death in the U.S., and health professionals, particularly veterinary professionals, are at higher risk than the general population” (p. 81). In comparison to other professions, Haliwell and Hoskin (2005) state “the [suicide] rate is more than twice that of the medical profession, and close to twice that of the dental profession” (p. 397). This was also confirmed by Bartram, Yadegarfar, and Baldwin (2009a) who note that the suicide rate is four times higher than the general population, and twice as high as other health care professionals. Furthermore, Mellanby (2005) concluded that suicide rates were significantly higher for the veterinary profession, with rates higher than the medical or dental fields. Additionally, writers
suggest that suicide rates for veterinary surgeons were higher than the general population, and even higher for female veterinary surgeons (Halliwell & Hoskin, 2005; Mellanby, 2005).

Unfortunately, veterinary students are at an increased risk as well. According to Larkin (2013; Larkin 2015a) over a five year period several students have taken their own lives: March 2011, a University of Tennessee veterinary college graduate, who was pursuing a residency in laboratory animal medicine with the University of Missouri’s Comparative Medicine Program; May 2012, a fourth year veterinary student at the University of Montreal died by suicide a day before she was to graduate; April 2013, a second year veterinary student at Mississippi State University; September 23, 2015 a second year veterinary student at the State University College of Veterinary Medicine. In addition, Alanis (2017) reports that on March 14, 2017 a radiology resident at the Kansas State College of Veterinary Medicine took her life. Suicide is not a criminal act; however, universities and colleges are suggested to act as custodial care givers for their students. Thus, naturally they are wanting to prevent these unfortunate tragedies from occurring (Gray, 2007). This warrants a further examination into suicide, stress, implications, and initiatives pertaining to the veterinary profession and veterinary medical schools.

Early in the 1990’s contributing factors for suicide, although not specific to veterinary medicine, began to be examined within the literature. Charlton et al. (1992) studied suicide deaths in England and Wales and found that between 1911 and 1990 suicide was more prevalent in men than women. Also, between 1948 and 1965 suicide by using solid or liquid gas steadily increased as the preferred choice of method, especially with females (Charlton et al., 1992). Further contributing factors for suicide were examined and it was reported that higher levels of intelligence (Voracek, 2004; Voracek, 2013) and alcohol use disorder (Darvishi, Farhadi, Haghtalab, & Poorolajal, 2015) were found to correspond with higher suicide rates. This is worth
considering since high rates of alcohol abuse with doctors and veterinarians are reported (Mellanby, Platt, Simkin, & Hawton, 2009; Sher, 2006).

Although there is no single cause of suicide (Darvishi et al., 2015), these contributing factors are important when further examining suicide within specific occupations, as they are significant within the veterinary and medical professions. In exploring occupational risk and suicide, the literature shows that veterinarians were included amongst high risk occupations (Kelly, Charlton, & Jenkins, 1995; Roberts, Jaremin, & Lloyd, 2013). Other occupations identified as high risk included, pharmacists, dentists, doctors (Kelly et al., 1995; Roberts et al., 2013), nurses (Kelly et al., 1995), and farmers (Roberts et al., 2013). Some further contributing factors for suicide were identified in the literature, specific to the veterinary occupation including easy access and knowledge of drugs (Kelly et al., 1995; Milner, Niven, Page, & LaMontagne, 2015). Specifically, the literature identifies that the most commonly used method for suicide by doctors, veterinarians and pharmacists is poisoning with barbiturates, supporting the theory that access and knowledge of drugs increases lethality (Kelly et al., 1995; Mellanby, 2005; Milner et al., 2015). Similarities were also noted between veterinarians and doctors, specifically both professions aim to prevent disease and provide the best possible patient care (Lerner, Lindblad, Algels, & Lynoe, 2011). However, this in turn causes both veterinary professionals and medical professionals to experience similar reactions to their clients and families, as animal patients are commonly viewed as equal members of the family (Lerner et al., 2011).

2.3 Contributing Factors to Suicide Risk

There are many contributing factors as to why the suicide rates are high within the veterinary profession. A number of these risk factors have been identified in the literature and include: negative effects on mental health during undergraduate training, including student’s lack
of coping abilities (Bartram & Baldwin, 2010); attitudes towards death and euthanasia and suicide ‘contagion’ (Bartram & Baldwin, 2008b; Bartram & Baldwin, 2010); “compassion fatigue” within the veterinary profession caused by the moral stress of handling ethical dilemmas (Kahler, 2015, p.1), including euthanasia decisions, stress from dealing with euthanasia decisions (Sanders, 1995); work-related stressors including being overworked (Bartram & Baldwin, 2008b; Bartram & Baldwin, 2010; Bartram, Yadegarfar, & Baldwin, 2009b; Kelly et al., 1995; Skipper & Williams, 2012; Witte et al., 2013); access, knowledge and means to lethal drugs (Bartram & Baldwin, 2008b; Bartram & Baldwin, 2010; Bartram et al., 2009b; Kelly et al., 1995; Milner et al., 2015; Skipper & Williams; Witte et al., 2013); and professional and social isolation (Bartram & Baldwin, 2010; Bartram et al., 2009b; Kelly et al., 1995; Skipper & Williams, 2012; Witte et al., 2013).

Further contributing factors as to why the suicide rates are high within the veterinary profession in reference to personal issues include alcohol and/or drug misuse (Bartram & Baldwin, 2010; Kinsella, 2007), personal characteristics of individuals that enter the profession (Bartram & Baldwin, 2008b; Bartram & Baldwin, 2010; Bartram et al., 2009b; Witte et al., 2013), stigma associated with mental illness (Bartram & Baldwin, 2008b; Bartram & Baldwin, 2010; Glas, 2005; Skipper & Williams, 2012), and mental illness and disorders (Bartram & Baldwin, 2008b; Kinsella, 2007; Skipper & Williams, 2012; Stark & Dougall, 2012).

Given these factors, there is contradicting evidence in the literature pertaining to whether or not veterinarians are more likely to experience psychological distress and suffer from mental illness than the general population. According to Platt et al. (2012), little evidence exists that would suggest veterinarians “suffer from exceptionally high levels of stress” (Platt et al., 2012, p. 236); yet it is reported that veterinarians are more prone to die by suicide than the rest of the
general population (Platt et al., 2012; Witte et al., 2013). On the contrary, a recent study conducted by the Centers for Disease Control and Prevention found that veterinary professionals have serious psychological distress when compared to the general population, with a notable amount of them reporting experiencing depressive episodes since veterinary school (AVMA, 2015). It is for these reasons that there is a need to analyze the differences within the occupational experience of veterinarians that may contribute to an increased risk of suicide.

### 2.4 Impact of Euthanasia on Risk Factors for Suicide

Witte et al. (2013) recognized that the practice of euthanasia is a unique aspect of practice within veterinary medicine and with this comes risk factors related to veterinarian’s attitudes towards euthanasia. A study by these authors was one of the first to explore “whether there is a positive association between exposure to euthanasia and suicide” (Witte et al., 2013, p. 127). This research links euthanasia to an increased “fearlessness about death” (Witte et al., 2013, p. 134), which could potentially cause an increased risk for suicide if they are contemplating suicide (Witte et al., 2013). Witte et al. (2013) also demonstrated that “individuals who have had more experience with euthanasia were less fearful regarding the prospect of their own death, and this was accounted for by the diminished distress about euthanasia that comes with repeated exposure” (p. 133-134). The results of this study also confirmed the correlation with the experience with euthanasia and fearlessness about death, including stronger associations with companion animals than non-companion animals (Witte et al., 2013). The authors suggest that an “individual will not die by suicide, even if he or she is experiencing intense suicidal desire, without the requisite fearlessness about death and physical pain tolerance” (p. 134). Furthermore, Witte et al. (2013) “suggests that, all else being equal, veterinarians may be more likely than
members of other professions to enact a lethal attempt when they desire suicide because their exposure to euthanasia has rendered them less fearful of death” (p. 134).

Rollin (2011) identified that there are moral and value-based challenges associated with euthanasia. He writes:

… euthanasia is a double-edge sword in veterinary medicine. It is a powerful and ultimately the most powerful tool for ending pain and suffering that may well be an animal’s entire life. Demand for its use for client convenience is morally reprehensible and creates major moral stress for ethically conscious practitioners, and goes against the very essence of a veterinarian’s goal to alleviate pain and maximize animal health and quality of life (Rollin, 2011, p. 658).

Thus, veterinarians constantly weigh the circumstances in which they feel it is morally and ethically acceptable to euthanize an animal, and common to nearly all veterinarians is the refusal to euthanize at least one animal throughout their career (Morris, 2012).

To further complicate the picture, there is evidence within the research suggesting companion animals are perceived by their owners as being as important as human companions within the family system (Hafen Jr., Rush, Reisbig, McDaniel, & White, 2007; Rollin, 2011; Witte et al., 2013). Therefore, the quality of the owner and pet relationship plays an important role in how veterinarians perceive euthanasia (Hafen Jr. et al., 2007; Lerner et al., 2011; Rollin, 2011). This suggests a key experience of veterinarians given that animals that are euthanized are viewed as an equal family member (Lerner et al., 2011; Hafen Jr. et al., 2007; Rollin, 2011). As a result, the bereavement issues that veterinarians address with clients are intense and multifaceted (Hafen Jr. et al., 2007; Morris; 2012). It would follow that if the placement within the family mimics that of another family member, then the grief experienced after the death of an animal
would be similar in nature (Carmack, 1985; Clements, Benasutti, & Carmone, 2003; Packman, Field, Carmack, & Ronen, 2011, Wasson, 2015). This is relevant within veterinary medicine, as “the veterinarian responds both to the physical needs of the animal and the emotional needs (and possibly physical) needs of the human being” (Strand, Zaparanick, & Brace, 2005, p. 183). Additionally, the veterinarian must cope “with their personal feelings and emotional response to that suffering” (Scotney, Mclaughlin, & Keates, 2015, p. 1122). There is a pressure on veterinarians to perform a successful euthanasia by having the animal die peacefully (Bartram & Baldwin, 2010; Morris, 2012). As indicated by Bartram and Baldwin (2010), this pressure may cause veterinarians to normalize suicide.

These findings further support the hypothesis that veterinarians are at an increased risk for suicide due to their euthanasia experiences at work, which make suicide possible if they are experiencing suicidal ideation (Witte et al., 2013). Veterinarians euthanize patients, the lethal means are readily available, and there is evidence to suggest euthanasia can desensitize and alter their views on life (Halliwell & Hoskin, 2005; Ogden, Kinnison, & May, 2012). Additionally, research by Platt et al. (2012) found that “easier access to the means for suicide is one of the most commonly cited contributory factors to suicide in the occupational groups at highest risk of suicide” (p. 224), therefore validating the findings from Witte et al. (2013) in regards to this specific group of veterinarians.

2.5 Impact of Euthanasia on Students

Students studied by Strand et al. (2005) similarly felt increased stress with euthanasia regardless if it was deemed a necessary procedure or not. “Compassion fatigue in animal-related professions is most often considered to be a direct result of the impact of euthanasia” (Scotney et al., 2015, p. 1122). Also, Dickinson, Roof, and Roof (2010) established that students need to be
aware of their own attitudes and beliefs surrounding death before they can begin to help their patients (p. 161), and that 96% of the students felt “death, dying and bereavement were important topics” (p. 152) to include in the veterinary medicine programs. It is key for students to be able to openly discuss these topics within the curriculum to mitigate developing fearlessness towards death and dying as indicated above. Moreover, veterinary students are “rarely aware of the extent to which they will be required to kill animals” (Scotney et al., 2015, p. 1122), causing them to feel like a “murderer” (Morris, 2012, p. 120). As noted in Morris (2012) students express that they do not receive much involvement with the clients in the decision-making process leading up to the euthanasia, and felt this would be beneficial for them in respect to their clinical knowledge and experience.

2.6 Contributing Factors to Stress and Burnout in Veterinary Medicine

In reviewing the literature, veterinarians describe higher levels of depression, anxiety, stress, and burnout than the general public (Bartram & Baldwin, 2008a; Hatch, Winefield, & Lievaart, 2011). According to the Centers for Disease Control and Prevention, a recent study found that veterinary professionals have serious psychological distress when compared to the general population and a notable amount of them report experiencing depressive episodes since veterinary school (AVMA, 2015).

Stress and burnout are well known amongst the veterinary profession. Stress is defined as a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation (Mirriam-Webster, 2017). Burnout is defined as exhaustion of physical or emotional strength or motivation usually as a result of prolonged stress or frustration (Mirriam-Webster, 2017). There are a number of factors that contribute to the high rates of stress and burnout within the veterinary profession. Although a degree of work-related stress has been
identified to be good, “persistent and excessive pressures that exceed [one’s] ability to cope” (Bartram & Turley, 2009, p. 400) can be problematic; thus, resulting in “psychological and physical problems” (Bartram & Turley, 2009, p. 400). Some notable factors include: not having enough time per patient (Smith, Leggat, Speare, & Townley-Jones, 2009); administrative and clerical tasks (Bartram & Turley, 2009); not having enough holidays and days off, or personal time (Bartram, O’Connor, Allister, & Fowlie, 2012; Smith et al., 2009); the human-animal bond of clients (Hatch et al., 2011); unexpected outcomes of veterinary care, including making professional mistakes (Bartram & Turley, 2009; Hatch et al., 2011). Other factors include: lack of recognition from the public, including feeling undervalued (Bartram et al., 2012; Smith et al., 2009); professional and social isolation (Hatch et al., 2011; Platt et al., 2012); attitudes and expectations of clients (Bartram & Turley, 2009; Hatch et al., 2011; Smith et al., 2009); and long hours of work, including on-call duties (Bartram, et al., 2012; Bartram & Turley, 2009; Hatch et al., 2011; Smith, et al., 2009).

Moreover, there is pressure on the veterinary profession to be “guardians of animal health and welfare” (Kinsella, 2006, p. 642). Their roles have become more diverse over the years, including responsibilities to control disease and to help conserve endangered species, all while caring for livestock and pets (Kinsella, 2006). These contributory factors are all suggestive contributors to veterinarian’s experiences of high rates of stress and burnout. Additional factors include veterinarians that practice in rural areas, and those working in isolation, who express feeling more depressed than those veterinarians in urban settings (Hatch et al., 2011; Skipper & Williams, 2012). Also, small animal practitioners express feeling burnout more than large animal practitioners (Hatch et al., 2011). Additionally, burnout appears more within those veterinarians that practice in a city or rural community, opposed to a farm background (Hatch et al., 2011).
2.7 Gendered Differences in Reported Stress

Historically, veterinary medicine has been a male dominated profession (Hafen Jr. et al., 2007; Irvine & Vermilya, 2010). Male veterinarians suggested women did not possess the characteristics needed to perform veterinary treatments. This occurred during a time when women were considered inept to work outside the home. Male veterinarians also felt that women jeopardized their efforts in professionalizing the veterinary medicine field (Irvine & Vermilya, 2010, p. 59). During this time women were discouraged from entering the veterinary medicine field, and if admitted were not privy to the same education that their male counterparts received (Irvine & Vermilya, 2010). In the 1980’s the numbers of women in the veterinary field began to increase, partly due to the Higher Education Act of 1973 (Irvine & Vermilya, 2010). This Act played a role in allowing women to enter the veterinary field by restricting discrimination on the basis of sex that allowed for the inclusion of women (Irvine & Vermilya, 2010, p. 61). More recently, women now comprise half of all veterinarian practitioners and 80% of all veterinary students (Irvine & Vermilya, 2010).

Although women make up the majority of the practicing veterinarians and students, “the culture of veterinary medicine glorifies stereotypically masculine actions and attitudes” (Irvine & Vermilya, 2010, p. 56). A study by Irvine and Vermilya (2010) found women contribute to the inequality and the “masculine ethic of the profession” (p. 56) through their use of “role encapsulation” (p. 56) and through “distancing from the feminine” (p. 56). Further, the “culture of the profession values masculine characteristics, such as the freedom from familial responsibilities” (Irvine & Vermilya, 2010, p. 58). Smith et al. (2009) found “when compared to their male counterparts, female veterinarians were significantly more likely to report moderate, considerable or extreme stress” (p. 2). There are specific factors women face in practice,
including working less hours than males, they are more likely to work in a small practice alone, and have lower wages than their comparable male counterparts, mainly in exchange for flexible hours to accommodate their familial responsibilities (Heath, 2007; Irvine & Vermilya, 2010).

Nevertheless, sexism persists within the field. Since the founding of the American Veterinary Medical Association (AVMA) in 1863, only two women have held the office of president. No women currently serve as officers on AVMA’s Executive Board.

Women serve as deans at only four of the 28 schools of veterinary medicine (Irvine & Vermilya, 2010, p. 62).

With this shift, the need for systemic changes to address the shift is necessary to accommodate the pressures specific to female veterinarians (Hafen Jr. et al., 2007).

In order to prevent burnout and stress in veterinarians, one must be able to identify the cause of the stressors and burnout (Hatch et al., 2011). As previously indicated, most of the research identifies that female veterinarians perceive feeling depressed and anxious more than their male counterparts, especially younger females (Hatch et al., 2011; Platt et al., 2012). Female veterinarians are also more likely to report suicide ideation (Platt et al., 2012). For this reason it is pertinent to note that veterinary colleges’ have identified a shift in the demographics of their student population also being predominantly female over the past two decades (Hafen Jr. et al., 2007; Hafen Jr. et al., 2008; Hafen Jr., Ratcliffe, & Rush, 2013; Kogan McConnell, & Schoenfel-Tacher, 2005; Laakkonen & Nevgi, 2014; Langebaek, Eika, Tanggaard, Jensen, & Berendt, 2012; McLennan & Sutton, 2005; Schoenfeld-Tacher, Kogan, Meyer-Parsons, Royal, & Shaw, 2015; Schull, Morton, Coleman, & Mills, 2012; Siqueria Drake, Hafen Jr., Rush, & Reisbig, 2012; Strand et al., 2005).
2.8 Student Stress in Veterinary Colleges

Veterinary medical school is known to be extremely challenging and demanding, “and some students report depression and anxiety rates higher than the general populations and other medical students” (Miller et al., 2015, p. 353). Two-thirds of students felt overwhelmed by the heavy workload and more than 70% were worried about passing exams and not graduating (Collins and Foote, 2005).

According to Hafen Jr., Reisbig, White, and Rush (2008), one-third of the veterinary students they studied had depression levels above the clinical cut off. Within the literature there are numerous factors that have been identified to contribute to veterinary student stress. Research has found students report being stressed about academic issues, including: the heavy workload (Gelberg & Gelberg, 2005; Hafen et al., 2013; Siqueria Drake et al., 2012); being behind in studies (Hafen et al., 2013); exam stress (Kydd et al., 2013); concerns with academic performances (Hafen et al., 2013); inefficient study habits (Gelberg & Gelberg, 2005; Hafen et al., 2013); unclear professor expectations (Hafen et al., 2013; Siqueria Drake et al., 2012); volume of information and intensity of the veterinary medicine program (Kydd et al., 2013); and ethical considerations (Gelberg & Gelberg, 2005). In addition, students report other non-academic stressors including: peer competition (Baker, 2012; Collins & Foote, 2005); relocating (Baker, 2012; Collins & Foote, 2005; Kydd et al., 2013; Siqueria Drake et al., 2012), issues with personal relationships (Gelberg & Gelberg, 2005; Kogan et al., 2005; Collins & Foote, 2005; Kydd et al., 2013); financial concerns, including student loan debt (Baker, 2012; Collins & Foote, 2005; Kydd et al., 2013; Hafen et al., 2013); lack of free time for social and recreational activities (Collins & Foote, 2005); and poor health (Collins & Foote, 2005; Kogan et al., 2005; Siqueria Drake et al., 2012).
Kydd et al. (2013) also found significant differences in the students’ self-esteem dependent upon the year of program they were in, with the most stressful year being the second year of university. This was attributed to their uncertainty about the purpose of their studies, academic pressures, and struggles of engagement in learning and motivation (Kydd et al. 2013). However, a study by Powers (2002) suggested “that additional stressors came into play in students’ third year, namely, the heavier academic load and increasing concerns about careers” (p. 227). A study by McLennan and Sutton (2005) also found the cause of stress was dependent upon their program year. Students in their first, third, and fourth year of study were most stressed by “academic issues” (p. 213), and students in their second and fifth years of study were most stressed by “lifestyle and financial issues” (McLennan & Sutton, 2005, p. 213).

A study by Rhind et al. (2011) found students felt communication skills, interpersonal relationship skills, and experience were necessary in veterinary practice; however, lacking in their current curriculum (Rhind, Baillie, Kinnison, Shaw, Bell, Mellanby, Hammond, Hudson, Whittington, & Donnelly, 2011; Strand et al., 2005). “Because poor emotional functioning increases the risk of future academic problems, it is important to understand the factors that affect the emotional well-being of veterinary medical students” (Miller et al., 2015, p. 354). Another aspect noted by Hafen Jr. et al. (2007) is that “students are expected to assess, diagnose, and perform in a practical setting in front of their peers. Their grades are subjectively determined and are based on clinical reasoning, knowledge base, organizational skills, communication skills, and technical expertise; therefore, the absence of these skills in the curriculum affects the stress of the students” (p. 171).
2.9 Coping Strategies in Veterinary Medicine

Bartram and Gardner (2008) indicate that veterinarians’ coping strategies are relatively unknown, therefore while stressors have been identified, the coping strategies veterinarians use to deal with the stressors they face have not been identified. The authors state that “veterinary surgeons tend to try to solve problems beyond the point at which this is possible and do not appraise stressful situations properly” (Bartram & Gardner, 2008, p. 228), and identified this as an area that needs to be further examined through research.

Hatch et al. (2011) propose that veterinary students need to learn communication, coping and cognitive skills as part of the requirements of completing a veterinary medicine program to prevent burnout and poor mental health. Without addressing the need for these skills within the veterinary curriculums, students will continue to experience “the demands on time, the lack of sleep, the experience of being constantly evaluated, and the moral stress associated with veterinary ethical conundrums” (Strand et al., 2005, p. 183), and these stressors will continue to be a part of professional practice for veterinarians.

Hafen et al. (2013) found that relationship satisfaction can help with the stressors experienced by veterinary medical students, and that higher relationship satisfaction is correlated with improved physical and mental health. There were no statistical differences with students in a romantic relationship and those not in a romantic relationship in regards to their depression levels (Hafen et al., 2013). However, those in a relationship with low relationship satisfaction reported elevated depressive symptoms and poorer physical health, more challenges in maintaining a balance between school and personal life, and more difficulty coping with academic expectations, when compared to those in high satisfaction relationships (Hafen et al., 2013). Strand et al. (2005) noted similar findings that “protective factors in students’
management of stress were social relationships with other veterinary students, as well as with faculty members and with family members” (p. 182).

Educational systems have shifted views in the last decade. Collins & Foote (2005) identified a change in the attitude between the universities and their students in a more positive aspect of supporting their wellbeing, as opposed to the previous “sink or swim” (p. 170) mentality. Universities are reliant on student funding and have become more responsible for their students and their wellbeing (Collins & Foote, 2005). The survey found most the students could recognize stress and identify how it manifests in themselves (Collins & Foote, 2005). Collins and Foote (2005) also recognized the importance for both students and faculty to be able to recognize the signs and causes of stress in themselves and others. Additionally, it was asserted that the faculty needs to create a “culture of acceptance, inclusion, and compassion” (Collins & Foote, 2005, p. 172). Identifying coping strategies within the veterinary medical profession is imperative to studying stress in order to establish effective and ineffective practices, policies, and skills, which will commence through the examination of the studies below.

2.10 Student Stress Examined

Chigerwe, Boudreaux, and Ilkiw (2014) used the Maslach Burnout Inventory-Educator Survey (MBI-ES) on veterinary medical students. To the authors’ knowledge, it had previously been conducted on medical students, but not veterinary medical students (Chigerwe et al., 2014). The objectives of this study were to evaluate use of the MBI-ES on veterinary students in order to evaluate the level of stress experienced by the students each semester (Chigerwe et al., 2014). The MBI-ES evaluates burnout, including emotional exhaustion, depersonalization, and low personal accomplishment. Chigerwe et al. (2014) found “evidence exists supporting that emotional stress is prevalent in veterinary medical students. Thus, investigation of the optimal
A tool to assess the level of burnout will assist in the determination and allocation of student support resources” (p.2).

Their findings concluded that students in the first two years of study experienced the highest level of burnout during the spring semester (Chigerwe et al., 2014). The study by Chigerwe et al. (2014) identified “administrative implications for the school, when considering the allocation and use of resources for student support systems during each semester” (p. 5) and that “living with another veterinary student significantly predicted MBI-ES scores suggesting that veterinary students are more likely to be a part of the support system to their peers to reduce stress and consequently reducing feelings of burnout” (p. 5).

The authors recommend that in order to prevent burnout within the student population, ensuring the students can identify the signs and symptoms of burnout is key. This can be accommodated within the curriculum through the implementation of stress management classes that teach students skills to be able to deal with stress more effectively, thus preventing burnout (Chigerwe et al., 2014). The authors did recognize the limitations within the study; primarily they only surveyed two classes of the four-year curriculum which can cause weak external validity, and the survey was voluntary, therefore selection bias may exist (Chigerwe et al., 2014). However, the authors suggest this tool can be used to assess burnout in veterinary medical students and its test-retest reliability coefficients indicated the survey should be completed twice per school year (Chigerwe et al., 2014).

A study by Pickles et al. (2012) was conducted using two separate questionnaires for students and staff that were developed using a web-based survey program. Questions consisted of closed-type questions, Likert scale questions, categorical yes/no responses, or collectively exhaustive categorical responses (Pickles et al., 2012). The survey also included free text boxes
which were used for qualitative analysis (Pickles et al., 2012). The purpose of the study was examining the students’ perceptions of on-site counselling services (Pickles et al., 2012). Furthermore, it was intended to identify any potential barriers students face in accessing services to ensure they had access to services when experiencing psychological distress (Pickles et al., 2012).

The findings concluded that, “the majority of student respondents subjectively perceived the mental wellbeing of veterinary students worse than that of the general university student population” (Pickles et al., 2012, p. 4). Stress was cited most frequently as the reason for this, following workload, personality traits, financial pressure, and isolation (Pickles et al., 2012). The majority of staff and students subjectively thought workload and examinations were the main cause of veterinary student stress, and half of the respondents also thought financial debt, unrealistic expectations and personal issues were common stressors (Pickles et al., 2012). Veterinary students believed they had a greater need for counselling than other students and believed their mental wellbeing was worse than that of the general student population (Pickles et al., 2012).

Pickles et al. (2012) found “support mechanisms noted more important by students were the Church, sports teams/hobbies, and mental healthcare providers” (p. 2-3). Commonly students cited that the support they would find the most beneficial should include: mentoring systems, “improved staff-student dynamic, better student integration/peer support, a relaxation area, stress and financial advice workshops, group support, better transportation” (Pickles et al., 2012, p. 3). Some students studied identified that they were unsure of how to access services, or what services were available to them through counselling (Pickles et al., 2012). Additionally, the majority of the students felt having the counselling service centrally located was a positive
initiative and would increase their chances of utilizing the service (Pickles et al., 2012). However, articulated in the same study, other students felt having it located centrally decreased the likelihood that they would utilize services, for fear of stigmatization and lack of anonymity (Pickles et al., 2012).

Another study of student stress conducted by Strand et al. (2005) which used the Derogatis Stress Profile (p. 184) contains 77 items that illustrates the interaction between the environmental, emotional, and personality factors (p. 185) and the Demographic Data Profile (p. 184) which is a 13-item survey that gathers demographic information to assess the student’s perceived stress (p. 185). Strand et al. (2005) found that students do not “experience significant levels of stress overall, they do report higher levels of subjective stress, time pressure and depression than the general population” (p. 182). The study recruited each class and participation was voluntary (Strand et al., 2005). Strand et al. (2005) confirmed that students do perceive their stress to be higher than the general population; however, it is not, in fact, objectively higher. However, the study did indicate that veterinary students do experience higher levels of depression and time pressure than the general public (Strand et al., 2005).

Moreover, a cross-sectional study conducted by Cardwell et al. (2013) quantified student’s well-being and mental health using validated psychological scales. Their results state that over half of the student respondents had experienced mental health issues, with most occurring prior to entering veterinary medicine, and a third of the respondents identified as having low self-esteem (Cardwell et al., 2013). Cardwell et al. (2013) reported “it is not clear whether there is a high prevalence of pre-existing psychiatric morbidity or susceptibility to poor mental health in people entering veterinary training, or whether these develop later” (p. 266). One possibility is that veterinary schools recruit “normal, healthy people” (Cardwell et al., 2013)
that develop poor mental health, another is that the “veterinary profession recruits a population with a relatively high prevalence of pre-existing psychiatric morbidity or maladaptive traits” (Cardwell et al., 2013).

An unpublished study was conducted by Student Counselling Services at the U of S in 2005 and 2006 “in response to the reportedly high levels of student stress” (Herman et al., 2006, p. 4) at the WCVM, as stated in meetings with the students and exit interviews (Herman et al., 2006). Additionally, the WCVM conducted a “Needs Assessment Survey” (Herman et al., 2005, p.4) in 2003 that also identified stress as a concern.

In February 2006, students at the WCVM were asked to complete the survey, however only results from the first, second and third year students were included due to low response rates with the fourth year students (Herman et al., 2006). According to the findings, students from the WCVM ranked their “top three stressors as class load/schedule, academic performance and finances” (Herman et al., 2006, p.8). Additionally, “approximately one-quarter of students included the following stressors: finances; studying away from family, friends and/or significant others; relationship/family issues or demands; and questions about professional competence” (Herman et al., 2006, p.15). Also noted as stressors include “career uncertainty” (p. 15) and “competition among students” (Herman et al., 2006, p. 15). Additional findings indicated 39% of students found the exam schedule to be a stressor, including the limited time between exams (Herman et al., 2006).

Identified coping strategies used by students preceding with the most used include: exercising (41%), eating (30%), talking with someone (29%), sleeping (28%), watching television or listening to music (26%), going out with friends or partner (24%), taking a break (23%), working harder (21%), taking a bath or shower (21%), prioritizing tasks (14%), setting
limits (10%), engaging in sexual activity (8%), drinking alcohol (7%), other (7%), nothing (4%), having a cigarette (4%), using relaxation exercises (3%), and using drugs (1%) (Herman et al., 2006). The study also sought to identify current College practices that may be successful in reducing stress (Herman et al., 2006). Most notable practices reported by students were attending College social events or participating in campus recreation activities (Herman et al., 2006). Throughout exploring the implementation of these results, it was discovered that they had not been implemented by the College due to the study not meeting their expectations of rigor and validity, therefore leaving the study unpublished.

2.11 College and University Initiatives

As evident in the literature, many authors suggest that further research or implementation of wellness initiatives within the veterinary medical field could mitigate risk for burnout, stress and suicide among veterinarian medicine professionals and students (Bartram & Baldwin, 2008; Bartram, Yadegarfar, & Baldwin, 2009a; Gelberg & Gelberg, 2005; Haliwell & Hoskin, 2005; Reisbig et al., 2012; Schull et al., 2012; Schwartz, 2012). Bartram, Yadegarfar, and Baldwin (2009a) suggest that within the veterinary medicine profession, research is important to help mitigate the potentially harmful effects of any unaddressed mental health issues among practitioners, specifically research pertaining to veterinary professionals and suicide. This is especially important, as it is not feasible to expect veterinarians to effectively provide proper care to their patients, if they are unwell themselves (Bartram et al., 2009a). The authors have also identified a need for more research containing qualitative interviews and longitudinal studies in order to determine if the observed connections are causal (Bartram et al., 2009a).

At the college level, providing colleges with validated measurement tools is imperative for them to make informed decisions on how to best meet the student’s needs (Reisbig et al.,
Identified needs, at the university level, include increasing guidance and support in early veterinary career, preparing students for change from school to practice, teaching ‘work/life balance’, and teaching coping skills. These are imperative for colleges to implement in their curriculum (Halliwell & Hoskin, 2005). Similarly, Gelberg and Gelberg (2005) indicated “strengthening students’ stress management skills, also helps them maintain their investment and motivation in professional development by avoiding burnout. Good stress management helps improve students’ performance, especially in the area of problem solving, decision making, learning skills, and time management” (p. 178).

One way to address this need is through increased peer support and access to counseling (Schwartz, 2011). Further, Schull et al. (2012) reported “communication skills, teamwork, respect for co-workers, honesty and awareness of personal limitations” were greatly valued by both students and employers (p. 100). Therefore, additional learning opportunities built into the curriculum that address communication skills and teamwork are considered highly beneficial (Schull et al., 2012). Furthermore, learning opportunities for students need to be structured. It is identified that students benefit from more guidance and support in their early veterinary career, being able to identify vulnerable persons, and increased awareness for their responsibilities (Bartram & Baldwin, 2008b). Moreover, students benefit from a greater awareness as a profession to the issues of suicide, warning signs, and being transparent with mental health topics (Bartram & Baldwin, 2008b).

There have been numerous initiatives that have occurred within the veterinary medical profession and colleges in attempts to address stress and suicide within the profession. Within the literature, implementations to date include suicide awareness workshops that increased the students’ ability to recognize the signs of a person at risk for suicide, approach a person at risk of
suicide, and properly intervene if needed (Mellanby et al., 2010). Additionally, the United Kingdom has been known to be forerunners when it comes to supporting veterinary professionals and students using a “multiagency approach” (Larkin, 2015b, Mental health support services section, para. 1). Veterinary professionals have developed a “comprehensive range of interventions, including support for vulnerable practitioners, with an increasing reliance on online assistance” (Larkin, 2015b, Mental health support services section, para. 1). VetLife established in 1978, is an “independent charity that provides free and confidential support to the vet community through its Vet Helpline”, which is accessible through phone and email (Larkin, 2015b, Mental health support services section, para. 2).

The Veterinary Surgeon’s Health Support Programme provides collaborative care for mental health disorders by working with both the veterinary professional and the employer (Larkin, 2015b). This program works with the Royal College of Veterinary Surgeons (RCVS), to ensure that “a complaint against a veterinarian cannot be automatically escalated to a full Disciplinary Committee hearing if mental health may be a mitigating circumstance” (Larkin, 2015b, Mental health support services section, para. 5). The RCVS also established a Health Protocol in 2010 which seeks to ensure that anyone suffering from health concerns, that affect their ability to practice, can have their matter dealt with confidentially (Larkin, 2015b). Additionally, the Code of Professional Conduct for Veterinary Surgeons now states veterinary professionals must take steps to address adverse physical or mental health that could affect their ability to practice and requires veterinarians who are concerned about a colleague to intervene (Larkin, 2015b).

Most recently, the RCVS also launched their “Mind Matters Initiative” (Larkin, 2015b, Mental health support services section, para. 10), which is a task force consisting of eight
veterinarian organizations that help students, schools, veterinarians, veterinary nurses and managers with peer support (Larkin, 2015b). Lastly, “the British Veterinary association started the Young Vet Network to provide additional support and services to members in their final year and first eight years after graduation” (Larkin, 2015b, Mental health support services section, para. 13). They host regular meetings, continuing education, free personal accident insurance and professional guidance and an online discussion forum (Larkin, 2015b).

The American Veterinary Medical Association (AVMA) addressed the unique challenges that young veterinary practitioners are faced with at a wellness summit in 2013 (Larkin, 2013). Recent graduates have more to deal with, including large amounts of student debt, more liability claims, increased expectation of the standard of care, and more competition (Larkin, 2013). In recent years, social media has begun to play a larger role in developing and maintaining a veterinary reputation, enhancing the pressure felt by veterinarians, as “you can lose your reputation in a matter of minutes” (Larkin, 2013, What’s the problem? section, para. 12). The AVMA first created a model program in 1992 to assist veterinary professionals, students and families with drug and alcohol misuse (AVMA, 2016b).

In 2004 a new model was developed that further addressed disordered eating, compassion fatigue, anger management, stress, professional burnout, depression, anxiety disorders, and suicide (AVMA, 2016b). The goals of the program include quick, confidential and experienced evaluation and treatment, to assist the individual and family during the recovery practice and to help them re-enter or continue with their veterinary profession (AVMA, 2016b). The AVMA has held workshops, symposia and round table discussions to bring awareness to, support, and address mental well-being within the veterinary profession (AVMA, 2013). As well, the AVMA encourages every region to “develop and maintain a wellness program to protect the health and
function of the vet community” (AVMA, 2016a). Additionally, the AVMA recognizes the need for “credible research” (Larkin, 2013, Better help, better data section, para. 5) in order to “drive better…solutions” (Larkin, 2013, Better help, better data section, para. 5), and the need to emphasize wellness as equally important to treating mental health issues (Larkin, 2013).

Within the Canadian context, the Canadian Veterinary Medical Association (CVMA, 2017) has a Veterinarian Health and Wellness section on their website, with three sections to assist with any veterinary professionals’ and students’ needs. The first section addresses mental and emotional health, and has numerous hyperlinks for substance use, stress and mental health. It also includes a link to VETVANCE, which includes a series of modules to support mental wellbeing presented by Dr. Bartram (CVMA, 2017). Further sections include physical health and veterinarian wellbeing, which includes numerous links and resources for wellness, suicide awareness, mental health and veterinarians, and mindfulness topics. It also includes a hyperlink to the AVMA’s Wellness and Peer Assistance webpage and hyperlinks to the Vetlife and Vethealth websites (CVMA, 2017).

At the provincial level, The Saskatchewan Veterinary Medical Association (SVMA), for example, also has a Professional Wellness section on their webpage (Saskatchewan Veterinary Medical Association [SVMA], n.d). The SVMA offers up to four hours of wellness counselling annually for all active members. Further, there is information on local workshops and retreats within Saskatchewan, as well as links for health and fitness, contact information for supports, and crisis support information throughout the province. They also include numerous articles and resources on wellness, stress, burnout, and other relevant topics pertaining to professional wellness.
The University of Saskatchewan (U of S) implemented One Health in 2011. One Health can be defined as “the collaborative effort of multiple health science professions, together with their related disciplines and institutions – working locally, nationally, and globally – to attain optimal health for people, domestic animals, wildlife, plants, and our environment” (One Health Commission, 2017). The importance for this initiative stems from the effects of the environment’s pollution, contamination and climate changes on the human and animal health in the world (One Health Commission, 2017). The One Health initiative was developed in order to work collaboratively between the professional disciplines to ensure the human, animal and environmental needs are all met (One Health Commission, 2017).

The One Health Initiative at the U of S has the ability to address current issues that affect human, animal, and environmental factors, through a focus on research, the human-animal bond, comparative medicine, natural resource conservation, environmental and disaster preparedness and response, public policies and regulation, and through communication and outreach (One Health Commission, 2017). On a student level, the One Health initiative provides more interdisciplinary programs in education, training and research (One Health Commission, 2017). According to the One Health Commission website (2017):

- the research addresses complex problems in human, animal and/or ecosystem health and is undertaken by integrated teams of medical, animal (including veterinary), social and environmental scientists. The educational and training programs address challenges in integrated health science plus methods for collaborative, interdisciplinary problem solving for undergraduate and graduate students as well as established scientists and health practitioners.
Additionally, this “integrative thinking is increasingly being considered in academic curricula, clinical practice, ministries of health and livestock/agriculture and international organizations” (Zinsstag et al., 2011).

Considering the environment, students function within a social environment. The U of S also provides student counselling and health services to all the current students, including WCVM students, free of charge. The counselling addresses the framework within the One Health initiative, as the free counselling provides an opportunity for students to reach their optimum health. However, it has been observed that students have struggled to access services do to the high demand campus-wide (University of Saskatchewan, n.d; E. Wasson, personal communication, March 22, 2017).

The WCVM at the U of S recognizes that health promotion initiatives are important to reduce occupational stress and to enhance interpersonal skills for managing stress. As such, a number of initiatives have been implemented over the last decade to address the stress their student population was reporting. These include: Wednesday afternoons off, student/teacher evaluation program, the buddy system, Veterinary Social Work, holistic practices within Student Services, and College wide recreational activities, such as round up. Further, the WCVM offers a third year Mindfulness class elective instructed by Dr. Dowling and has a Pawsitive Practice initiative through the Western Canadian Veterinary Student’s Association (WCVSA) that has offered a women’s round table and a mindfulness workshop, as well as regular healthy food for students.

Additionally, this research practicum completed at the WCVM is part of the overall wellness initiative through the revision of a survey tool to measure student stress. Last, the WCVSA, with help from the WCVM student population, organized a Mental Health and
Wellness week during February 2017 with the theme ‘Building a Resilient Veterinary Community’. Included were week-long activities like: yoga and mindfulness sessions, an adult coloring table, evening activities, physical fitness at noon hour, mental health panel discussions, discussion around LGBTQ2 experiences in the workplace, and daily wellness photo competitions.

Although there have been numerous initiatives that have occurred within the veterinary medicine profession and colleges in attempts to address stress and suicide within the profession, the services being offered continue to be less than adequate (Larkin, 2014). A 2014 survey by the Association of American Veterinary Medical Colleges found that some students continue to meet the criteria for clinical depression, amongst other psychological symptoms, throughout their studies; despite the current health and wellness offerings (Larkin, 2014).

2.12 Summary

A review of the literature explored the current research, initiatives, and implications for wellness for the veterinary medical students and the profession at large. After reviewing the literature and analyzing various instruments previously used to study student stress, gaps emerged from the current studies, as well as from the previous study developed for the WCVM by U of S Student Counselling Services.

A number of gaps are evident within the studies reviewed above (Chigerwe et al., 2014; Herman et al., 2006; Pickles et al., 2012; Strand et al., 2005). The majority of these include a lack of valid, rigorous instruments that addressed current literature, and specifically on the effects of euthanasia. The instruments used in the studies that were examined were not administered to all program years, including internship and residency, and they lacked longitudinal design and application. It is understood that the year of study impacts the student’s
experience of stress; however not all veterinary medical schools have the same curriculum and years of study (Powers, 2002). Therefore, it would be difficult to utilize an instrument that does not account for this factor, as it may possibly affect the validity of such an instrument used at the WCVM. This is important in order to test the usefulness of the curriculum and initiatives that have been implemented into the WCVM. Therefore, a survey instrument developed for the WCVM and used in the study by Student Counselling Services was modified to address the above gaps. The following section describes the methodology used in the pilot survey study developed during my practicum.
Chapter 3: Methodologies

This research study focused on the adaptation of a previously used survey instrument to measure student stress at the WCVM. This was followed by a pilot study of the survey instrument using a focus group. This section will discuss survey development, data collection, participant recruitment, procedures and data analysis. The research question for this study asks: “What are the stressors for veterinary medical students at the Western College of Veterinary Medicine (WCVM), and what strategies could potentially mitigate their stress?” The purpose of the project was to revise a survey instrument used in a previous study (Herman, et al., 2006) to reflect the recent literature and the current student body. The intent was to create an instrument that will measure students’ objective and subjective stress, causes and symptoms of stress, current student coping mechanisms for stress, and the effectiveness of the current strategies in place at the WCVM. A pilot study of the survey instrument was conducted using a focus group to assess the usability of the survey and address concerns with the survey instrument prior to the WCVM administering the survey to the entire student population. This chapter will describe the process I used in revising and piloting the survey instrument with current veterinary medicine students, interns, and residents. The chapter begins with a description of the research methods and strategies. I then present a detailed explanation of the survey development, data collection, participant recruitment, procedure, and data analysis.

3.1 Survey Development

At the beginning of my practicum I met with Dr. Clark, Associate Dean Academic, Paige Links, Manager of Student Services, Amanda Doherty, Academic and Student Services, and Erin Wasson, Clinical Associate Social Work, Veterinary Social Work Program. Dr. Clark is responsible for Student Services, with a role in the College to provide academic support services
to the students. Academic supports include managing academic timetables, academic advising, managing exam time tables and clinical rotations, and coordinating College awards. Prior to meeting, I reviewed the findings from a previous study developed by Student Counselling Services, University of Saskatchewan, that was conducted in 2005 (Herman et al., 2006). During the meeting, I was briefed on their perspective of stress and suicide within the WCVM. They identified that the College wanted to be proactive in regards to mitigating the risk factors for stress and suicide as much as possible. We discussed the previous survey that was conducted in the 2005-2006 academic year by the Student Counselling Services. It was explained that this survey tool had some strengths, however, it also had some limitations. In particular, there were some concerns with some of the language used in the survey questions and there was a need to enhance the rigor and validity of the survey. Furthermore, the intent was to have a survey that could be used by all years of their College, including interns and residents, to measure how stress varies by program year. Additionally, there was a need to identify if stress was problematic at the WCVM, understand the student’s stress levels subjectively and objectively, and measure if the current initiatives have been helpful or useful to the students, such as having Wednesday afternoons off and only having exams on Mondays or Thursdays. My role was to review the survey instrument and determine if it could be adapted, or if a new survey instrument needed to be designed.

I reviewed the literature and examined various instruments, such as the Maslach Burnout Inventory-Educator Survey (Chigerwe et al., 2014), the Derogatis Stress Profile and Demographic Stress Profile (Strand et al., 2005), and other studies by Pickels et al. (2012) and Cardwell et al. (2013). Following my review of the literature I consulted with my Academic Committee and Professional Associate about whether to proceed with developing a new
instrument or adapt the previous survey conducted by Herman, Weber, and Witzel (2006) “Student Stress in Veterinary Medicine: Examining the College’s Role Student Questionnaire”, Student Counselling Services, University of Saskatchewan. It was suggested that the survey could be adapted to include current findings in the literature, and the questions could be re-worded and re-formatted to increase its validity and rigor. A decision was made to adapt the survey and then to pilot the usability of the revised version through a focus group. A letter requesting permission to use the existing survey tool was sent to Student Counselling Services on May 3, 2016, and permission was received on May 9, 2016 to use their instrument.

The existing survey consisted of two questionnaires: 1) Student Stress in Veterinary Medicine: Examining the College’s Role – Faculty Questionnaire, and 2) Student Stress in Veterinary Medicine: Examining the College’s Role – Student Questionnaire. The faculty questionnaire was a one page questionnaire with five questions; three multiple choice and two open-ended. The student questionnaire was three pages in length. It asked for basic demographic information, including age, gender, program year and date. There were 22 questions in total, 18 closed-ended and four open-ended. Of the closed-ended questions, two were multiple choice and the rest were ranking scale questions. The closed-ended questions on the survey explored the student’s top stressors, symptoms of stress, coping mechanisms, academic performance, competitiveness, helpfulness of programs, quality of experience with the WCVM and the advising. The open-ended questions explored current College practices that contributed to or reduced stress, other suggestions for the College to help reduce stress, and further comments and/or suggestions.

Surveys can be used in research to collect quantitative data, qualitative data, or both, which is frequently referred to as a mixed-methods approach. Quantitative data is used to
measure a specific attribute, such as frequency, differences, or averages (Breakwell, Hammond, & Fife-Schaw, 2000). In surveys, quantitative data typically includes closed ended-information such as scaling questions (Creswell, 2006). Qualitative research typically occurs in a natural setting, collecting data through observations and interviews (Creswell, 2006). In surveys, qualitative data usually consists of open-ended questions (Creswell, 2006). According to Kettles, Creswell, and Zhang (2011), using both quantitative and qualitative approaches in data collection can offer a greater comprehension of the research problem, as opposed to using just one approach.

In this study, the existing survey uses a quantitative approach to data collection, including four open-ended questions. I also utilized the same approach, as I felt it was the best way to be able to measure all the content needed to adequately assess all the areas previously identified for the WCVM. I began by reading the survey thoroughly, approximately three times, to become familiar with the questions and content. After the third time, I began marking and highlighting any areas of the survey that I felt captured the student’s experience at the WCVM, and that were relevant with findings that emerged in the literature review. Specifically, survey questions based on the literature review that needed to be captured included contributors to student stress including euthanasia, symptoms of stress, coping mechanisms for stress, the College’s role with student stress, competitiveness at the College, current initiatives at the College and their usefulness, and the students’ objective and subjective stress. The original survey did address student stress and competitiveness; however questions were re-worded and/or re-grouped to enhance validity.

I also noted any questions that needed to be added to the survey, and questions that could be excluded based on relevance. For example, this included any questions that were not relevant
to the WCVM population or to the survey, and these questions were removed. These questions included the amount of times the students met with their advisor and if the course prerequisites for the veterinary medicine program were consistent with the demands of the program. I also highlighted any questions that could have been re-worded or re-phrased to become more rigorous, for example, adding the wording “this semester” to pinpoint a timeframe. I then documented the questions that would be included and began the process of re-wording and re-formatting these questions to include Likert response categories. This was done to quantifiably measure subjective and objective stress and the perceived helpfulness of the current wellness initiatives implemented by the WCVM.

Specifically, a five-point scale was used with the survey questions as this is the most common format for Likert scales (Trochim, 2006). This also included a “does not apply” option. I further ensured there was an appropriate number of inverted questions and changed the language throughout to be congruent with the language in the literature. Furthermore, the survey also needed to be relevant to all students at the WCVM, including interns and residents. This was done to address the gap identified in the literature where most survey designs were for students only, or not applicable to interns or residents. Additionally, in the initial meetings with the Student Services team it was requested that the survey be developed so that it could be administered each semester in order to obtain enough data to assess the variances over the years. A final version of the revised survey was reviewed by my Academic Committee and Professional Associate.

The completed Student Survey consists of demographic information including age, program year and gender, and thirteen questions. Of the thirteen questions, three are open ended. The other ten questions consist of four Likert scale questions, four questions where the
respondent may check those that apply, and two yes/no questions. The survey also includes definitions of stress and competitiveness to add clarity for the participants.

I then completed a University of Regina (U of R) Research Ethics Board (REB) application. This application was submitted for review on November 4, 2016 to both the U of R and the U of S. A harmonized research process exists across institutions and because I was completing my research practicum at the U of S this was required. The REB required changes to be made to clarify the recruitment process, further detail in regard to the random selection process of participants for the focus group, and other minor additions. This was completed and resubmitted and a certificate of approval was received on December 13, 2016 (Appendix A). During this time, I also presented the survey to the WCVM Associate Dean Academic and Student Services to ensure that I had captured what they had envisioned for the survey and to seek any additional input. The survey was approved by this group. Upon receiving ethics approval, the data collection began. The next section discusses the details of the data collection process.

3.2 Data Collection

Pilot studies can be beneficial in order to test out a research method to establish the usefulness and relevance to the subject population prior to doing a full study (Breakwell, et al., 2000). Additionally, focus groups are common within a pilot study. Focus groups add value to the pilot study, as the group setting allows the interviewer to understand the participant’s perspectives, while producing specific data through the use of guided questions (Breakwell, et al., 2000). Focus groups can also be beneficial in order for the participants to address any issues or concerns with the product that is being tested (Breakwell et al., 2000).
This pilot study design included the implementation of the Student Survey, followed by a focus group in order to determine ease of use and relevance for the student population at the WCVM. A Focus Group Question Guide was developed for this pilot study (Appendix B). This guide consisted of open-ended questions, which permitted participants to provide feedback on the survey instrument they completed, and the interviewer to expand on the feedback provided by the participants on the specific topics that were identified. The questions focused on assessing the survey to determine if it represented the students’ experience at the WCVM, as well as the usability of the survey related to content, clarity, and relevance to the student body. These questions were useful in assessing any necessary revisions or adaptations prior to the survey being implemented in the future to the student population. Data collection included completion of a self-administered paper survey, followed by a focus group where a series of semi-structured interview questions were asked about the survey. The focus group discussion was audio-recorded using a digital recorder. I also took notes on the participants’ comments and my observations.

3.3 Participant Recruitment

The recommended number of participants for a focus group ranges from six to twelve participants (Smith, Breakwell, & Wright, 2012). Participant recruitment can occur through a gatekeeper, whose role is to open a door in order for a group to accept the researcher and to gain access to a group (Creswell, 2013). Also, a gatekeeper is useful in order to ensure the participant’s confidentiality from the researcher.

All current 2016 students, interns and residents at the WCVM were invited to participate in the focus group. The criteria for the focus group participants was that they had to be: current veterinary medical students, interns and residents of the WCVM willing to participate in the pilot study, including a test of the survey instrument; and provide feedback on the survey instrument
through a focus group. As indicated in the REB application the number of participants that responded would be based on random purposeful sampling in order to narrow down to an appropriate size for a focus group, while still remaining credible (Creswell, 2013). The process intended to randomly select no more than two participants from each program year, so there would be at least one, and not more than two representatives from each program year. This method was chosen in order to recruit a group that was reflective of the population of the WCVM students, interns and residents. The focus group’s projected size was a minimum of six participants and a maximum of twelve.

To ensure confidentiality I used a gatekeeper to recruit participants. Erin Wasson, Clinical Associate Social Work U of S, WCVM distributed information about the study to all students, interns and residents on my behalf. A recruitment email was sent to all 480 students at the WCVM, not including the interns and residents. Emails were sent out with a recruitment poster on two occasions, December 13, 2016 and January 9, 2017, inviting interested individuals to participate in the pilot study (Appendix C). Details on the recruitment poster included information about the researcher, the pilot study, time commitment, and how to contact the researcher to express an interest.

In response to the email recruitment, I received six respondents for the pilot study, one first year student, two second year students, two third year students and a resident. Once the participants contacted me via email I thanked them for their interest and informed them I would send a further email confirming their attendance. Due to only receiving six responses, the use of random sampling was not needed. A follow up email was sent out closer to the date of the pilot study to confirm the participants’ attendance.
3.4 Procedure

The pilot study focus group was held on January 18, 2017 at the WCVM for one hour. Six participants attended. I was the sole facilitator and data collector. Prior to the start of the focus group, I informed the participants on the purpose of the pilot study. I reviewed the Participant Consent Form (Appendix D) and informed them of the procedures for the pilot study, the potential risks and benefits with participating, and limitations to confidentiality, particularly the parameters around the focus group setting, and discussed potential risks with participating. Further, each participant was assigned a code number based on the order they spoke in the focus group. I was the only person who had access to the raw data. The participants were also informed of their right to withdraw, as outlined in the Participant Consent Form. I invited them to contact me if they wished to have a copy of the findings, and further advised the WCVM would be presented with a final report that would include the data analysis and findings. The participants were provided with the opportunity to ask questions. All participants signed the consent forms and received a copy once signed. Although the study was deemed low-risk, the consent form also included a list of support services available if needed by the participants.

I handed out the survey to the six participants. I also provided an envelope for them to enclose their completed survey, to ensure confidentiality. Five of the participants finished the survey in approximately 20 minutes, while one participant took approximately 45 minutes. One participant had to leave approximately 30 minutes into the process and requested to complete the focus group questions on paper prior to their departure. Another participant left after 40 minutes. After the last participant had completed the survey I collected the surveys in the enclosed envelopes, set them aside, and handed the participants copies of the Focus Group Guide. I explained to the participants that I was going to audio record the discussion so I did not miss any
key points, as well as take notes. I conducted the focus group using the questions as outlined in the Focus Group Guide (Appendix B). The focus group discussion lasted approximately 30 minutes. At its completion, I thanked the participants for their time and input, and stayed after in case any participants needed to debrief or had questions for me. Two participants stayed very briefly to provide positive feedback and ask questions unrelated to the study. Once data collection concluded, I began the process of data analysis. This process is described in the next section.

3.5 Data Analysis

Thematic analysis was used for this pilot study. Thematic analysis provides a method for identifying themes in the data through the linking of categories that exhibit similar meanings (Braun & Clarke, 2006; Creswell, 2013). In this study I reviewed the data to categorize the participant’s accounts, which then “are compared with each other to classify those ‘themes’ that recur or are common in the data set” (Green & Thorogood, 2011, p.199).

Upon completion of the focus group I transcribed the audio recording of the focus group verbatim. I listened to the audio recording at least six times to ensure accuracy. By solely transcribing the focus group it allowed me to become familiar with the recording, which, according to Braun and Clarke (2006) is the first step in conducting thematic analysis. It also allowed me to reflect upon my skills as the interviewer. As I listened to the recording, I observed that I used open-ended probing questions when the discussion was at a standstill, such as asking for clarification or more detail. I also noticed the clarity and volume of my voice was appropriate. I reflected on my critical thinking skills when I was posed with questions I was not prepared for, such as when I was questioned on why psychological traits were excluded from the survey.
Next, I began to manually generate initial codes by placing the transcription into the left side of a two-column table and highlighting any significant statements, similarities, and consistencies in the transcription to reduce the data. I was able to make notes in the right-hand column of any observations or ideas, paying attention to the exact words used by the participants. I re-read the transcription in the left column and started reducing the data by circling words and phrases that were frequently used by the participants. I further made notes in the right column of these observations.

From the right column, I was then able to identify emerging overarching themes from the patterns that developed in my observations and notes. I was reflective throughout this process, which assisted me in gaining a better understanding of the participant’s thoughts, feelings and perceptions.

The initial themes that emerged from the thematic analysis included student representation, student relevance, usability, survey content, student experience, positive feedback, changes, barriers, stigma, expectations, campus culture, confidentiality, and trust. I began to group these overarching themes on a separate paper and began to draw lines showing connections between certain themes. These emerging themes were analyzed, grouped, and collapsed into the following three themes: Student Survey: Usability and Content; Campus Culture: Barriers and Stigma; and Student Representation: Relevance and Experience. These themes are explored in the following chapter.
Chapter 4: Findings

This chapter will examine the findings from a focus group exploring a survey to be used in the future at the Western College of Veterinary Medicine (WCVM) to assess student stress. The data was collected from a focus group of six participants. The themes that emerged from the data analysis, included: Student Survey: Usability and Content; Campus Culture: Barriers and Stigma; and Student Representation: Relevance and Experience, all of which will be discussed in detail below. This chapter concludes with an overview of the survey findings.

4.1 Focus Group Findings

The Focus Group Guide offered questions that were developed to elicit responses in order to help the participants offer input and information on certain topics including the usability, relevance and clarity of the survey.

4.1.1 Theme One: Student Survey: Usability and Content

The participants offered extensive feedback on the survey’s usability and content. Overall, they were satisfied with the survey. They agreed as a group that the check boxes that offered specific options on the survey were good, as they offered reminders instead of needing to remember everything. Although there were some concerns over the open-ended questions in the survey, mainly the effort that has to be put into responding to them, it was recommended that these questions be included in the survey. None of the participants felt the survey was repetitious, and the consensus was that the length was appropriate. For example, one participant stated “I’m putting time into this and they’ll actually be able to get something from it”. There were suggestions to do a short form and long form once the participants found out the intention was to roll out the survey every semester, especially concurrent with curriculum planning.
There were some changes recommended by the participants in regards to additional questions they felt might be helpful to capture their experience. One suggestion was to add a question(s) where students could compare themselves from year to year, or that students could have access to their survey results throughout the year. The participants suggested that additional questions that explored what most contributes to their stressors, and why students are not accessing services provided to address these stressors, would be appropriate to include in the survey. Another addition of how others view your stress was recommended, which will be explored further in discussion on the next theme. Further changes included options of “I don’t know what this is”, specifically in regards to the Mindful Veterinary Practice and Advanced Communication Program, as there was confusion around what this program was. The participants stated they felt they were asked to rate the program rather than how the program could be viewed as helpful in mitigating their stress.

An additional change to the survey noted by one participant was to add more questions of “How do you think other people view your stress in the program whether it’s your peers, or the College, or your family, and how does that affect your stress level?” The reasoning for this proposed addition is because the participant felt that other people indicated they don’t have a reason to be stressed, stating “Oh I’m in vet school I should just get over it”, and further suggested students may access supports or rank them as useful on the survey, which could provide insight into whether they felt they should or shouldn’t be talking about their stress.

The participants made numerous suggestions for incentives to complete the survey, including “an hour off class”, which was recanted as it was recognized that they did not want to fall farther behind in their studies, “gift cards” and “smaller incentives” were deemed the most popular. Additionally, a participant proposed to have the survey administrator “emphasize the
importance of doing this”, as she felt then most people would take it seriously. Further suggestions were offered in regards to the timeframe during which the survey should be rolled out. The participants shared that it would be appropriate to roll out at the end of semester, given the language used within the survey, so that students had enough experience to be able to answer the questions.

4.1.2 Theme Two: Campus Culture: Barriers and Stigma

The group collectively agreed that there are many resources available for them and questioned why their peers are not accessing them. As described by one participant “I feel like there are a lot of resources, but people still don’t take advantage of them”. This was echoed by another participant asking, “what barriers are keeping you from utilizing them?” The participants discussed the reasons why some students are not accessing resources. These reasons include stigma, the way others view their stress; specifically the College, peers and their family; and how their own perceptions affect their stress levels. One participant explained a lot of people think that they shouldn’t feel as stressed as they do, but that there is a real and perceived expectation that it is expected of veterinary medical students.

It was also shared that the perception of people outside of the program contributed to the stigma, stating “they don’t know what vet school is like”. Further, participants discussed the underlying stigma in regards to the competitiveness question, stating they feel like there has been a “mind-shift”, but their personalities make the competitiveness underlying within, that it’s their “deep dark secret”, and made them uneasy by having the survey point out it needs to be addressed. In terms of the campus culture, the students felt competitiveness was pushed by staff, but also the “general attitude” of being inadequate to your classmates. Lastly, students shared that there was a barrier to completing the survey within a classroom setting, for fear that their
peers may see their answers, and that fear alone would prevent them from answering truthfully. For example, a participant stated: “your classmate might read what you wrote…and so people might not want to express how they are actually feeling”. There was some mention that having a survey will contribute to breaking down the stigma of accessing mental health supports. Although the veterinary community tries to be accepting “there’s still that little piece in everyone that, you got to hide it”. One participant stated she was “jaded” and didn’t believe completing the survey would “result in any change”.

4.1.3 Theme Three: Student Representation: Relevance and Experience

The participants felt this survey captured their experience at the WCVM specifically with the questions surrounding contributors of stress, symptoms of stress, coping mechanisms for stress and rating how helpful programs are. There was general consensus amongst the participants that the questions numbered 3, 4, 5 and 11 were the best questions for the survey to capture their experience. Those questions included topics that explored what their greatest contributors of stress are, what symptoms of stress they experience, what coping methods they utilize for stress, and how helpful they find certain programs. A participant indicated that addressing competitiveness on the survey was not important to her, however the rest of the participants felt there was a place for it on there. The participants agreed the survey was satisfactory and it included enough content that if they were to fill it out, “they’ll actually be able to get something from it”. They felt when the survey is rolled out, the importance of the survey needed to be emphasized, as they felt it was the best way for the students to “put in a good amount of effort”.
4.2 Overview of the Student Survey Findings

Six surveys were completed in this pilot study. A brief overview of the survey instrument correlates with the literature reviewed. The majority of the respondents (83%) indicated they frequently feel stressed at high levels and that it is problematic in their lives. Contributors of stress that all respondents indicated include: volume/intensity of workload and expectations in the program (100%), school/life balance (100%), and feeling incompetent (100%). Additionally, most of the respondents further identified concerns with academic performance (83%), exam stress (83%), unclear expectations from faculty (67%), lack of free time (50%) and school/life balance (50%) as contributing to their stress. Symptoms of stress that all the respondents experienced included neck/back pain (100%) and feeling overwhelmed (100%). The majority of participants also experienced frequent crying spells (83%), forgetfulness and disorientation (83%), decreased self-esteem (83%), headaches (83%), fatigue (83%), increased irritability (83%), and difficulty sleeping (67%). The most used coping mechanisms were sleeping (83%), watching television or listening to music (83%), exercising (67%), eating (67%), and consuming alcohol (67%). These findings are in line with other student stress surveys as outlined in the literature review (Chigerwe et al., 2014; Pickles at al., 2012; Strand et al., 2005).

Further noteworthy findings from this pilot study include participant comments related to the faculty significantly contributing to their competitiveness. It was stated by the participants that the College viewed their academic performance and personal well-being as important with the most helpful programs identified as the Veterinary Social Work program, Wednesday afternoons off, and Pawsitive Practice. The least helpful programs identified were Student Health, Student Services and Student Counselling. Specifically, participants indicated that at times Student Services were “flippant about student stress”. They expressed they were not
comfortable accessing Student Services, indicating the “level of confidentiality was shockingly poor” and they were afraid they would “gossip”. The next chapter will discuss the findings from this chapter, and will include recommendations, implementations, and suggested changes to the Student Survey.
Chapter 5: Recommendations and Conclusion

As noted in the literature review there are concerns related to student mental health, stress, and an increasing rate of suicide among veterinary medicine students (Bartram & Baldwin, 2010; Collins & Foote, 2005; Hafen Jr. et al, 2008; Larkin, 2013; Larkin, 2015a; Miller et al., 2015; Platt et al., 2012). Additionally, “veterinarians die by suicide more than people of any other professions” (Witte et al., 2013, p. 126). The literature outlined a number of gaps that are evident within the studies reviewed, specifically the effects of euthanasia. This was also identified with the previous survey developed for the WCVM, as well as a lack of validity and rigor.

The goal for this research practicum was to contribute to the development of a survey for the WCVM that is intended to define student stress more accurately and address support needs, inform a follow-up survey that will be implemented to the entire student population at the WCVM, and contribute to the modest body of literature within the field of social work on the value of collaboration between clinical supports and veterinary medicine professionals.

The findings from this pilot study suggest that the Student Survey administered as part of the pilot study was satisfactory in terms of usability and content. This suggests that minimal revisions will be needed on the Student Survey prior to implementation by the WCVM. The changes required include rephrasing the wording of questions for greater clarity. The participants were pleased with the survey and hopeful for the survey to result in positive change.

A brief examination of the survey itself suggested findings consistent with the literature. The completed survey offered a preliminary examination of the survey tool. It is recommended that the survey be rolled out as designed to the entire student population, once per semester, every year for as long as the WCVM deems suitable. Also, based on the feedback from the Focus
Group, if/when the WCVM rolls out the survey, preferably a neutral person along with the Veterinary Social Work Program should promote the survey prior to its implementation. Based on the findings from the focus group, it is recommended to the WCVM that the Student Survey receive minor modifications. These modifications include clarification of the definition of competitiveness, and removal of the Mindful Veterinary Practice and Advanced Communication Program under question 10, as the participants felt they were being asked to grade the program, which was not the intent. Further, the learnings from the Advanced Communication Program could be captured under question 5 as well. These recommendations will be provided to the WCVM, as well as the revised Student Survey.

This research practicum allowed me to meet all my learning objectives as outlined in my master of social work research practicum outline. Through spending time directly on campus, I was able to work directly with the veterinary students to revise a survey specifically for them. Through the completion of the literature review, the development of the pilot study and Student Survey, and through analyzing the data from the pilot study, I was able to gain an in-depth knowledge of student stress, their perceived stress, and of the student’s coping mechanisms, as well as strengthen my skill in social work research. Lastly, this practicum allowed me to contribute to the collaboration between social work and veterinary medicine.

To conclude, although stress within an academic setting can never be completely diminished, the benefits that the Student Survey could potentially have on the Western College of Veterinary Medicine may help mitigate some risks for students. Not only can this survey assess current initiatives and assess student stress, it can also give a voice to the students to be able to anonymously express their opinions and beliefs.
References


Appendix A: Research Ethics Board Certificate of Approval

Research Ethics Board Certificate of Approval

PRINCIPAL INVESTIGATOR: Amanda Picron

DEPARTMENT: Social Work

RESE: 2015-000

SUPERVISORS:
Dr. Darlene Chalmers

TITLE:
Student Stress Survey: A pilot study at the Western College of Veterinary Medicine

APPROVED ON: December 12, 2015
RENEWAL DATE: December 12, 2017

APPROVAL OF:
Application for Behavioural Research Ethics Review
Recruitment Poster
Consent Forms
Student Survey
Focus Group Guide

Full Board Meeting □
Delegated Review □

The University of Regina Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol, consent process or documents.

Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

ONGOING REVIEW REQUIREMENTS
In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for further instructions: http://www.uregina.ca/research/for-faculty-staff/ethics-compliance/human/forms/ethics-forms.html.

Dr. Katherine Robinson
Chair, Research Ethics Board

Please send all correspondence to:
Research Office
University of Regina
Research and Innovation Centre 106
Regina, SK S4S 0A2
Telephone (306) 585-6775 Fax (306) 585-6099
research.ethics@uregina.ca
June 22, 2017
Dr. Darlene Chalmers
Faculty of Social Work
University of Regina
Regina, SK

Student: Amanda Pierson

RE: Student Stress Survey: A Pilot Study at the Western College of Veterinary Medicine

U of R File#: 2016-200; U of S File#: BEH 16-422

Your application for research ethics review has undergone a harmonized review by the University of Saskatchewan and University of Regina and Regina Qu’Appelle Health Region. In accordance with the Research Ethics Review Reciprocity Agreement signed by the University of Saskatchewan, University of Regina, and Regina Qu’Appelle Health Region, the University of Saskatchewan REB accepts the Certificate of Approval issued by the University of Regina REB. This letter permits you to conduct research activities as approved by the University of Regina, provided that you maintain a valid and up-to-date Certificate of Approval.

All continuing ethics reviews will be conducted by the University of Regina REB. The University of Regina is authorized to share all communications pertaining to this file with the University of Saskatchewan REB at their discretion. The University of Saskatchewan REB may provide input into continuing ethical review activities, as agreed upon by both REBs.

The University of Saskatchewan REB reserves the right to revoke the privileges described in this letter at any time in order to conduct their own independent research ethics review of your project. Such a decision would be communicated to you and the University of Regina REB in writing.

Best wishes for your continuing research endeavours.

Sincerely,

[Signature]
Vivian Ramsden, Chair
University of Saskatchewan
Behavioural Research Ethics Board

Cc: University of Regina Research Ethics Board
Appendix B: Focus Group Guide

**Focus Group Guide**

*A blank copy of the Survey Tool will be provided to the participant’s during the focus group for them to review and will be collected at the completion of the group.*

1. Please explain which questions best represented your experience as a student.
   a. Which questions, if any, were most relevant to your student experience?
   b. Which questions, if any, must be included in the survey?

2. Please describe any changes that are needed to the survey.
   a. Were there any questions in the survey that did not appear relevant or should be removed?
   b. Was there anything missed that you believe would be important to include?
   c. Are there any changes you would make, or anything you would add that you feel was missing?
   d.

3. Please describe your experience with the clarity of the survey.
   a. Was anything unclear or confusing in the survey?
   b. Did any of the questions seem repetitive?
   c. How did you feel about the length of the survey?

4. Describe how the survey is relevant to the student body.
   a. What are the potential benefits, if any, of the survey being implemented to the student population?
   b. What are the potential risks, if any?
   c. Under what circumstances would you be willing to voluntarily complete this survey? Please explain.

5. Are there any other comments that you would like to say before we wrap up our focus group?
Appendix C: Recruitment Poster

My name is Amanda Pierson and I am a Master of Social Work student with the Faculty of Social Work at the University of Regina. My research practicum at the WCVM involves meeting with students to get their input on a student stress survey. The survey is intended to better understand students’ experiences of stress, how they cope and the effectiveness of support strategies currently in place. This information will inform a future survey study that will be implemented to the entire student population at the Western College of Veterinary Medicine.

I am looking for 6 – 12 volunteer research participants (one from each program year, including interns and residents) on January 18, 2016, Room 2102, from 1:00 pm - 2:00 pm. Participation will require approximately 60 minutes of your time. This will include 20 minutes for your review of the survey and 40 minutes for feedback discussion in a focus group.

If you wish to participate or have any questions or concerns you may contact the me by email alg746@mail.usask.ca

This project has been approved on by the Universities of Regina and Saskatchewan Research Ethics Boards. Any questions regarding your rights as a participant may be addressed to the U of R Research Ethics Board at 306-585-4775 or research.ethics@uregina.ca. Out of town participants may call collect. Any questions regarding your rights as a participant may be addressed to the U of S Research Ethics Board at 306-966-2975, toll free at 888-966-2975 or ethics.office@usask.ca.

Thank you,
Amanda Pierson
BA, BSW, Graduate Student
Master of Social Work
University of Regina
Regina, Saskatchewan
Canada, S4S 0A2
Appendix D: Consent Form

Student Stress Survey: A pilot study at the Western College of Veterinary Medicine

**Participant Consent Form**

**Project Title:** Student Stress Survey: A pilot study at the Western College of Veterinary Medicine

**Researcher(s):** My name is Amanda Pierson. I am currently enrolled in the Master of Social Work program at the University of Regina. I am currently completing my research practicum, which includes developing a survey for the Wester College of Veterinary Medicine (WCVM) that assesses the effects of stress on the student population to identify the causes of stress and provide recommendations to the WCVM that may help alleviate stress on the student population. I can be reached via email at alg746@usask.ca or by phone at 306-421-5679.

**Supervisor:** The Academic Supervisor of this research is Dr. Darlene Chalmers with the faculty of Social Work. She may be reached via email at darlene.chalmers@uregina.ca or by phone at 306-664-7379.

**Purpose(s) and Objective(s) of the Research:**

The research question for this study asks: “What are the stressors for the students at the WCVM, and what practices could potentially mitigate their stress?” This purpose of this study is to explore student’s objective and subjective stress, causes and symptoms of stress, the student’s current coping mechanisms for stress, and the effectiveness of the current practices in place.

This research will contribute to the modest body of qualitative literature within the field of social work on the value of collaboration between clinical supports and veterinary medicine professionals to more accurately define student stress and address support needs. It will also contribute recent research to the already existing ample body of quantitative literature. It is intended that this study will demonstrate practical relevance by validating the need for clinical student supports and informing the development of self-care strategies for veterinary medicine students. The data will be presented in the form of a practicum report, and a presentation of the findings will occur for the WCVM and the public.

**Procedures:**

The research design will be a pilot study with current veterinary medicine students, interns, and residents, which will include the implementation of the survey instrument followed by a focus group to better understand instrument usability and relevance to the participant population.

Participating in this pilot study will require approximately 60 minutes. The first 20 minutes will be allotted to complete the survey, followed by a focus group lasting approximately 40 minutes. Data collection for the survey instrument will be through a self-administered paper survey. Data collection for the focus group will be through semi-structured questions that will be audio-recorded using a digital recorder. I will also take notes during the focus group. Analysis of the data will include levels of ordinal
measurements, usability and relevance of the survey instrument, and the measurements of the relationships between the variables. Data analysis will also include a qualitative thematic analysis through transcribing verbatim the data collected, and an analysis of the textual data will occur by coding the data based on emerging patterns in the language and word choice, and then grouping into categories to identify themes.

**Potential Risks:**

There are no known risks with participating in this pilot study, however potential psychological risks and/or social repercussion could occur due to the sensitive nature of the topic, but are minimal. These risks will be addressed with appropriate debriefing after the focus group that will include an opportunity for you to ask questions. Also, resources listed below are provided for you free of charge for counseling or other services should you experience emotional discomfort.

**Potential Benefits:**

It is intended that this study will demonstrate practical relevance by validating the need for clinical student supports and informing the development of self-care strategies for veterinary medicine students. Also, this research will inform another planned study that will be implemented to the entire student population at the Western College of Veterinary Medicine.

**Confidentiality:**

If you agree to participate in pilot study, the confidential treatment of the results is assured. The researcher will undertake to safeguard the confidentiality of the discussion, but cannot guarantee that other members of the group will do so. Please respect the confidentiality of the other members of the group by not disclosing the contents of this discussion outside the group, and be aware that others may not respect your confidentiality.

All identifying information will be removed during transcription to ensure confidentiality. The data from this pilot study will be published and presented within my final practicum research report; however, your identity will be kept confidential. Although direct quotations may be reported from the pilot study, you will be given a pseudonym, and all identifying information will be removed from the report. Confidentiality will be further ensured with the appropriate storage, use, and destruction of protocols, surveys and transcripts. All materials related to the study will be destroyed in a confidential and appropriate manner following a mandatory 5-year archiving period.

**Right to Withdraw:**

Your participation is voluntary and you can answer only those questions that you are comfortable with. You may withdraw from the pilot study at any time, for any reason without explanation or penalty of any sort. Should you choose to withdraw, your data will be deleted from the pilot study and destroyed, at your request. It is important to note that certain disclosures such as the intent to harm yourself or others cannot be kept in confidence. Please note that after December 31, 2016 the data will be included in the analysis and findings, and will not be able to be removed from the report.

**Follow up:**
If you would like a copy of the data analysis and findings, please contact me at the above email or phone number, and the information will be sent to you directly. Also, the WCVM will be presented with a final report that will include the data analysis and findings.

Questions or Concerns:
If you have any questions or concerns, please do not hesitate to contact me at the information listed above. This research project has been approved on ethical grounds by the University of Regina Research Ethics Board. Any questions regarding your rights as a participant may be addressed to the committee at 306-585-4775 or research.ethics@uregina.ca. Out of town participants may call collect. Also, this research project was reviewed on ethical grounds by the U of S Behavioural Research Ethics Board. Any questions regarding your rights as a participant may be addressed to the Research Ethics Office toll free at 1-888-966-2975 or ethics.office@usask.ca. Out of town participants may call collect.

Consent:
Your signature below indicates that you have read and understand the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to participate in the research project. A copy of this Consent Form has been given to me for my records.

Name of Participant ___________________________ Signature ______________________ Date ______________________

Researcher’s Signature ___________________________ Date ______________________

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Free Support Services:
Student Counselling Services – University of Saskatchewan: 306-966-4920
Veterinary Social Work Program - Erin Wasson MSW/RSW: 306-966-2852
Mental Health and Addiction Services - Saskatoon Health Region: 306-655-7777
Mobile Crisis: 306-933-6200