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Chelsey Leigh Hessolden

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Compassion and communication experiences of fourth-year veterinarians-in-training

By

Chelsey Leigh Hess-Holden

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Counselor Education
in the Department of Counseling, Educational Psychology & Foundations

Mississippi State, Mississippi

December 2017

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2017

Compassion and communication experiences of fourth-year veterinarians-in-training

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Veterinary medicine is an intense profession that begins with rigorous and demanding veterinary training. Within veterinary training, technical competencies generally receive more attention and emphasis than non-technical competencies, leaving many veterinarians at increased risk for compassion fatigue and other forms of mental illness. Two non-technical competencies that need further empirical investigation are communication and the influence of compassion on veterinarians. Communication is central to veterinary success; communication style was measured using the Communication Styles Inventory. Compassion has been recognized as having both positive effects (satisfaction) and negative effects (fatigue); compassion experiences were measured using a version of the Professional Quality of Life Scale. This research study investigated the relationship between compassion experiences and communication styles of 4th-year veterinarians-in-training using a canonical correlation analysis. Differences in compassion experiences and in communication styles among men and women veterinarians-in-training were investigated using 2 one-way MANOVAs. Results indicated that communication style of 4th-year veterinary students is statistically

significantly related to their compassion experiences ($n = 281$; Function 1, $R_c = .552, p < .001$; Function 2, $R_c = .369, p < .001$). Compassion fatigue was found to have a statistically significant association with the communication styles of Emotionality ($r = .467, p < .001$), Impression Manipulativeness ($r = .191, p = .001$), and Verbal Aggressiveness ($r = .239, p = .001$). Compassion satisfaction was found to have a statistically significant association with the communication style of Expressiveness ($r = -.326, p = .001$). Men and women veterinarians-in-training showed statistically significantly different communication styles ($p < .001$), with women showing higher levels of Emotionality ($p = .001$) and men showing higher levels of Impression Manipulativeness ($p = .005$). Men and women veterinarians-in-training showed statistically significantly different compassion experiences ($p = .044$); however, univariate effects yielded no significant differences in levels of fatigue or satisfaction. Using the Compassion Fatigue Resilience Model as the theoretical framework, results indicate that veterinary training programs should consider providing specific training that will help students build skills and resources to help manage their styles of communication to decrease risk of developing compassion fatigue and increase levels of compassion satisfaction.

DEDICATION

My entire educational journey is dedicated to the Lord, and my goal is to honor and glorify Him through all that I do! I am full of gratitude for my wonderful family who has always provided me so much support and love! Scott, I simply do not have enough words to express how much I love and respect you and how thankful I am that we can reach this milestone together! You have listened to me, held me, encouraged me, been patient with me, and served me in ways that so beautifully represent the Lord's perfect love! Thank you for letting me process everything out loud and for being fully present through each step of this Ph.D. process! You bring so much joy into my life! You're the best!!! Dad, thank you for helping me learn to channel my passion and drive into something beautiful, to work hard, and to never give up! Mom, thank you for always listening to me, encouraging me, supporting me, and helping me to be healthy! Ben, thank you for helping me learn to put in the time, effort, and practice it takes to become great! The four of you are my heroes and forever my inspiration!!

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down and enjoy the journey. It has been such a pleasure to learn from you, and I have so much respect for the wide-spread positive influences you have had on the field of counseling. I am so thankful for each one of you, and I am grateful that we have made it to this point together!!! You all have made the journey more fun and more fulfilling each step of the way! I would also like to give a huge thank you to Dr. Kent Hoblet, Dean of the College of Veterinary Medicine, for his support of wellness and therapeutic services within his College, and also for his willingness to endorse this research study and reach out to his colleagues on my behalf. Additionally, thank you to Mrs. Cindy Radcliff for her willingness, time, and energy to help me contact each of the deans at the other Colleges. Thank you to Mrs. Lu Switzer, Director of Student Counseling Services, for granting me the opportunity to be part of the Student Counseling Services team and to serve the College of Veterinary Medicine over the past several years! A heartfelt thank you to Mrs. Yvett Roby, my fantastic supervisor, who has encouraged me beyond measure, challenged me, and supported me through each step of this journey! Finally, thank you to two of my previous professors who have been outstanding influencers of my educational journey and success. Dr. Karena Valkyrie, you were the first person to tell me that I would get a Ph.D. one day, and I am proud to fulfill your declaration! Thank you for introducing me to the field of marriage and family therapy and for preparing me for graduate school. Dr. Jeff Hinton, thank you for not giving up on me when I did not have a clue what “personal growth” was and for providing a safe place for me to begin my personal growth journey - you have helped me to become the person I have always wanted to be! Thank you to each one of you for playing a unique role in helping me to reach this goal.

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CHAPTER I

INTRODUCTION

Veterinary medicine is a rigorous, demanding field that permits only exceptional and zealous individuals to enter the profession as Doctors of Veterinary Medicine (Crane, Phillips, & Karin, 2015; Larkin, 2013). Approximately 108,000 veterinarians are employed in the United States, and companion animal practice is the most popular domain of veterinary medicine (American Veterinary Medical Association [AVMA], 2017). Over 81% of veterinarians working in private practice report regularly, predominantly, or exclusively with companion animals (AVMA, 2017). In working with companion animals, most veterinarians face daily challenges in their clinical work requiring both competency to treat animals (patients) and competency to communicate with people (clients) who bring the animals to the veterinarian. Although well prepared to medically care for animals, many veterinarians are often not prepared to handle the responsibilities of emotionally caring for humans, which can have a devastating impact on veterinary careers (Adams, Conion, & Long, 2004; Figley & Roop, 2006; Mitchener & Ogilvie, 2002; Rank, Zaparanick, & Gentry, 2009).

Non-Technical Competencies in Veterinary Medicine

Although technical competencies are extensively studied and practiced within veterinary medical training, non-technical competencies are often an afterthought and remain ambiguous throughout veterinary studies. Non-technical competencies are the

personal resources that an individual possesses to complement technical skills and training, including cognitive skills, interpersonal and social skills, and coping skills (Flin, O'Connor, & Crichton, 2008). When non-technical competencies are not emphasized during veterinary training programs, veterinary graduates may enter the workforce without the interpersonal skills and coping skills necessary to succeed in clinical practice and with a greater risk of developing burnout, compassion fatigue, and mental health issues (Miller, Stiff, & Ellis, 1988; Nett et al., 2015; Rank et al., 2009; Rollin, 2011). A deeper understanding of the value of nontechnical competencies is needed within veterinary medicine due to the potential of a profound negative influence upon the field of veterinary medicine when these competencies are neglected.

Two nontechnical competencies that are becoming important in veterinary communities – both for professional success and for wellbeing of the veterinarian – are communication skills and management of the influence of compassion on veterinarians. Compassion and communication skills are essential to daily practice of veterinary medicine in order to attend to the needs of the humans who schedule and finance the veterinary appointments of their animals, as well as to help the veterinarian care for himself or herself within the work environment (Cohen, 2007; Rank et al., 2009). The veterinary community has begun to recognize how compassion and communication – and a lack of these non-technical competencies – can influence veterinary success. However, further investigation is needed to support the changing of veterinary culture and curricula to emphasize specific practices that maximize veterinarian communication skills and understanding of the positive and negative effects of compassion.

Compassion

Compassion refers to seeing pain and suffering and having the desire for others to be free from this suffering (Figley & Roop, 2006). The majority of individuals who choose to enter the field of veterinary medicine are compassionate individuals dedicated to providing relief and healing to animals. This motivation provides satisfaction and reward for veterinarians as they serve their clients and patients, known as compassion satisfaction (Figley & Roop, 2006; Rank et al., 2009; Sacco, Ciurzynski, Harvey, & Ingersoll, 2015; Stamm, 2010). Compassion satisfaction represents the pleasure that comes from helping others during times of tragedy, difficulty, or trauma and is often the primary motivation to pursue a career in veterinary medicine (Rank et al., 2009; Sacco et al., 2015).

However, compassion can also lead to stress and fatigue, which can diminish overall mental health and wellbeing. Many veterinarians do not learn how to take care of themselves while they care for others, increasing their risk of experiencing compassion fatigue (Adams et al., 2004; Viner, 2010). Compassion fatigue is a deep exhaustion that emerges from exposure to and caring for humans or animals who are suffering. This condition can present with symptoms that emulate anxiety, depression, and post-traumatic stress disorder (Cohen, 2007; Dobbs, 2010, 2014; Stamm, 2010). Compassion fatigue has caused significant distress and disruption in the lives of many veterinarians. The veterinary community is in the early stages of recognizing the importance of acknowledging the impact of compassion fatigue, as well as determining what needs to be done to increase compassion satisfaction and to minimize compassion fatigue in veterinarians (Brannick et al., 2015; Cohen, 2007; Rank et al., 2009). Due to the

remarkably high levels of emotional distress and suicidality among veterinarians and limited help-seeking behavior due to stigma, it is important to address compassion fatigue as a critical factor affecting the mental health of veterinary professionals (Bartram & Baldwin, 2010; Bartram & Boniwell, 2007; Figley & Roop, 2006; Fritschi, Morrison, Shirangi, & Day, 2009; Larkin, 2013).

Communication

Along with compassion, a second competency gaining importance within veterinary medicine is communication. Communication is the exchange of information, a process that is undoubtedly essential to veterinary medicine (Cohen, 2007; Shaw, 2006). Communication is used in every appointment in companion animal, equine, food animal and all other veterinary practice settings. In the past two decades, the veterinary medical profession has recognized the impact of communication and has taken beginning steps to provide support and training for students and professionals to increase their communication skills. However, many veterinarians report that they are not receiving adequate communication training. They indicate that a greater emphasis should be placed on communication skills in veterinary medicine (Adams et al., 2004; Brown & Silverman, 1999; Butler, Williams & Koll, 2002; Tinga, Adams, Bonnett, & Ribble, 2001; Meehan & Menniti, 2014). Research has indicated that clients are most satisfied and likely to return to a veterinary clinic when the veterinarian displays excellent interpersonal skills, empathy, validation, and communicates clearly and collaboratively during the appointment (Coe, 2008, 2012; McArthur & Fitzgerald, 2013; Tinga et al., 2001). Additionally, when communication skills are deficient, veterinarians tend to experience more stress and higher levels of psychological distress in the workplace

(Hatch, Winefield, Christie, & Lievaart, 2011; Klingborg & Klingborg, 2007; Ramirez et al., 1995; Russell, 1994).

Statement of the Problem

The non-technical competencies of veterinary medicine often are treated as secondary to technical skills within veterinary training programs; this common training practice places many graduates at greater risk of developing compassion fatigue and experiencing high levels of professional stress (Miller et al., 1988; Nett et al., 2015; Rank et al., 2009; Rollin, 2011). Due to the centrality of both communication and compassion to veterinary practice, more information is needed about how these constructs may impact one another. Veterinary training programs need to understand how to best equip future veterinary professionals not only with technical expertise but with the skills needed for successful communication, emotional regulation skills, maintenance of appropriate work-life balance, and the ability to achieve overall career wellness.

The non-technical competencies of compassion and communication are newly important as separate constructs in veterinary medicine; however, they may also be important in conjunction with one another. Inadequate communication skills have been found to be related to higher levels of stress and tension in the workplace for helping professionals, as well as the quality of professional care provided to patients and the quality of life for the professional (Klingborg & Klingborg, 2007; Kurtz, Silverman & Draper, 2005). Communication skills have been found to be related to the components of compassion fatigue, which are burnout and secondary traumatic stress (Forward & Sadler, 2013; Houck, 2014; Leow, Chan, & Chan, 2015; Ramirez et al., 1995).

Communication has also been linked to levels of compassion satisfaction and workplace

satisfaction. Although a body of literature indirectly suggests that compassion and communication may influence one another, this relationship has yet to be explored.

Justification for Study

No research studies have investigated how communication styles may influence levels of compassion fatigue and compassion satisfaction for individuals in the veterinary community. Therefore, a need for veterinary training programs to reconsider the ways the nontechnical skills of compassion and communication are taught within their curricula has not yet been empirically validated. Evidence of a significant interaction between communication and compassion fatigue and satisfaction could serve to elicit a greater emphasis placed on both communication training and overall emotional wellness and coping skills for veterinary students. Additionally, empirical information about the levels of compassion fatigue and compassion satisfaction that men and women experience during their clinical training will inform the work of both administrators and mental health professionals at veterinary training schools. As training programs invest in and emphasize communication training and emotional wellness for their students, professional graduates will become better equipped for both the technical and non-technical challenges of veterinary medicine. Veterinarians who learn and understand these non-technical skills will be better prepared for wellness and success in their careers, which will serve to boost the veterinary profession through enhanced communication skills, recognition and prevention of compassion fatigue, and overall support of mental health wellbeing.

Purpose of Study

The purpose of this study is to provide a description of the relationship between communication styles and levels of both the positive and negative elements of compassion among veterinary students. The present research is a descriptive study with online survey methodology to investigate how strongly the self-reported communication styles of students enrolled in the fourth year of study in veterinary training programs are related to their levels of compassion fatigue and compassion satisfaction. This research investigates the relationship between these two important constructs specifically among veterinary students in their final year of training because this group has the most clinical experience of all cohorts enrolled within veterinary training programs, and because the fourth year of training lays the groundwork for the veterinarian's career. With empirical support for the relationship between communication and compassion, veterinary training programs will be encouraged to advance their non-technical competency curricula to include specialized training emphasizing specific communication and coping strategies that could decrease risk for compassion fatigue and increase potential for compassion satisfaction for future veterinarians (Halliwell & Hoskin, 2005; Kinsella, 2010).

Theoretical Model

The Compassion Fatigue Resilience Model (CFR Model; Ludick & Figley, 2017) is the theoretical orientation and conceptual foundation of this research study. The CFR Model recognizes that certain individuals are at greater risk for developing compassion fatigue than others and explains how certain people may be more resilient than others in the face of exposure to and work with those who have been traumatized. This model identifies twelve variables within three sectors that influence individual's level of

resilience against compassion fatigue. The first of the three sectors is an individual's Empathic Stance. Empathic Stance represents a collection of the costs of caring that an individual experiences and includes the four variables of 1) exposure to suffering, 2) empathic concern, 3) empathic abilities and competencies that influence the quality of the 4) empathic response that the individual can give the person or animal in need (Ludick & Figley, 2017).

The second sector is Secondary Traumatic Stress and refers to the threats experienced by an individual exposed to trauma. This sector includes 1) prolonged exposure to suffering, 2) traumatic memories, and 3) other life demands. This portion of the model acknowledges that the personalized interaction of these variables can place an individual at risk for secondary traumatization through their work with those who have experienced trauma. Finally, the third portion of this model is the Compassion Fatigue Resilience sector. This sector describes the variables of 1) self-care, 2) healthy detachment from the suffering of others, 3) sense of satisfaction or compassion satisfaction, and 4) social support as salient to guarding against compassion fatigue and promoting compassion fatigue resilience (Ludick & Figley, 2017).

Research Questions

Because the relationship of communication and compassion for veterinary students is unknown, this research is a general exploratory study of the interaction between the two constructs. A collection of communication behaviors, also called a communication style (Norton, 1978; Shaw, 2006), are investigated along with levels of compassion fatigue and compassion satisfaction. The three research questions guiding this study are:

- Do the communication styles of fourth-year veterinary students significantly relate to their levels of compassion fatigue and compassion satisfaction?
- Do the communication styles of men and women veterinary students differ significantly?
- Do levels of compassion fatigue and compassion satisfaction of men and women veterinary students differ significantly?

Compassion fatigue and compassion satisfaction are measured using a version of the Professional Quality of Life Scale (Stamm, 2009a). Communication styles are measured using the Communication Styles Inventory (de Vries, Bakker-Pieper, Konings, & Schouten, 2013), which identifies six domains of communication style, including Emotionality, Expressiveness, Impression Manipulativeness, Preciseness, Questioningness, and Verbal Aggressiveness.

Hypothesized Outcomes

A significant relationship is expected to be found between communication styles and levels of compassion fatigue and satisfaction. The following research outcomes are hypothesized:

- The Emotionality domain of communication style will be significantly associated with levels of compassion fatigue.
- The Expressiveness domain of communication style will be significantly associated with levels of compassion satisfaction.

- The Expressiveness domain of communication style will be significantly associated with levels of compassion fatigue.
- The Impression Manipulativeness domain of communication style will be significantly associated with levels of compassion fatigue.
- The Verbal Aggressiveness domain of communication style will be significantly associated with levels of compassion satisfaction.

Additionally, differences in both communication styles and compassion levels are expected to be found between male and female veterinary students. The following research outcomes are hypothesized:

- Females will endorse communication styles significantly different in levels of Emotionality than males.
- Females will endorse communication styles significantly different in levels of Expressiveness than males.
- Males will endorse communication styles significantly different in levels of Preciseness than females.
- Females will endorse significantly different levels of compassion fatigue than males.

Study Limitations

Several limitations of this research design are acknowledged. First, participation in this study was voluntary and did not offer a substantial reward or benefit to the participants, which may have limited interest and participation of the students engaged in the final stages of their demanding veterinary training. Second, this research utilized an

online survey methodology that included only e-mail as the method used to invite individuals to participate, which can be easily forgotten or ignored by busy students. Additionally, although the invited sample for this study were carefully selected according to systematic standards, the Northeast region of the United States contains only three colleges of veterinary medicine, and The University of Pennsylvania was selected by default to participate in this study due to being the only regional school in an urban location. Similarly, Washington State University - the only rural university in the West region of the United States – declined to participate in this study and was replaced by Oregon State University, which is located in an urban city.

Summary

Veterinary medicine is an intense profession that begins with rigorous and demanding veterinary training. Within veterinary training, technical competencies generally receive more attention and emphasis than non-technical competencies, which leaves some veterinarians at greater risk for stress, compassion fatigue, and other forms of mental illness during their careers. Two non-technical competencies that have been acknowledged as important within veterinary medicine but need further empirical investigation are communication and management of the influence of compassion on veterinarians. Communication is central to veterinary success and has implications for veterinary wellness. Compassion has been recognized as having both positive effects (compassion satisfaction) and negative effects (compassion fatigue) for individuals working in veterinary medicine. Empirical evidence of how these two competencies influence one another and are experienced among veterinary students will support training curricula and program designs that prepare veterinarians-in-training for success

in both the technical and non-technical aspects of their careers.

This research study is an investigation of the relationship between communication styles and the levels of compassion fatigue and compassion satisfaction reported by fourth-year veterinarians-in-training and looks at how each of these constructs may be experienced differently by male and female veterinary students. The CFR Model (Ludick & Figley, 2017) is used as the theoretical model for this research and provides a conceptual framework for why certain factors contribute to greater risk of developing compassion fatigue. Results of this study will be used to support wellness for veterinary students and professionals, encourage administrators to place more emphasis on non-technical competencies during training, and inform the work of mental health professionals embedded in veterinary training schools.

Definition of Terms

- *Burnout* – a state of emotional and physical exhaustion, hopelessness, frustration, and mental weariness that can develop from extended stress and demands within the workplace; a component of compassion fatigue (Figley, 1995a; Figley, 1997; Figley & Roop, 2006; Maslach, 1982; Stamm, 2010).
- *Communication style* – the learned behaviors that an individual uses to both verbally and nonverbally indicate how the exchange of information should be interpreted or understood (Norton, 1978; Shaw, 2006)

- *Compassion fatigue* – a deep mental, physical, and emotional weariness developed by helping professionals that comes from being in contact with and caring for the physical and emotional hurt, suffering, and trauma of others (Elwood, Mott, Lohr, & Galovski, 2011; Figley, 1995a; Figley & Roop, 2006; Ludick & Figley, 2017)
- *Compassion satisfaction* – the reward, fulfillment, or gratification that comes from helping others during times of tragedy, difficulty, or trauma (Figley, 2002; Figley & Roop, 2006; Ludick & Figley, 2017; Rank et al., 2009; Sacco et al., 2015).
- *Emotionality* – a domain of communication behavior that describes an individual's level of stress and sadness communicated to others; includes the four facets of sentimentality, worrisomenes, tension, and defensiveness (de Vries, Bakker-Pieper, Alting, Siberg, van Gammeren, & Vlug, 2009; de Vries et al., 2013)
- *Expressiveness* – a domain of communication behavior that describes an individual's levels of extraversion and fluency in communicating with others; includes the four facets of talkativeness, conversational dominance, humor, and informality (de Vries et al., 2009; de Vries et al., 2013)
- *Impression manipulativenes* – a domain of communication behavior that describes an individual's communication behaviors used for deceptive purposes; includes the four domains of ingratiation, charm, inscrutableness, and concealingness (de Vries et al., 2009; de Vries et al., 2013)

- *Preciseness* – a domain of communication behavior that describes an individual’s levels of professionalism and expertness communicated to others; includes the four facets of structuredness, thoughtfulness, substantiveness, and conciseness (de Vries et al., 2009; de Vries et al., 2013)
- *Questioningness* – a domain of communication behavior that describes an individual’s level of self-assessment and others-assessment communicated to others; includes the four facets of unconventionality, philosophicalness, inquisitiveness, and argumentativeness (de Vries et al., 2009; de Vries et al., 2013)
- *Secondary traumatic stress* – a condition that occurs when one individual is secondarily traumatized through exposure to or interaction with another individual who has experienced primary traumatic stressor; a component of compassion fatigue (Elwood et al., 2011; Figley, 1995a; Figley, 1995b; Figley, 1995c; Ludick & Figley, 2017; Stamm, 2010)
- *Verbal aggressiveness* – a domain of communication behavior that describes an individual’s level of threateningness, unpleasantness, and unsupportiveness communicated to others; includes the four domains of angeriness, authoritarianism, derogatoriness, and nonsupportiveness (de Vries et al., 2009; de Vries et al., 2013)

CHAPTER II

LITERATURE REVIEW

Non-technical competencies are the interpersonal, cognitive, and coping skills that help individuals with specialized knowledge and training to become more successful, efficient, and collaborative in their work environment (Flin et al., 2008). The degree to which certain non-technical competencies are necessary is varied between occupations. However, the helping professions generally search for individuals who demonstrate both technical and non-technical competencies because of the centrality of non-technical skills to caring for others. Two non-technical competencies that are important to the helping professions are compassion and communication.

Compassion in the Helping Professions

Compassion and empathy are common to many helping professions, including mental health counselors (Avieli, Ben-David, & Levy, 2016; Lee, Veach, MacFarlane, & LeRoy, 2015), social workers (Diaconescu, 2015; Thomas, 2013), nurses and other human medicine professionals (Bellini & Shea, 2005; Hinderer et al. 2014; Hunsaker, Chen, Maughan, & Heaston., 2015; Sanchez-Reilly et al., 2013), and veterinarians (Cohen, 2007; Mitchener & Ogilvie, 2002; Rank et al., 2009). Empathy is characterized by the understanding of, or choice to identify with, the situation, circumstances, or emotional responses that someone else has experienced or will experience (Figley & Roop, 2006). Empathy provides a way to extend oneself to enter the world of another

and experience what he or she is experiencing (Figley & Roop, 2006). In conjunction with empathy often comes compassion, which is defined as “a deep awareness of the suffering of another, coupled with the wish to relieve that suffering” (p. 3, Figley & Roop, 2006). Compassion is action-oriented and can become activated when caregivers identify with their clients or patients (Cohen, 2007; Figley, 1995b; Figley & Roop, 2006; Rank, et al., 2009). Communicating empathy and compassion in a professional setting serves to facilitate care and connection between helping professionals and their clients (Brannick et al., 2015; Cohen, 2007; Figley, 1995b).

Displaying the non-technical competencies of professional compassion and empathy introduces the potential for many positive outcomes as well as negative outcomes for the caregiving individual. Both the desirable effects (compassion satisfaction) and the undesirable effects (compassion fatigue) of compassion upon a professional’s quality of life are discussed; the CFR Model (Ludick & Figley, 2017) illustrates the components of satisfaction and fatigue, as well as the complex influence of compassion on individuals within the helping professions.

Compassion Satisfaction

Compassion satisfaction represents the benefits of working within the helping professions (Stamm, 2010). Compassion satisfaction is “a sense of fulfillment or gratification from the work” (p. 13, Figley & Roop, 2006). Compassion satisfaction encompasses all positive outcomes as a result of caring for and helping others (Figley & Roop, 2006; Stamm, 2010). Many people are drawn to the helping professions because of their desire to help others – compassion satisfaction is the reward that comes from helping others during times of tragedy, difficulty, or trauma (Rank et al., 2009; Sacco et

al., 2015). Compassion satisfaction can include positive feelings, personal feelings of achievement, recognitions, rewards, and relationships that come from one's profession (Figley, 1995c). Compassion satisfaction is related to the individual's level of professional self-esteem, the pride he or she derives from being in their profession, and the degree of professional identity (Gavzer, 1989; Miller, Stiff, & Ellis, 1988; Ramirez et al., 1995). Compassion satisfaction is also related to levels of self-care, relationships with coworkers, and the working environment (Cohen, 2007; Moore et al., 2014). However, in addition to recognizing the positive impact of compassion upon caregivers, the last two decades of empirical research have also begun to show the risks associated with professions that require intense levels of compassion.

Compassion Stress

Although the display of professional compassion and empathy can lead to countless positive outcomes for both the giver and the receiver, this display can also have a negative impact on the giver. It is widely recognized that there often is an unfortunate 'cost to caring' (Figley, 1982) to be paid by the compassionate helping professional (Brannick et al., 2015; Cohen, 2007). Compassionate caregiving is an intense, demanding role that requires emotional investment, communication skills, attending behaviors, and often includes personal sacrifice to focus on the needs of others (Cohen, 2007; Figley & Roop, 2006; Mitchener & Ogilvie, 2002; Rank et al., 2009). Although this negative side of compassion may be experienced by many, individuals who pursue helping professions are more susceptible than individuals in other professions due to the likelihood that high levels of compassion, empathy, and desire to help others has

influenced their career choice (Cohen, 2007; Mitchener & Ogilvie, 2002; Rank et al., 2009).

The experience of compassion and the desire to help can become stressful. Often, the compassion and empathy that comes naturally for caregivers may become a burden, stressor, and a source of emotional distress to the professional who has continually extended him- or herself to the point of exhaustion (Figley, 1995a, 1997, 2002; Figley & Roop, 2006; Ludick & Figley, 2017). The desire to help can slowly become a demand to meet the needs of others and an impossible standard of providing relief to all who are hurting. This dark side of compassion is called compassion stress (Figley & Roop, 2006). Compassion stress is defined as “stress connected with exposure to a sufferer” (p. 252, Figley, 1995c). Compassion stress can begin to overtake the compassionate caregiver and interfere with professional responsibilities when continuously caring at such an intense level. Compassion stress can lead to compassion fatigue.

Compassion Fatigue

Compassion fatigue is a condition that results from “a depletion of our internal emotional resources” (p. 308, Mitchener & Ogilvie, 2002) and can occur when the demands of compassion stress overtake the emotional capacity of the caring professional (Figley, 1995a, 1995b, 2002; Figley & Roop, 2006; Ludick & Figley, 2017).

Compassion fatigue describes the deep mental, physical, and emotional weariness that comes from being in contact with and caring for the physical and emotional hurt, suffering, and trauma of others (Elwood et al., 2011; Figley, 1995a; Figley & Roop, 2006; Ludick & Figley, 2017). Compassion fatigue is a cumulative stress (DeNayer, 2014; Figley, 2003) that influences one’s ability to feel compassion and empathy toward

others (Dobbs, 2014; Figley, 1982) resulting from prolonged exposure to suffering and emotional engagement in the relief of the suffering of others (Cohen, 2007; Figley & Roop, 2006).

The term compassion fatigue was first coined in relation to the helping professions by Joinson in 1992, when she described the demands of nursing and the fatigue and stress related to a compassionate caregiving role. Compassion fatigue is widely recognized by both researchers and practitioners and has become better identified in various helping professions (Diaconescu, 2015; Elwood et al., 2011; Lee et al., 2015; Rank et al., 2009; Zuziak, 1991b). However, compassion fatigue is still frequently not addressed until complex symptomology surfaces and serious damage has occurred in the professional's life (Cohen, 2007; Zuziak, 1991a; Zuziak, 1991b). Compassion fatigue can be mistaken as anxiety and depression. Common symptoms of compassion fatigue are isolation and withdrawal, lack of motivation for self-care, physical symptoms, hypervigilance, bottling up emotions, fatigue, sadness, hopelessness, feeling the impulse to rescue anything or anyone in need, dissociation, and trouble sleeping (Cohen, 2007; Dobbs, 2010; Figley & Roop, 2006; Stamm, 2010; Zuziak, 1991b). Additionally, fear, cynicism, tearfulness, increased crying, numbness, and difficulty enjoying work are commonly reported with compassion fatigue (Cohen, 2007; Dobbs, 2014).

The human body cannot ignore persistent stress; therefore, a common coping strategy for individuals with compassion fatigue is avoidance, or the conservation of energy (Cohen, 2007). Individuals may fall into avoidant behaviors and withdraw from communication with others in an effort to deal with the stress of the job. This may include symptoms such as disconnection or disassociation, isolation and withdrawal from

others, absenteeism, hiding from certain tasks, not completing job responsibilities, and fear of certain places or duties associated with traumatic experiences related to helping (Cohen, 2007). Individuals with compassion fatigue may experience numbness and have difficulty connecting with people and emotions that previously came naturally to them (Cohen, 2007; Figley, 1995a). Professional helpers are at risk for these negative psychological and physiological effects because of their routine communication of empathy and assistance to others (Figley, 1995b; Ludick & Figley, 2017; Rank et al., 2009). Compassion fatigue is a complex construct that is influenced by many factors; two of the most prominent factors are secondary traumatic stress and burnout (Figley, 1995a, 1997; Stamm, 2010).

Within empirical literature, the term secondary traumatic stress is often used interchangeably with compassion fatigue. However, for the purposes of this research, several important distinctions are recognized. One recent distinction between the terms is that secondary traumatic stress is used across diverse settings and populations, and compassion fatigue is the preferred term used specifically for helping professionals (Elwood et al., 2011; Ludick & Figley, 2017). Additionally, the term compassion fatigue acknowledges the construct of burnout as influential of the helper's symptomology, and secondary traumatic stress focuses solely on the symptomology resulting directly from exposure to trauma (Figley, 1995a; Figley, 1997; Stamm, 2010). Compassion fatigue includes both the short-term and sometimes quickly developing aspect of secondary traumatic stress, as well as the longer-term and more slowly developing aspect of burnout (Figley, 1995a, 2003; Stamm, 2010).

Secondary traumatic stress. Secondary traumatic stress (STS) refers to a condition that occurs when one individual is secondarily traumatized through exposure to or interaction with another individual who has experienced primary traumatic stressor (Figley, 1982; Figley, 1995a; Figley, 1995b; Figley, 1995c; Ludick & Figley, 2017; Stamm, 2010). A traumatic stressor is defined by the American Psychiatric Association (2013) as “any event (or events) that may cause or threaten death, serious injury, or sexual violence to an individual, a close family member, or a close friend” (p. 830). Secondary traumatic stress is a natural consequence of caring that often occurs for individuals who work to provide empathy, relief, support, and healing to victims of traumatic stressors, or even for individuals who simply have knowledge of the trauma and feel empathy toward the trauma victim. Secondary traumatic stress often occurs because of interaction with someone who has been traumatized (Figley, 1995a, 1995b, 2002; Figley & Roop, 2006; Ludick & Figley, 2017). Secondary traumatic stress can occur very quickly and with little warning (Elwood et al., 2011; Figley, 1995b; Ludick & Figley, 2017). Symptoms of secondary traumatic stress closely resemble the symptoms of post-traumatic stress disorder (American Psychiatric Association, 2013; Elwood et al., 2011; Figley, 1995a, 2002; Figley & Roop, 2006; Ludick & Figley, 2017). Individuals who experience secondary traumatic stress show many of the same symptoms as the trauma victim, including avoidance of places or situations resembling the traumatic memory, difficulty sleeping, intrusive images, flashbacks, and fear (Cohen, 2007; Figley, 1995a; Figley, 1995b; Stamm, 2010). Additional symptoms can include nightmares, difficulty concentrating, lower morale, shock, denial, and immobilization (Badger, 2001;

Elwood et al., 2011; Ludick & Figley, 2017). In addition to secondary traumatic stress, the condition of burnout is another component of compassion fatigue.

Burnout. The term burnout is used to describe a state of emotional and physical exhaustion, hopelessness, frustration, and mental weariness that can develop from extended stress and demands within the workplace (Figley, 1997; Figley & Roop, 2006; Maslach, 1982; Stamm, 2010). Burnout is often associated with bureaucratic difficulties, procedural challenges, being overworked, high levels of stress, lack of resources, and being underappreciated (Cohen, 2007; Melamed et al., 1999; Mitchener & Ogilvie, 2002). Common symptoms include physical sickness and injury, isolation and withdrawal, aggression, anger, lower job performance, difficulty relaxing, increase in substance use, decreased job satisfaction, and reduced control over one's emotions (Cohen, 2007; Figley & Roop, 2006; Melamed et al., 1999; Ramirez et al., 1995; Zuziak, 1991b). Although burnout stems from the workplace, its symptoms are not contained to the job site, and the negative effects of burnout often overflow into one's personal life (Dobbs, 2014). Burnout and secondary traumatic stress together characterize the condition of compassion fatigue (Figley, 1997, 2002; Stamm, 2010).

Compassion Fatigue Resilience Model

Ludick and Figley's (2017) Compassion Fatigue Resilience Model (CFR Model; see Figure 1) is the theoretical foundation for this research study. Figley (1982) was the first to identify the condition resulting from secondary trauma. He eventually established the terms secondary traumatic stress (STS) and compassion fatigue (CF) within his renowned model of compassion fatigue (1995). This original model refers to compassion

fatigue as “secondary traumatic stress disorder” (Figley, 1995). Since publishing his initial STS-based model of compassion fatigue, Figley and others have continued to research and develop this model in order to better account for the systemic influences on an individual’s development of compassion fatigue and to broaden the model to include a wider range of professions to which compassion fatigue applies (Ludick & Figley, 2017). Initially, secondary traumatic stress was thought to be only applicable to individuals working directly with trauma victims, such as mental health professionals providing therapeutic services to traumatized clients. However, this condition is now recognized as applicable to a much larger population; secondary traumatic stress can be developed by any individual who is reading about, thinking about, or interacting with traumatized individuals (Figley, 2003).

The CFR Model was developed as a tool to identify the risk factors and protective factors for helping professionals who are at risk for experiencing secondary traumatization. Secondary traumatic stress and compassion fatigue are experienced differently in individual lives and can develop in a variety of ways among diverse professions. Individuals with comparable levels of exposure to trauma and professional competence might experience significantly different levels of compassion fatigue as a result of their work. The current CFR Model has the added utility of not only recognizing the variables influencing the development of STS and compassion fatigue for each individual but also provides a framework to begin understanding how to build resilience to hinder the development of compassion fatigue (Ludick & Figley, 2017).

The CFR Model is based on Ludick and Figley’s (2017) Theory of Secondary Traumatic Stress. This theory was developed from decades of research on indirect

trauma exposure and resulting secondary victimization (Figley, 1982; Figley, 1995a; Ludick & Figley, 2017). The CFR Model provides an illustration of the variables that influence how secondary traumatic stress develops. These variables are divided into three sectors; altogether, these variables are used to conceptualize compassion fatigue resilience, which represents the variance in levels of compassion fatigue experienced by individuals within the helping professions. The three sectors of this model are (a) Empathic Stance, (b) Secondary Traumatic Stress, and (c) Compassion Fatigue Resilience (Ludick & Figley, 2017).

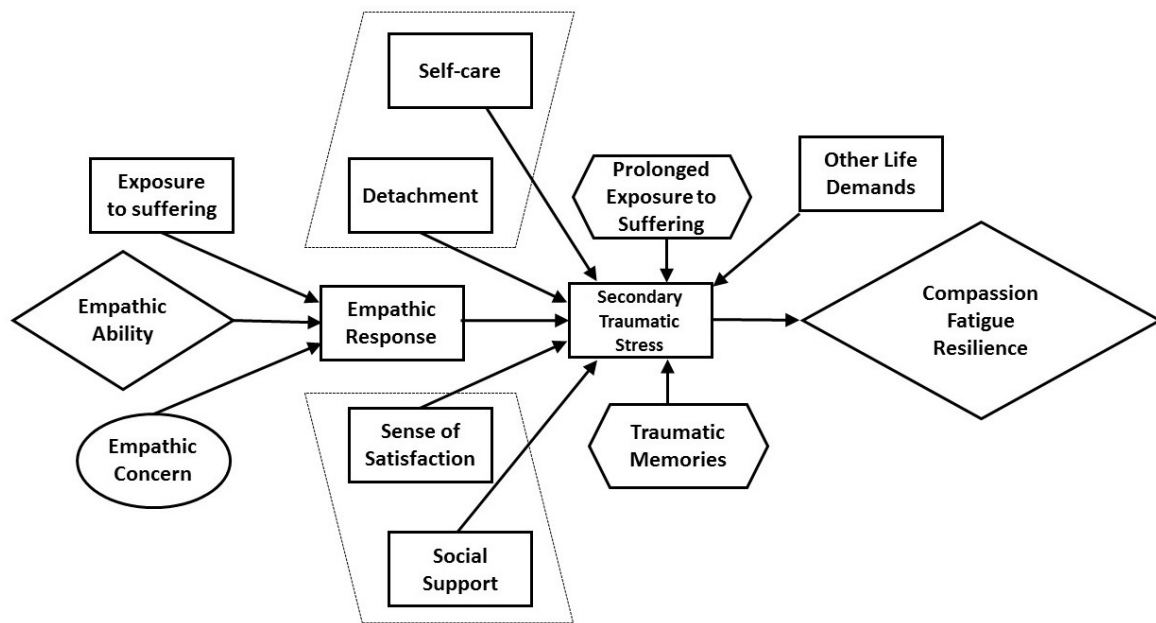


Figure 1. Compassion Fatigue Resilience Model.

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Empathic Stance Sector

The Empathic Stance sector uses four variables to assess the ‘cost of caring’ (Figley, 1982) experienced by each individual worker. The first variable is the worker’s

amount of *exposure to suffering*. This factor represents how much interaction and what kind of interaction an individual has with the traumatized individual(s) seeking his or her services (Figley, 1995a). This exposure is the first route to STS, as workers often take on the suffering of their clients and internalize a portion of the emotionally charged experience. When this exposure and internalization occurs repeatedly, the risk of experiencing the negative effects of compassionate caregiving increase exponentially (Ludick & Figley, 2017). Workers are particularly at risk when they have not received training, supervision, or resources for support to help them cope with their trauma exposure (Figley, 1995a, 2002; Ludick, 2013; Ludick & Figley, 2017).

The second variable in this sector is *empathic concern*. Empathic concern is the level of compassionate interest a worker is willing to invest in helping clients receive the help they need (Brannick et al., 2015; Cohen, 2007; Figley, 1995b; Figley & Roop, 2006; Ludick & Figley, 2017). Levels of empathic concern are different for each individual. Empathy is one of the greatest pathways to secondary traumatic stress and compassion fatigue; according to Ludick and Figley, “the greater the concern, motivation and capacity to empathize, the greater the probability of personal distress” (p. 114). Although empathy may place workers at risk, empathic concern is also what leads to connection with and effective services for clients who have experienced trauma (Figley, 2002).

The third variable, *empathic ability*, includes a worker’s proficiency and disposition toward recognition of the suffering of others and subsequently ability to establish an emotional connection with the suffering (Figley, 2002). This empathic connection is the avenue through which the worker opens him- or herself up to experiencing secondary traumatic stress and compassion fatigue (Figley, Huggard, &

Rees, 2013). However, this empathic ability is a necessary precursor to establishing rapport with a client, which leads to not only meeting client needs but also accomplishing necessary business objectives (Brannick et al., 2015; Cohen, 2007; Figley, 1995b; Ludick & Figley, 2017).

The fourth and final variable in the Empathic Stance sector is *empathic response*. Empathic response is derived from a worker's levels of empathic concern and empathic ability and is influenced by the level of exposure the worker has to the suffering of others. A worker's empathic response is the reaction and response given to the suffering client in an effort to reduce the pain of that individual. This response projects the worker into the suffering individual's situation, giving the worker an experience of the individual's pain or fear. Over time, this response can have a blunting effect and lead to secondary traumatic stress and compassion fatigue. When providing an empathic response, workers rely on their training, skills, and natural abilities to meet the needs of clients, which leaves workers who have not received adequate training or do not have adequate support at increased risk of negative outcomes (Figley, 2002; Ludick & Figley, 2017). The Empathic Stance sector is influenced by the variables within the Secondary Traumatic Stress sector.

Secondary Traumatic Stress Sector

This sector of the CFR Model describes the risks of exposure to trauma. Four variables in this sector describe areas of risk for workers who are exposed to trauma and individuals who are suffering (Ludick & Figley, 2017). The first of these variables, *prolonged exposure to suffering*, places workers at greater risk for experiencing burnout, secondary traumatic stress, and ultimately compassion fatigue. Repeated and prolonged

exposure to trauma has been connected to fatigue, poor health, illness, sleep disturbances, absenteeism, low levels of job satisfaction, and of course post-traumatic stress disorder (Figley, 1995a, 2002; Ludick, 2013; Ludick & Figley, 2017). Repeated vocational trauma exposure is also associated with heightened fearfulness, negativity, and cynicism (Ludick & Figley, 2017).

Along with prolonged vocational trauma exposure, *traumatic memories* influence an individual's risk of secondary traumatic stress and compassion fatigue. Traumatic memories include both a worker's personal memories that are traumatic and also work-related memories of the trauma of others (Figley, 2002). These memories of self or others can potentially be reactivated for the worker by the trauma a client is currently experiencing, which can trigger personal distress for the worker and interfere with the worker's ability to complete his or her job effectively (Ludick, 2013). Higher levels of traumatic memories heighten a worker's risk of developing secondary traumatic stress and compassion fatigue (Ludick & Figley, 2017).

In addition to trauma and stressors directly related to the worker's vocation, *other life demands* are certainly influential of the worker's levels of burnout, resilience, and compassion fatigue. Figley (2002) acknowledged that unexpected situations in an individual's life that require time and attention can undoubtedly disrupt his or her functioning and wellbeing. These events can include any aspect of life, including finances, health, spirituality, family relationships, and countless other aspects of interpersonal functioning. Although thriving individuals may be able to handle an unexpected life event with only negligible challenge, an individual who is distressed and overextended may perceive an unexpected life event to be indomitable and

insurmountable. Generally, humans can cope and adapt in the midst of change; however, certain life demands experienced together with the other variables within the CFR Model may increase risk of compassion fatigue or bring about the onset of compassion fatigue (Ludick & Figley, 2017).

Distress compounds when the demands that an individual faces – both personal and professional – exceed his or her resources and coping abilities; when this happens, the risks of experiencing STS and compassion fatigue are exacerbated (Ludick & Figley, 2017). The fourth variable, *secondary traumatic stress*, can result from the combination of the previous variables discussed in this sector and the Empathic Stance sector. Professions that have a “culture of silence” (Feinstein, Owen, & Blair, 2002, p. 1574) – that is, an atmosphere discouraging acceptance and support for professionals who struggle with the physical and emotional consequences of caring – show increased risk of secondary traumatic stress, compassion fatigue, and other physical and mental health issues (Keats & Buchanan, 2012; Kinnarney, 2015; Ludick & Figley, 2017).

Compassion Fatigue Resilience Sector

This final sector, Compassion Fatigue Resilience, describes the emotional vigor and resoluteness that can be experienced through the avenues of resilience within the CFR Model by those who have been exposed to trauma in the workplace. These avenues of resilience allow the individual to cope with the traumatic stress of the job and continue to show compassion, empathy, and hardiness in their professional and personal roles. The CFR Model shows the context in which compassion fatigue resilience can be promoted, developed, and nurtured; this sector is composed of four variables that are

essential to an individual's development and maintenance of compassion fatigue resilience (Ludick & Figley, 2017).

The first of the Compassion Fatigue Resilience variables is *self-care*. Self-care refers to the strategies, behaviors, and exercises in which an individual engages to sustain his or her wellbeing and health (Kearney, Weininger, Vachon, Harrison, & Mount, 2009; Nelson-McEvers, 1995). Self-care is invaluable to resilience in the face of trauma and distress from the workplace (Figley, 2002; Ludick & Figley, 2017). Self-care helps to reduce negative effects of caring for others and provides a way to be proactive instead of reactive to traumatic stress from the workplace (Knight, 2013; Ludick, 2013; Ludick & Figley, 2017). This proactive stance also helps to normalize the stresses and difficulties a worker faces (Knight, 2013) and can help individuals to grow in their ability to show “self-compassion” (Newsom, Waldo, & Gruszka, 2012, p. 299) rather than being critical and unforgiving toward themselves. It is not uncommon for individuals working with those who are suffering to be more compassionate and understanding toward others than toward themselves; the practice of self-care can help workers to learn positive ways to cope and to care for themselves amid caring for others (Ludick & Figley, 2017; Newsom et al., 2012).

Along with self-care, *detachment* is an important component of building compassion fatigue resilience. Psychological detachment describes an individual's capability to disengage from or to let go of the trauma and suffering of another person (Figley, 2002). Detachment allows the worker to mentally detach from work-related experiences after completing the work day so as to not be preoccupied with clients or work situations during personal time (Sonnentag & Bayer, 2005; Ludick & Figley, 2017).

Sonnetag and Baker (2005) found this detachment from work stress was positively associated with lower fatigue, higher wellbeing, and more positive mood for the worker. Disconnecting from the trauma and stress of the workplace allows individuals to more fully engage in personal and social activities; conversely, inability to detach from the suffering of others exacerbates emotional distress and numbness characteristic of secondary traumatic stress and compassion fatigue (Ludick & Figley, 2017). Individuals naturally have differing levels of both self-care and ability to psychologically detach; training, experience, and resources are an integral part of developing the worker's ability to utilize these avenues of resilience (Ludick & Figley, 2017).

The third component of Compassion Fatigue Resilience is *sense of satisfaction*. This satisfaction is equivalent to compassion satisfaction and can help to rescind compassion fatigue and secondary traumatic stress (Figley, 2002). This fulfillment and gratification from helping others is associated with lowering the negative outcomes of caring for others and higher levels of resilience for those who provide care to suffering individuals (Ludick, 2013; Ludick & Figley, 2017). This protective factor plays an important role in helping workers to cope with the negative aspects of the job because of the reward and satisfaction that their professional role brings (Ludick & Figley, 2017).

Finally, *social support* is the fourth avenue of compassion fatigue resilience for individuals who work with those who are suffering. Social support and connection to other individuals is positively associated with reduced risk of negative effects of caring, lower rates of fatigue and absenteeism, maintaining a positive outlook, better psychological health, and higher levels of fulfillment (Harrison & Westwood, 2009; Michie & Williams, 2003; Ludick, 2013; Ludick & Figley, 2017). Connection to others

who are supportive builds resilience and helps to protect the worker from secondary traumatic stress and compassion fatigue and can strengthen an individual's ability to cope with traumatic workplace experiences (Harrison & Westwood, 2009; Ludick & Figley, 2017).

Model Summary

Compassion fatigue resilience is a new concept that can bring new levels of understanding, normalization, and hope to those who experience compassion fatigue in the workplace. The CFR Model provides a framework to explain the risk factors and protective factors that influence an individual's levels of secondary traumatic stress and compassion fatigue. Although distress and exposure to trauma may be an aspect of an individual's career, this model provides avenues of protection and resilience to help the worker understand what factors can help him or her decrease the risk of experiencing compassion fatigue (Ludick & Figley, 2017). Using this framework, compassion fatigue and compassion satisfaction within veterinary medicine are explored.

Compassion Fatigue in Veterinary Medicine

Many complex stressors exist within the veterinary profession that warrant recognition and discussion as contributors to the development of compassion fatigue. It is important to define the necessary elements for compassion fatigue to occur. Figley and Roop's (2006) explanation of compassion fatigue for animal caregivers states that three specific factors must be present for compassion fatigue to develop. First, compassion fatigue can only occur in the presence of a caregiving relationship. In veterinary medicine, this is referred to as the veterinary-client-patient relationship, with the

veterinarian functioning as the caregiver. Second, interaction and communication between the veterinarian, client, and patient must occur. This interaction must include information exchange and the display of empathy and emotion. Finally, the veterinarian must be highly invested in caring for the client and patient and providing relief and healing for their suffering. If these three precursors are not present, the veterinarian cannot develop compassion fatigue (Figley & Roop, 2006). In congruence with the CFR Model (Ludick & Figley, 2017), Figley and Roop's (2006) explanation of compassion fatigue recognizes that other variables are at play that influence the individual's disposition toward compassion fatigue. Although these three elements create the possibility of compassion fatigue, other factors are influential to mitigate or intensify the individual's likelihood of experiencing compassion fatigue. Some areas of veterinary medicine, such as food animal medicine, may be less likely to routinely involve interactions with these three characteristics (Martin, Ruby, & Farnum, 2003; Williams, Butler, & Sontag, 1999). However, with companion animal practice as the most widely practiced area of veterinary medicine, it is important to recognize that the majority of veterinary medicinal practice naturally creates an environment in which compassion fatigue is possible (AVMA, 2017; Figley & Roop, 2006; Ludick & Figley, 2017).

Veterinary medicine is renowned for being one of the most compassionate and caring professions (Gavzer, 1989; Schins & Rollin, 2008), and veterinary professionals are highly susceptible to experiencing the negative effects of compassion (Cohen, 2007; Gavzer, 1989; Figley & Roop, 2006; Schins & Rollin, 2008; Zuziak, 1991b). The veterinarian not only has the task of working daily with suffering patients, but also must attend to the emotional needs of the clients who bring their animals to the veterinarian

(Adams, Conion, & Long, 2004; Figley & Roop, 2006; Mitchener & Ogilvie, 2002).

Also, veterinarians work with patients who are unable to verbally express their pain and suffering, which adds another level of complexity for the compassionate veterinarian and may increase the feeling of urgency to provide relief for the patient (Figley & Roop, 2006; Rank et al., 2009). Veterinarians are at high risk for developing compassion fatigue for many noteworthy reasons, including the difficult transition into an intense profession, the increased recognition of the human-animal bond, the high levels of exposure to suffering, difficult working hours, and specific culture and stigmas of veterinary medicine.

Human-Animal Bond

Veterinary medicine has been changing considerably over the past several decades, and the growing popularity and recognition of the human-animal bond in research and practice has served to boost and modify the veterinary profession over recent years (Brannick et al., 2015; Figley & Roop, 2006; Mitchener & Ogilvie, 2002). Human-animal bond is the term used to describe the emotional attachment and affection that a person has with his or her companion animal (Figley & Roop, 2006). The bond between humans and animals has a long history; however, the role of the pet has shifted significantly over the previous several decades (Toray, 2004). This shift has helped to promote animals from having task-oriented roles to having companion-oriented roles (Carmack, 1985). Further, the majority of companion animals are now considered members of the family or “children” to their owners (Carmack, 1985; AVMA, 2012). With this increased appreciation for the human-animal bond and the companionship role of animals, many clients believe their veterinarian should function more like the role of a

pediatrician for a child rather than a veterinarian for an animal (Figley & Roop, 2006). Because of this expectation, the *empathic response* (Ludick & Figley, 2017) that veterinarians are expected to provide is steadily increasing. Veterinarians are being required to communicate high levels of empathy, compassion, and support to their clients to provide the level of care that is expected and needed to maintain repeat clientele (Brannick et al., 2015; Figley & Roop, 2006; Mitchener & Ogilvie, 2002).

This role shift has added significant stress and confusion to the veterinarian-client-patient relationship (Figley & Roop, 2006). The successful veterinarian must not only take responsibility for the comfort and physical wellbeing of the patient, but he or she must also accept responsibility for the emotional wellbeing of the client (Figley & Roop, 2006). Because the veterinarian's training very rarely includes adequate development of appropriate non-technical communicative skills, emotionally charged client interactions are often seen as stressful and difficult for veterinarians (Brown & Silverman, 1999; Dobbs, 2010; Figley & Roop, 2006; Ludick & Figley, 2017; Platt et al., 2012). Difficult client interactions have been ranked as the most stressful part of the veterinarian's job (Figley & Roop, 2006). This intentional and intense display of *empathic ability*, *empathic concern*, and *empathic response* needed to satisfy client needs and expectations serves as additional stress and risk for the veterinarian in developing compassion fatigue (Catheral, 1995; Cohen, 2007; Figley & Roop, 2006; Ludick & Figley, 2017; Zuziak, 1991a).

Exposure to Suffering

Figley & Roop (2006) found that one third of veterinarians are at high or extremely high risk for experiencing compassion fatigue, with one factor in its

development identified as extensive and often *prolonged exposure to suffering* (Ludick & Figley, 2017). The practice of veterinary medicine often includes working daily with animals who are suffering, as well as interacting with their owners who may be distressed because of seeing their animals in pain (Catheral, 1995; Mitchener & Ogilvie, 2002). The veterinarian is also susceptible to other distressing events. Rank et al. (2009) concluded from a qualitative investigation of animal care facilities that several key factors present a high risk of introducing difficult and emotionally painful experiences into the workplace. These factors include: maltreatment and cruelty to animals, distressed human clients, limited financial resources of clients and facilities, insensitive administration, attrition, high numbers of homeless animals, high exposure to distressed humans and animals, and frequent euthanasia distress. The veterinarian is regularly exposed to the suffering of both animals and humans, which amplifies the exposure and impact of suffering that the veterinarian experiences. The compassionate care given to the client and patient requires extensive *emotional response* and attention from the veterinarian (Figley & Roop, 2006; Ludick & Figley, 2017; Mitchener & Ogilvie, 2002). In addition to the emotional energy and toll from extensive exposure to suffering, frequent euthanasia distress is another stressor related to compassion fatigue in veterinary medicine.

Euthanasia and Moral Stress

Veterinary medicine is a profession that is regularly exposed to suffering, death, and euthanasia. The practice of euthanasia is both a blessing and a curse to veterinarians (Rollin, 2011). On one hand, veterinarians are able to relieve the suffering of animals who will not have the opportunity to live a quality life; however, on the other hand, an

emotional price is paid by many veterinarians who take the lives of animals. This price may include guilt, shame, sadness, anger, secondary traumatic stress, burnout, and compassion fatigue (Owens, Davis, & Smith, 1981; Rollin, 1991). These emotional outcomes are especially difficult for highly compassionate and empathic individuals who are greatly invested in providing help and healing. Veterinarians must be emotionally prepared for emotional highs and lows each day, often back-to-back and hour-by-hour (Mitchener & Ogilvie, 2002). It would not be unexpected for a veterinarian to face, in the same afternoon, a situation needing advocacy for a healthy animal to live rather than be euthanized for convenience, and another situation needing to advocate for euthanasia to end the suffering of an animal facing chronic illness (Rollin, 2011). The intense responsibility and pressure for life and death presents a complex stress for veterinarians (Shaw & Lagoni, 2007).

Rollin (2011) discusses one type of stress specific to the animal care profession called moral stress. He stated that moral stress can emerge from the veterinarian's strong inner conflict between the passion and desire to care for animals versus the demands of the job that contradict this desire. Most veterinarians choose their career to treat disease, alleviate suffering, and improve quality of life for the animals they will treat over the course of their career. However, veterinarians often bear the burden of convenience euthanasia to reduce numbers of unwanted animals for many controversial reasons. This presents not only moral stress for the veterinarian, but also often includes ethical challenges and dilemmas for the veterinarian who desires to advocate for the best interest of their patients. The long-term effects of this moral stress are often diminished quality of life and mental health for the veterinarian (Rollin, 2011). According to Hart, Hart, and

Mader (1990), the veterinarian who is regularly faced with moral stress and ethical dilemmas surrounding euthanasia is at higher risk for burnout, problematic use of substances, and family disruption. Performing euthanasia has been recognized as a risk factor that impacts the levels of traumatic stress, compassion fatigue, and job satisfaction of veterinarians who perform this procedure (Figley & Roop, 2006; Owens et al., 1981; Scotney, McLaughlin, & Keates, 2015). Euthanasia has also been identified as a risk factor contributing to the high rates of depression and suicide rates among veterinarians (Bartram & Baldwin, 2008, 2010; Platt, Hawton, Simkin, & Mellanby, 2010; Scotney et al., 2015).

Working Hours

Veterinary medicine is an intensive and stressful career. Veterinarians commonly report working long hours, having unpredictable schedules, and being on-call after hours, which can quickly lead to difficulty maintaining a work-life balance and family relationships and trouble managing *other life demands* (Bartram, Yadegarfar, & Baldwin, 2009; Ludick & Figley, 2017; Platt et al., 2012). Many studies have identified the stressful impact of the long hours common to veterinary medicine. In a study by Phillips-Miller, Campbell, and Morrison (2000), a sample of veterinarians reported working an average of 54 hours per week, while some veterinarians in private practice reported spending over 100 hours per week at work. Harling, Strehmel, Schablon, & Nienhaus (2009) found higher than average number of hours worked per week to be related to higher levels of psychological stress. Bartram et al. (2009) found that veterinary surgeons reported the greatest workplace stressors to be the number of hours worked. Some veterinarians choose their schedule and take pride in their long hours and sacrificial

commitment to their patients, while others are forced to keep this intense pace simply to have the opportunity to advance in their careers and pay off their school debt (Cohen, 2007). This demanding professional pace can take a toll on veterinarians in the forms of compassion fatigue, burnout, stress (Figley & Roop, 2006); withdrawal and isolation from social support (Baran et al., 2012), anxiety and depression (Hafen, Rush, & Reisbig, 2012), family disruptions (Donald & Powell, 1989; Shirangi, Fritschi, Holman, & Morrison, 2013), and suicide (Bartram & Boniwell, 2007; Tran, Crane, & Phillips, 2014).

Culture of Veterinary Medicine.

Over the years, researchers have begun to identify cultural aspects of veterinary medicine that are believed to both directly and indirectly impact compassion fatigue. As previously mentioned, veterinary medicine is known to be a highly compassionate field, and veterinarians are generally highly compassionate people with a love for animals and wildlife (Cohen, 2007; Figley & Roop, 2006). Along with their high levels of compassion, veterinarians are also known to be loyal, idealistic, and people pleasers (Crane et al., 2015; Zenner, Burns, Ruby, DeBowes, & Stoll, 2005; Zuziak, 1991a). Bartram referred to veterinarians as a self-selected group of individuals who have a tendency toward neuroticism, fastidiousness, and perfectionism (Larkin, 2013).

Acceptance into veterinary school is highly competitive, leading to veterinarians being a collective group that is motivated, hardworking, highly intelligent, and high achieving. The ambitious and rigorous nature of a veterinary training program does not leave room for error or time for mistakes. Having these qualities and being in a high-pressure environment can make perfection seem attainable and perhaps even necessary for some veterinary students, as well as feeding the tendency toward self-criticism (Crane

et al., 2015; Cohen, 2007; Kogan & McConnell, 2001; Zenner et al., 2005; Zuziak, 1991a). Although this specific collection of characteristics and tendencies is desirable and arguably necessary to succeed within demanding veterinary medical training, it also can become the worst enemy of the veterinary student and professional veterinarian (Crane et al., 2015; Zuziak, 1991a). Many veterinarians make situations much harder on themselves than necessary because of their drive for perfection, propensity toward competition, and desire to be recognized as exceptional (Larkin, 2013). Limits are often unrecognized and self-care is not taken into consideration. Personal distress from the intense training steadily increases over the four-year training program and becomes familiar to students (Schoenfeld-Tacher et al., 2015). Asking for help becomes equated with weakness, and expectations are extremely high (Crane et al., 2015; Larkin, 2013; Zuziak, 1991a).

These characteristics are typical of the students who enter veterinary training programs and become more solidified during their time in veterinary school. By the time they graduate, veterinarians often have a clear disposition toward stress, lack of training in self-care and communication, and an internalization of the high standards required to be in veterinary medicine (Crane et al., 2015; Larkin, 2013; Zenner et al., 2005; Zuziak, 1991a). These young professionals then enter a veterinary profession filled with individuals who have experienced the same type of training and have continued the traditions of perfectionism, high standards, and disposition to stress, perhaps for several decades. The young professional is now expected to keep up with the demands of the profession amid a difficult transition away from the support of the training program, as it is common within veterinary medicine to enter the workforce into a highly isolated

setting and have little support or community with other veterinarians (Bartram & Baldwin, 2008; Boulton & McIntyre, 2012; Halliwell & Hoskin, 2005).

Further, the veterinary profession's tendency toward perfectionism adds additional challenge and stigma to the veterinarian who struggles to cope with the transition as a new professional, has difficulty with the demands of the job, or for individuals who are experiencing mental illness (Crane et al., 2015; Kinnarney, 2015; Larkin, 2013; White et al., 2006). All of these factors contribute to a veterinary "culture of silence" (Feinstein et al., 2002, p. 1574) that has difficulty recognizing and communicating about compassion fatigue and other mental illness and has one of the highest suicide rates of any occupation (Bartram & Boniwell, 2007; Larkin, 2013; Fritschi et al., 2009). Stigma associated with mental illness reduces help-seeking behavior among veterinarians (Bartram & Baldwin, 2010; Nett et al., 2015; Kinnarney, 2015; Larkin, 2013; White et al., 2006).

Nett et al. (2015) found that a sample of veterinarians was less likely than the general United States population to believe that mental health treatment was beneficial. Additionally, veterinarians were found to be less caring and supportive than the general population toward people who admitted suffering from mental illness. Joe Kinnarney, the president of the AVMA, has admitted that stigma within the field further punishes veterinarians who experience compassion fatigue and mental illness (2015). He has recognized the danger of this mentality and has promoted acceptance, support, and wellness for professionals who have experienced compassion fatigue. Kinnarney (2015) acknowledged that the culture of veterinary medicine needs to change to protect its professionals from compassion fatigue.

Sex Differences

Over the past several decades, veterinary medicine has experienced a dramatic shift in proportions of males and females entering the profession. Since the early 1980's, the numbers of men applying to veterinary schools has decreased, contributing to a shift in the profession (Brown & Silverman, 1999). According to AVMA Market Research Statistics from 2016, over 59% of veterinarians in the United States were female, and just under 41% were male (AVMA, 2017). This is significantly different from less than a decade ago; in 2007, AVMA market research reported that 48% of United States veterinarians were female and 52% were male. This shift has influenced the profession in many ways. Regarding compassion fatigue, this shift may serve to increase the need for additional emphasis to be placed upon wellness and *self-care* (Ludick & Figley, 2017). Research suggests that sex may be a risk factor for the development of compassion fatigue. In a study by Hatch et al. (2011), female veterinarians endorsed rates of burnout almost twice as high as male veterinarians. Women have been found to be at greater risk for secondary traumatic stress than men (Cohen, 2007). Compassion fatigue has also been found to be slightly related to sex, with females recording higher levels than males (Figley & Roop, 2006). Although current literature is not entirely conclusive on why women may be at greater risk for compassion fatigue than men, several factors have been identified as influential.

Sex may indirectly influence levels of compassion fatigue through contextual factors. Women were found to place more emphasis on the human-animal bond than men (Martin et al., 2003). This may lead to women veterinarians extending higher levels of *empathic response* (Ludick & Figley, 2017) in their interactions with clients and

patients than do men veterinarians. Also, female veterinarians have been consistently found to report higher levels of stress and mental health symptomology than male veterinarians. Platt et al. (2012) concluded from a meta-analysis of veterinary studies that female veterinarians are at a greater risk of experiencing poorer mental health wellbeing than male veterinarians. Consistent with this, female veterinarians were found to show higher levels of psychological distress, anxiety, depression, and stress than male veterinarians (Hatch et al., 2011). Phillips-Miller et al. (2000) found that female veterinarians reported significantly greater levels of *other life demands* (Ludick & Figley, 2017), including marital and family stress, impacting their careers than males. Finally, 69% of sampled male veterinarians reported they are happy, compared with 57% of female veterinarians (DVM360 Magazine, 2015). This combination of higher stress and mental health symptomology may serve to further decrease protective factors for women veterinarians than for men, leaving them more susceptible to the effects of compassion fatigue.

Additional Stressors

In addition to previously discussed stressors and risk factors of within veterinary medicine, other significant stressors should be recognized as possible contributors to compassion fatigue. Zuziak (1991a) recognized that stress for veterinarians comes from all angles, including keeping clients satisfied, adapting to pharmaceutical and technological advances, collecting payment for services, managing a private business, and communicating with coworkers. Bartram et al. (2009) found significant stressors for veterinary professionals to be making professional mistakes, managing client expectations, and business administration and clerical tasks. Dobbs (2010) found that the

three top stressors for veterinarians were reported to be communicating with difficult clients, collecting fees for services, and not having enough time. Platt et al. (2012) reported veterinarian stressors include business and team management and communication, heavy workload, difficulty balancing home and work life, and communicating with difficult clients. Finding a balance and a workable outlook to come with the demands of veterinary medicine often takes a great deal of time, and unfortunately perhaps a great amount of suffering by the veterinarian.

Four Phases

In 2001, Fakkema published a seminal article on compassion fatigue within veterinary medicine in which he described the four-phase process that all who work in veterinary medicine share to varying degrees. Phase 1 includes high levels of enthusiasm, energy, passion, hope, and focused on the cause of helping the animals. The veterinarian enters the work force with high hopes, high expectations, great dreams, and a readiness to change the world. Phase 2 begins when the “bubble bursts”, and reality sets in for the veterinarian. The young professional feels misunderstood and confused. Too much work with too little time becomes a reality. Euthanasia is common. Abuse is unchanging. The veterinarian then has no energy left to fight the battles faced each day. Self-medicating and isolation become normal, and a deep feeling of powerlessness sets in because this is not what he or she expected and dreamed. Phase 3 turns this fatigue and depression into anger, and this rage serves to drive some away from the animal care professional completely. Connecting with life seems impossible for the veterinarian, and anger is the only emotion that feels genuine. Finally, Phase 4 brings peace to the chaos and clarity to the confusion. This phase shows the bigger picture, and the animal care

worker is able to see some of the good in the world that he or she has done. A balance between work and personal life comes, and energy to work is found once again. Sadness and pain are recognized as part of the job but do not have to be ignored or internalized. Changing the world one step at a time is enough, and the veterinarian finds his or her place in within an organization and community. As some sense of work-life balance sets in, the veterinarian is able to make peace with the profession and his or her career responsibilities, and compassion satisfaction is able to outweigh the negative aspects of the workplace (Fakkema, 2001).

Summary

This four-phase process describes the plight that is common in veterinary medicine. Although this may develop and unfold in many ways and time frames for various individuals, empirical literature addressing the concerns of veterinarians has validated this difficult process and slowly begun to recognize the difficulties that its professionals face within the culture of veterinary medicine. However, though many challenges and negative aspects of veterinary medicine contribute to the veterinarian's level of compassion fatigue, many sources of reward and affirmation are also present. A great deal of fulfillment, happiness, and pleasure can come from working as a veterinarian. This *sense of compassion satisfaction* (Ludick & Figley, 2017) can serve to lessen the impact of compassion fatigue for veterinarians.

Compassion Satisfaction in Veterinary Medicine

Veterinarians are united by a love and appreciation for animals and often make financial sacrifices to pursue their passion of animal medicine (Cohen, 2007). In a survey

done by the American Veterinary Medical Association, 100% of veterinarians sampled reported that working with animals was an important reason they chose to work in veterinary medicine (Gavzer, 1989). One of the most important reasons that veterinarians enter the profession and choose to remain in veterinary medicine is the compassion satisfaction derived from their work of healing and providing quality care to animals (Brannick et al., 2015; Cake, Bell, Bickley, & Bartram, 2015). Considering this, it makes sense that the main source of compassion satisfaction for veterinarians has been found to be caring for animals. Work satisfaction and compassion satisfaction can serve to mitigate the high intensity and high stress of the veterinary profession (Figley & Roop, 2006).

Although healing and helping animals is the primary source for compassion satisfaction, these positive experiences can also come from clients who express gratitude for their work, utilizing known skills and learning new skills, communicating effectively with a team, interacting daily with animals, providing educational information, and finally from financial gains (Figley & Roop, 2006). *Social support* (Ludick & Figley, 2017) from colleague relationships, working environment, and teamwork have been found to be highly related to compassion satisfaction for veterinarians. Consistent with findings from Figley and Roop (2006), Bartram et al. (2009) found that some of the greatest sources of satisfaction for veterinary professionals were having good clinical outcomes, intellectual challenges/learning, and relationships with colleagues. A common source of compassion satisfaction for veterinarians comes from working efficiently with a cooperative veterinary healthcare team (Figley & Roop, 2006). Within veterinary healthcare teams, job satisfaction was higher for individuals who reported positive

relationships with their coworkers (Moore et al., 2014). Accordingly, higher levels of toxicity (i.e., conflict, frustration, work overload) in the team environment was found to be related to lower satisfaction reported among veterinary healthcare teams (Moore et al., 2014). Other characteristics found to be typical of higher levels of compassion satisfaction included taking pride in one's work as a veterinarian and feeling as though the work he or she did was important and beneficial (Gavzer, 1989).

Although most veterinarians sampled by Figley & Roop (2006) reported good to extremely high levels of compassion satisfaction, many challenges affect veterinarians' ability to maintain levels of compassion satisfaction. Finding a balance between a beloved profession and a rewarding personal life with strong connections to others can be a difficult equilibrium for veterinarians to establish (Figley & Roop, 2006). This struggle to find work-life balance can put the veterinarian at risk for lower levels of satisfaction. Nett et al. (2015) found that veterinarians who reported practicing veterinary medicine for 10 or more years were more likely to report maintaining their levels of satisfaction with helping animals than veterinarians who had been in practice for less than five years. This study, along with previous research (Cevizci et al., 2014; Fritschi et al., 2009; Platt et al., 2012), suggested that time and experience may be helpful to veterinarians establishing a healthier balance of stress and satisfaction

Figley and Roop (2006) found that a positive attitude toward work serves to bolster the levels of compassion fatigue experienced by veterinarians. Brannick et al. (2015) reported that positive coping strategies can serve to increase compassion satisfaction for veterinarians. Cohen (2007) suggested several ways to increase compassion satisfaction. These strategies include (a) setting limits at work, (b)

reconnecting with the body's five senses, (c) reconnecting meaningfully with others, (d) caring for oneself physically and spiritually, (e) exercising, (f) relaxation, (g) meditation, and (h) seeking professional care. Hesketh and Shouksmith (1986) found that job satisfaction, job activities, and non-job activities were significant contributors to mental health among veterinary professionals. Together, these findings indicated that it is necessary for the veterinarian to care for him- or herself both at work and outside of work to bolster compassion satisfaction and to help mitigate the risk of compassion fatigue.

Summary

Compassion is a natural part of the veterinary profession, and the resulting positive and negative experiences have been recognized in the literature. The CFR Model provides a framework to identify variables that influence the development of secondary traumatic stress and compassion fatigue among veterinarians. Researchers, educators, and practitioners in the veterinary medical profession have begun to research and evaluate the relevance of compassion fatigue and the detriment and destruction that it can bring to veterinarians. The profession has also begun to appreciate the value of compassion satisfaction and the benefits it can bring to veterinarians. One practice that is believed to be related to the experience of compassion within veterinary medicine and is congruent with the CFR Model is that of communication. This personal factor may play an influential role in how veterinarians assimilate to the compassionate field of veterinary medicine, in helping individuals to alleviate the effects of compassion fatigue, and in enhancing an individual's potential to experience compassion satisfaction and compassion fatigue resilience.

Communication

Communication is “a process by which information is exchanged between individuals through a common system of symbols, signs, or behavior” (Merriam-Webster Dictionary, n.d.). Communication is the term generally used to refer to interpersonal interactions and the way information is given and received by two or more parties (Shaw, 2006). A communication style refers to the method that one uses to both verbally and nonverbally indicate how the exchanged information should be interpreted or understood (Norton, 1978). Communication styles and communication skills are learned behaviors (Adams & Kurtz, 2012; Carson, 2007; Kurtz, 2006; Kurtz et al., 2005; Shaw, 2006), and many complex factors influence the communication behaviors between individuals and the methods that each person utilizes in their interactions with others (Adams & Kurtz, 2012). In caregiving relationships, communication can make the difference between an exceedingly positive experience and a highly undesirable experience. Communication is a vital non-technical competency within quality medical care (Klingborg & Klingborg, 2007; Kurtz et al., 2005).

Medical Communication Skills

Three inclusive categories of communication skills have been identified in medical literature, including content skills, process skills, and perceptual skills (Silverman, Kurtz, & Draper, 2005). Content skills refer to the information that doctors or other medical professionals communicate. This includes the words and content of information given. Process skills refers to how the doctor communicates. This includes the ways that the doctor gathers information, how information is organized and presented, and how verbal and nonverbal cues are used. Finally, perceptual skills refer to the

emotional and cognitive processes of the doctor during his or her communication. Perceptual skills include relationship skills and the influence of the doctor's thoughts, feelings, their awareness of self and others, self-confidence and self-efficacy, and opinions and experiences. This also includes decision-making skills, problem-solving skills, and use of logic (Shaw, 2006; Silverman et al., 2005). All three of these types of skills are intertwined and inseparable in communication (Silverman et al., 2005).

Communication skills and training are a relatively recent development within medical training. Several decades ago, efficient communication was a dispensable skill set that was not necessary as long as the physician showed proficient technical competency (Hafen, Drake, Rush, & Nelson, 2013; Kurtz, 2006). However, over 40 years of literature and research on communication in human medicine provide evidence that communication skills should be a priority in medical training (Adams & Kurtz, 2006, 2012). Applicable training and emphasis on communication within medical training programs has been shown to significantly influence medical professionals' proficiency, expertise, and outlook on communication skills (Shaw, 2006). Clinical outcomes have been repeatedly linked to communication proficiency within the medical profession. Patient satisfaction (Bertakis, Roter, & Putnam, 1991; Hall & Dornan, 1988; Roter et al., 1997), physician satisfaction (Roter et al., 1997), patient adherence (DiMatteo, Sherbourne, & Hays, 1993), patient health outcomes (Stewart, 1995), and the frequency of malpractice complaints and lawsuits (Roter, 2006) have all been found to be related to ineffective communication in human medicine.

Human medicine and veterinary medicine have many similarities (Shaw, Adams, & Bonnett, 2004; Shaw, Adams, Bonnett, Larson, & Roter, 2008). In fact, the high

correspondence between human medicinal professionals and animal medical professionals leads to a generalizability from human medical communication research to veterinary medical communication research (Adams & Kurtz, 2012; Shaw, Adams, Bonnett, Larson, & Roter, 2004; Shaw et al., 2008). Though not as established as human medical communication literature, veterinary medical literature in the past decade has begun to explore the salience of communication to veterinary professionalism and patient outcomes (Adams & Kurtz, 2012). This exploration has led to the understanding that this non-technical competency is highly related to all aspects of veterinary medical care. Though the research on communication in veterinary medicine is still unfolding and warrants further investigation, communication has been established as a vital component of quality veterinary medical care (Chun, Schaefer, Lotta, Banning, & Skochelak, 2009; Shaw et al., 2004; Rhind et al., 2011).

Communication in Veterinary Medicine

Because communication is now considered relevant to veterinary medical training, communication skills are being incorporated into standards of veterinary professionalism. The AVMA Council on Education and authority on veterinary training program accreditation requires competency in client communications as one of the nine outcomes that must be demonstrated by students upon graduation from their accredited veterinary school (2015). The Council on Education also states that communication skills are a necessary component of success as a professional veterinarian and must be integrated into training curricula (AVMA, 2015). Many aspects of veterinary communication are important, including clinical and professional outcomes related to communication practices, professional standards for employment, the role of veterinary

training programs, the barriers and difficulties faced in effective communication, and the role of personality and sex in communication skills and style.

Clinical importance of effective communication. Both young veterinary graduates and professional employers hold analogous expectations of what is essential in a workplace, with effective communication skills being placed near the top of the list (Schull, Morton, Coleman, & Mills, 2012). Along with communication skills, the ability to work with a team and the ability to manage people are non-technical competencies that are highly sought after in veterinary practice (Lewis & Klausner, 2003; Schins & Rollin, 2008; Schull et al., 2012). Communications skills are behaviors that successful veterinarians can use to manage all aspects of their practice, including clinical practice, client-patient relationships, the veterinary team, and administrative matters (Lewis & Klausner, 2003; Schins & Rollin, 2008). Despite the obvious medical emphasis of providing animal care, veterinary medicine is actually a people-oriented field and a profession that often must first provide an *empathic response* (Ludick & Figley, 2017) for humans before attending to their animals (Cohen, 2007; Figley & Roop, 2006). Successful veterinarians have a working knowledge of the interaction of feelings, emotions, and values on communication within veterinary medicine (Adams et al., 2004).

The development and change of the veterinary profession in relation to compassion fatigue are also relevant to communication within the practice of veterinary medicine. The professional skill set required to successfully serve a clientele with increasingly high expectations includes interpersonal and intrapersonal communication competency (Adams et al., 2004; Adams & Kurtz, 2006; Rank et al., 2009; Shaw et al., 2004; Tinga et al., 2001). However, the self-selected group of individuals who become

veterinary professionals may enter the field with an incomplete understanding of how vital communication is to their work. Some veterinarians admit that they chose veterinary medicine to avoid working with people, only to discover the conundrum that veterinarians simply cannot avoid working with humans and in fact must be proficient at communicating with people in order to have access to animal patients (Cohen, 2007). Whether communication skills come naturally or not, the veterinarian must work diligently toward effective communication and interpersonal skills for many reasons (Zuziak, 1991c).

Clinical outcomes. The communication skills of veterinarians impact the quality of care their patients receive. Felsted and Cummings (2006) reported a standard appropriate for all veterinarians is the ability to communicate clearly with clients so that expectations are known and understood. The communication of the veterinarian provides the foundation of the veterinary-client-patient relationship. Coe (2012) found that when veterinarians communicate clear recommendations to their clients, their clients are more likely to adhere. Enhanced communication contributes to many improved outcomes of care, including higher client satisfaction, increased understanding and better recollection, increased adherence, greater symptom relief, reduced time and cost of care, greater clinician satisfaction, and improved physiological outcomes (Kurtz, 2006). More effective consultations between the veterinarian and the patient can lead to greater accuracy of treatment, higher efficiency, increased levels of supportiveness perceived, stronger veterinarian-client-patient relationships, and better coordination and collaboration of care (Silverman, Kurtz, & Draper, 2005). In 2003, the American Animal Hospital Association (AAHA) completed a study that showed compliance rates of clients

were much lower than what veterinarians believed their clients would show. Six different areas of compliance for basic healthcare needs of companion animals were measured and found to range from as low as a 21% compliance rate to an 87% compliance rate – the most important reason for noncompliance was a lack of effective communication by the veterinarian (AAHA, 2009). This study showed clear support for veterinarians needing to expand their communication behaviors to improve the quality of care of their animals and show the competence of the profession.

Veterinary communication can also serve to promote veterinary medicine in the public eye and strengthen the veterinary profession. Communication contributes to overcoming barriers presented by culture, disability, or conflict and serves to create a stronger partnership between veterinarians and their clients (Kurtz, 2006). *Empathic ability* and *empathic concern* (Ludick & Figley, 2017) in the form of clear, direct, and compassionate communication – especially in situations including problems, dilemmas, or euthanasia – can serve to bolster public trust in the veterinary profession (Adams & Frankel, 2007; Morgan & McDonald, 2007). Negotiating with and providing options for clients can increase the trust, relationship, and collaboration between veterinarian and client, and also serve to advocate for the needs of animals (Klingborg & Klingborg, 2007). In addition to positive clinical and professional outcomes, client expectations are also an important motivating reason for veterinarians to develop communication skills.

Client expectations. The pediatric-type appointment expectations many clients hold apply not only to receiving compassionate care but also to veterinarian communication. Veterinarian presentation and *empathic response* (Ludick & Figley, 2017) influences the tone of the client and the level of satisfaction with the entire

appointment (Shaw et al., 2008). Coe (2012) suggested that it is important for veterinarians to make effort to understand their clients' perspectives in order to communicate clearly and increase the chances of success of patient treatment. Veterinarians who display higher levels of interpersonal communication skills are often better at displaying compassion and attending to the needs of clients, which contributes to client satisfaction and retention (Tinga et al., 2001). McArthur & Fitzgerald (2013) found that clients showed increased satisfaction with their veterinary appointment for their animal when their veterinarian communicated empathy toward the client during the appointment. The communication of empathy and validation can present many challenges to the veterinarian and become a stressor within the workplace. However, clients want their veterinarian to directly express empathy and provide empathic nonverbal cues toward them during veterinary appointments (McArthur & Fitzgerald, 2013). Along with the communication of empathy and compassion, clients also want their veterinarian to be informing.

Informed clients are more likely to be happy and satisfied clients (Gorman, 2000). Shaw et al. (2010) found that clients showed engagement and empowerment when their veterinarian took a stance of partnership with the client in the care of the animal. When veterinarians showed higher levels of questioningness in their assessment, veterinarian-client collaboration increased and the client supplied more information about the animal's behavior (Coe et al., 2008; Shaw et al., 2010). Coe et al. (2008) found that clients expected their veterinarians to communicate a range of options for their pet's care, to collaborate about best options, and to respect the decisions the client makes about the pet. Clients expected interactive communication with their veterinarian using understandable

language, listening, and answers to questions. They also wanted their veterinarians to communicate educational material that was precise, presented in an upfront manner at the beginning of treatment, and available in more than one form (e.g., oral, written instructions, pamphlets). Further, clients identified that breakdowns in communication with their veterinarian negatively impacted their encounters and decreased their level of satisfaction with the veterinary care received (Coe et al., 2008). These extensive expectations present high communication standards for the veterinarian to meet for their clients' satisfaction. With both clinical and client outcomes in play, veterinarian communication is highly relevant to professional success. However, many challenges present barriers to effective communication within veterinary medicine.

Communication challenges. Despite an increasing level of acknowledgement and understanding of the important role that communication plays within veterinary medicine, a significant gap still exists between this knowledge and its application within veterinary medicine. Much work must be done to change the culture of veterinary medicine toward routine inclusion of communication as professional priority. Non-technical competencies are generally still regarded as secondary to technical competencies, which often results in specialized communication training being optional or nonexistent within veterinary training (Lewis & Klausner, 2003). Many veterinarians currently in practice have received no formal training in communication (Adams & Kurtz, 2012; Viner, 2010), and a significant percentage of veterinary students and recent graduates report that they have not received adequate training in communication to prepare them for practice (Brown & Silverman, 1999; Butler et al., 2002; Hart et al., 1990; Meehan & Menneti, 2014). This continues to perpetuate a cycle of insufficient

communication skills and subsequent professional challenges, as new graduates enter a workforce that has generally received even less formal communication training than the newcomers (Adams & Kurtz, 2012; Kurtz, 2006; Tinga et al., 2001). When not having received proper training and skill development in communication, veterinarians are more likely to feel less confident and more anxious about communication (Butler et al., 2002; Meehan & Menniti, 2014; Tinga et al., 2001). This diminished confidence and higher anxiety can lead to more difficulty interacting with others, lower likelihood of offering support to clients, and more barriers to asking for support from colleagues.

Lack of training. Communicating and dealing with difficult clients is repeatedly listed as a top stressor for veterinarians (Dobbs, 2010, 2014; Platt et al., 2012; Schins & Rollin, 2008) and is even considered to be the most stressful part of the job by some (Figley & Roop, 2006; Zuziak, 1991a). Clients are labeled “difficult” when disparities exist between what the veterinarian expects from the client and what actually happens (Morrisey & Voiland, 2007). Clients are generally considered difficult by veterinarians when they are experiencing intense emotions or when the veterinarian does not understand why the client is acting the way that he or she is acting (Morrisey & Voiland, 2007). Several factors contribute to communication being troublesome for many veterinarians, including a lack of effective training in veterinary programs. Veterinarians are a specialized group that can highly benefit from tailored communication training that addresses relevant professional situations. Many individuals within self-selected groups of veterinary medical students are scientists by nature, have neurotic tendencies, and have some inhibition toward interpersonal communication (Larkin, 2013; Zuziak, 1991a).

These students spend four years in training with veterinary academicians and

professionals who normally have not received specific communication training and often share similar characteristics and tendencies as their students (Adams & Kurtz, 2012; Kurtz, 2006; Tinga et al., 2011). Training and feedback that considers the challenges of veterinary culture is important to help veterinarians become more comfortable with professional communication (Butler et al., 2002; Meehan & Menniti, 2014; Tinga et al., 2001). The burden of incorporating this training to better equip the profession falls to veterinary training programs.

Communication skills training takes time, effort, and resources. Veterinary medical training programs subject their students to rigorous, tightly scheduled coursework that leaves precious little time to include anything that is not considered essential to technical veterinary competencies or required by national standards (Lewis & Klausner, 2003; Russell, 1994; Zuziak, 1991a). The overwhelming required curriculum, the need for instructors able and willing to teach communication courses, and the time and money needed to offer these courses all offer significant complications and resistance to the inclusion of communication training in many veterinary medical programs (Adams & Kurtz, 2012; Shaw, 2006). The recognition of need for communication competency is young within the profession, and the inclusion of a communication skill curriculum has yet to be considered essential by numerous veterinary training programs. In the United States, around one-third of veterinary training programs are known to have specifically included a communication course (or courses) within their four-year veterinary curriculum (Cornell University, 2014b; Hafen et al., 2013; Iowa State University, 2016; NC State, 2016; Oregon State University, 2016; Purdue University, 2016; University of Minnesota, 2014; University of Illinois, 2016; University of Wisconsin, 2016;

Washington State University, 2015). Only one school has publicized their use of a communication curriculum that is incorporated into all four years of veterinary training (Colorado State University, 2016). Although these schools have begun to address the communication gap between training and practice, many schools are not providing the training that graduates would like to have.

Brown and Silverman (1999) found that many veterinarians said they did not receive the communication and people-management skills and training that they need in their day-to-day work. Adams et al. (2004) found that their sample including all four years of DVM students, as well as alumni, reported the desire to have training on client relations and communication. Zuziak (1991a) discussed the discrepancies between what professional practice actually includes and what is taught in training programs. This incongruence set young veterinarians up for difficulty and stress as they learned how to survive in a career that demands fluent interpersonal communication skills. Sixty-five percent of a sample of fourth year veterinary students reported that they did not feel adequately trained to communicate empathy and emotional support to distressed clients (Butler et al., 2002). These students also reported that specific training for these situations would be helpful and beneficial. Tinga et al. (2001) found that over one-third of fourth-year veterinary students and one-fifth of veterinary graduates in their sample reported not feeling competent in their ability to communicate with clients who showed high emotional intensity, when bad news needed to be delivered, or when needing to negotiate payment options. When veterinary students are not given the opportunity to learn and practice specific communication skills needed in these situations, client interactions tend to become a much greater source of stress and discomfort. Some

routine situations in veterinary medicine present times when difficulties are likely to occur, including sharing bad news with a client, financial conversations, and administrative management (Meehan & Menniti, 2014).

Bad news bearers. Veterinarians are one groups of professionals who must regularly and routinely give bad news to their clients (Ptacek, Leonard, & McKee, 2004). Veterinarians cannot do this painlessly, and it is difficult for veterinarians to communicate undesirable information (i.e., diagnosis of severe or chronic illness, end-of-life options, euthanasia) to their clients (Shaw & Lagoni, 2007; Silverman et al., 2005). This *exposure to suffering*, and even the *traumatic memories* of other bad news situations, can impact the veterinarian's ability to communicate effectively (Ludick & Figley, 2017). Situations with sad, unwelcome, or bad news can increase the anxiety of the veterinarian and evoke very difficult emotions for all parties involved (Bateman, 2007). In addition to the emotional difficulty presented for the compassionate veterinarian in these situations, weight is added to the situation by knowing that bad news delivered poorly can damage or sever professional relationships between veterinarians and their clients (Ptacek et al., 2004). Most veterinarians believe it is their responsibility to provide an *empathic response* (Ludick & Figley, 2017) to address the emotional needs of the client in situations of bad news, but many do not feel prepared to do so (Butler et al., 2002). With the potential jeopardy to their reputation and financial viability presented with error, communication skills are reinforced as highly beneficial for veterinarians.

Administrative responsibilities. Because so little time is devoted to communication within veterinary medical training, students and young graduates do not always appreciate the critical nature of having interpersonal communication skills to use not only with clients but also with the veterinary healthcare team (Lewis & Klausner, 2003; Russell, 1994). Veterinarians are not trained to handle interpersonal issues and conflicts with clients, let alone with colleagues and staff (Zuziak, 1991a). When these challenges arise in the workplace, they often become a much more complicated situation than necessary because of a deficit in managerial and administrative interpersonal communication strategies (Zuziak, 1991a). These communication breakdowns can become a significant stressor and contributor to workplace dissatisfaction and burnout (Russell, 1994). Felsted and Cummings (2006) stated that a needed skill for a veterinarian is to be approachable for communication with staff and clients, as well as being open to feedback and suggestions for how veterinary appointments could be improved. Veterinarians are expected to demonstrate leadership in their workplace, and it is important for them to maintain professional behavior in communications with veterinary staff (Felsted & Cummings, 2006).

Along with difficulties negotiating with the veterinary healthcare team, many veterinarians also face the administrative challenge of sustaining their practice financially. Veterinarians often have difficulty talking with their clients about money, which is influenced by a lack of communication training and practice addressing financial concerns (Hunter & Shaw, 2012; Lewis & Klausner, 2003). Client satisfaction is a strong predictor of financial compensation of their veterinarian, again reinforcing the need for strong communication skills to be successful as a veterinarian (Hamood, Chur-Hansen, &

McArthur, 2014; Osborne, 2002; Russell, 1994). Additionally, most complaints filed by clients to state medical examining boards against their veterinarians are directly related to inadequate communication skills. Many malpractice litigations would not exist if veterinarians possessed stronger communication skills (Russell, 1994), which would serve to advance both the reputation and the financial gains of veterinarians. The communicative expectations, pressures, and administrative concerns of veterinarians are fairly standard occupational stressors. However, each veterinarian handles these stressors differently because of his or her personal factors influencing how information is given and received.

Individual considerations. Communication skills are multi-faceted and complex, including many factors and variables unique to the individual (Adams & Kurtz, 2012). Although countless factors often do influence communication, it is important to recognize that communication is a pattern of learned behaviors and skills – communication is not a personality trait (Adams & Kurtz, 2012; Kurtz, 2006; Kurtz et al., 2005). Therefore, communication can be practiced, skills can be learned, and patterns can be changed. All veterinarians have a level of working knowledge and skill with regard to communication (Adams & Kurtz, 2012). Since each individual brings his or her previously learned skill set into this career, personal factors and sex are two dynamics that should be considered as part of veterinary communication.

Personal factors. Whether one considers him- or herself to be a good communicator is a personal perspective (Adams & Kurtz, 2012). Because communication is often thought of as an extension of one's personality, people are

attached to their style of communication. Along with this belief, communication often seems as if it is a fundamental part of who one is instead of simply a series of skills one has learned. Communication styles and skills are personal, and self-esteem and self-concept are highly related to communicative interactions with others (Adams & Kurtz, 2012). Therefore, many times experience and attitude have an impact on the way the veterinarian communicates. Additionally, any setback to the veterinarian's confidence, whether professional or from *other life demands* (Ludick & Figley, 2017), can decrease communicative effectiveness (Adams & Kurtz, 2012).

Understanding and tolerance of others is necessary for effective communication, especially in situations of high stress (Harris & Linder, 1995). Anxiety can contribute to decreased communication skills for veterinarians (Hafen et al., 2013). Even highly proficient communication skills can falter when veterinarians are faced with new situations or issues that are unfamiliar (Adams & Kurtz, 2012). On the other hand, clinical expertise can also get in the way of veterinarians using open communication practices and lead to the veterinarian assuming rather than inquiring and collaborating (Cary & Kurtz, 2013). The veterinarian's level of self-awareness can also contribute to feelings of comfort or competence in communication with others (Morgan & McDonald, 2007; Tinga et al., 2001). The veterinarian's tendency toward flexibility or rigidity can also be influential in his or her communication; flexibility and adaptability are characteristics that can make it easier for the veterinarian to adapt to the interpersonal communication that best fits a given situation (Morrisey & Voiland, 2007; Shaw et al., 2012). This complex collection of personal characteristics and tendencies can make it difficult to establish communication skills that equip the veterinarian to be successful. In

addition to the influence of personal factors and experiences, some differences are documented between how male and female veterinarians communicate.

Sex. Although more similarities than differences have been found between men and women veterinarians' communication styles, limited research describes the discrepancies between the sexes. Female veterinarians have been found to utilize a more collaborative approach to veterinary appointments than their male counterparts (Shaw, Bonnett, Adams, & Roter, 2006; Shaw et al., 2012). Along with a more collaborative approach, female veterinarians were found to spend more time building rapport with clients, as well as more time expressing positive and encouraging statements to their clients (Shaw et al., 2012). This makes sense, considering that female veterinarians also reported stronger feelings toward the importance of providing emotional support to clients than did male veterinarians (Butler et al., 2002). Additionally, male veterinarians were rated as sounding more rushed and less friendly than female veterinarians, and female veterinarians were rated as sounding less anxious and perceived to be more respectful and sympathetic than male veterinarians (Shaw et al., 2012). This research suggests that female veterinarians may have an easier time adapting to the pediatric-type appointment style that veterinary medicine is adopting. However, since communication is learned and not intrinsic, both female and male veterinarians have the potential to improve their communicative interactions with their clients through training and practice.

Communication training models. Though humans have learned and practiced communication through interactions with others, many times communication is not an entirely conscious process (Carson, 2007). Because of this, communication training and

feedback is essential to learning how to be a more effective communicator. Experience alone has not proved to be an effective teacher of communication skills (Kurtz et al., 2005). Even for veterinarians who consider themselves to be proficient communicators, continuing to develop and sharpen a greater range of communication skills can be beneficial to help adapt to situations that do not unfold as expected (Morrisey & Voiland, 2007). Communication skills can help to create less defensiveness, which can lead to better attitudes, more open communication, and better overall relational and mental health outcomes (Kurtz, 2006).

Four core skills. Veterinary medicine is moving away from the biomedical model approach of paternalism, physician dominance, and minimal patient input, and being replaced with collaborative, compassionate, and communicative care (Adams & Kurtz, 2012; Figley & Roop, 2006; Shaw et al., 2004). In light of this progression, Shaw (2006) identified four core communication skills that are important for veterinarians to use in clinical practice. These four skills are: open-ended questions, reflective listening, empathy statements, and nonverbal communication. Open-ended questions intentionally give the client invitation to share information about their animal and feel more engaged in the veterinary care process. Reflective listening serves to reflect back to the client what the veterinarian has heard, providing validation and clarification to the client that the veterinarian has received the information communicated. Empathy statements provide additional validation and support through the veterinarian expressing compassion or understanding for the situation or emotional experiences of the client and patient (Shaw, 2006). Although all four of these skills are crucial, the role of nonverbal communication is often underestimated in veterinary medicine.

Nonverbal communication is the bridge between what is verbally expressed by the giver and what is construed by the receiver (Shaw, 2006). It is the constantly occurring and most outstanding way that the emotions and meanings of verbal content are conveyed (Carson, 2007). Nonverbal communication ranges from eye contact and facial expression to body posture and positioning and includes the way the veterinarian presents him- or herself to the client beyond the use of words. McArthur and Fitzgerald (2013) stated that nonverbal training is an integral part of enhancing veterinarian-client-patient relationships and better clinical outcomes for the patient. Most veterinarians would not intentionally communicate a lack of concern or empathy for their clients and patients but may not be cognizant of how their nonverbal communication is being received by the client (Carson, 2007). Nonverbal communication skills are often thought of as intuitive, as though some people are gifted in this area and some are not. However, this is simply not true – nonverbal communication is a set of skills that can be learned and practiced like any other clinical skill (Carson, 2007). The use and understanding of nonverbal communication has been found to strengthen self-efficacy for medical professionals (Lee, Lovell, & Brotheridge, 2010). Nonverbal communication skills are essential for good communication outcomes and client satisfaction in veterinary medicine (Viner, 2010).

These four core communication skills can foster relationship centered care in veterinary medicine. Relationship centered care has been adopted from human medicine and used in veterinary medicine to describe a collaborative veterinary-client-patient relationship that relies on intentional interpersonal communication to provide supportive, respectful, and effective medical treatment (Adams & Kurtz, 2012; Tresolini & Pew Fitzer Task Force, 1994). Relationship centered care utilizes biomedical as well as the

lifestyle-social elements of the patient's life, establishing partnership and client participation in the animal's care (Shaw et al., 2006). Relationship centered care is highly congruent with the progression that the veterinary medical profession is showing. Because of these changes, veterinarians should strongly consider giving specific attention to the core communication skills and other methods of developing effective communication skills.

Calgary-Cambridge Guide. In addition to the four core communication skills that veterinarians can use to foster interpersonal interactions, the Calgary-Cambridge Guide is a communication model adapted from human medical training that provides an extensive and comprehensive guide to the veterinary medical appointment (Adams & Kurtz, 2012; Kurtz, Silverman, Benson, & Draper, 2003; Silverman et al., 2005). The Calgary-Cambridge Guide is one of the best choices for veterinarians to teach and learn communication skills (Adams & Kurtz, 2012). This guide has been utilized by many medical training programs around the world to teach communication skills (Adams & Kurtz, 2012). It provides a user-friendly alternative to the rigid, tightly controlled, aloof biomedical interview model (Kurtz et al., 2003). Information, knowledge, and compassion are useless without the ability to communicate, and this guide can help to make communication skills more accessible to veterinarians (Kurtz et al., 2005).

The Calgary-Cambridge Guide provides over 70 evidence-based skills for veterinary communication with clients (Kurtz et al., 2003). The Calgary-Cambridge Guide was designed with two main goals. The first goal was to provide a clear conceptualization and framework for the understanding of communication skills. The second goal was to provide support and assistance to the people providing

communication training within the medical fields (Silverman et al., 2005). The Calgary-Cambridge Guide includes step-by-step instructions and goals for the entire medical appointment, from initiating the session, gathering information, and building a relationship to explanation, planning and closing the session, and options for planning and negotiating for situations that require more extensive communication or explanation (Silverman et al., 2005). This guide is the foundation of communication training for novice and veteran veterinarians and is best utilized in a training setting with the opportunity to model and practice the instructions presented in the guide (Adams & Kurtz, 2012; Kurtz et al., 2005; Silverman et al., 2005).

Summary

The veterinary medical community has not adopted a specific guide or theory as the “gold standard” for communication training. Veterinary colleges in the United States have invested at various levels to design, implement, and assess communication skill training for their students, utilizing the four core skills, the Calgary-Cambridge Guide, or other communication models (Adams & Kurtz, 2012). However, unless veterinary medical training programs fully embrace and universally integrate communication training as part of their standard medical training, the communication training will not achieve its maximum potential to benefit veterinarians and advance the profession (Kurtz et al., 2003). Training, role play, and experience in communication skills serve to increase efficacy and confidence of veterinary students with regard to professional communication (Chun et al., 2009). As additional gains and benefits of communication training emerge, veterinary programs who are not yet incorporating formal communication training courses may need to re-evaluate their curriculum to better serve

the needs of their profession. Empirical support can be found for veterinary communication training that considers the effects of compassion fatigue and compassion satisfaction in order to promote overall wellness within in veterinary medicine.

Intersection of Compassion and Communication in Veterinary Medicine

Using the CFR Model (Ludick & Figley, 2017), variables within all three sectors of Empathic Stance, Secondary Traumatic Stress, and Compassion Fatigue Resilience are impacted by an individual's communication abilities, behaviors, and style. Significant professional benefits may be available to veterinarians with the recognition of the relationship between compassion fatigue, compassion satisfaction, and communication. In fact, serious consequences may arise for the veterinary profession if this relationship is not addressed; ignoring the interaction of these non-technical competencies might mean that effective ways to improve veterinary quality of life and overall veterinary wellness are missed (Bartram, 2010; Halliwell & Hoskin, 2005; Hatch et al., 2011; Viner, 2010). Communication has been empirically recognized as a significant influential factor in levels of professional compassion fatigue (Houck, 2014; Leow et al., 2015) and burnout experienced in the workplace for helping professionals (Ahmadi, Ahmadi, Elasi, Ahmadi, & Ahmadi, 2013; Bar-Sela, Lulav-Grinwald, & Mitnik, 2012; Forward & Sadler, 2013; O'Mahoney, Gerhart, Grosse, Abrams, & Levy, 2016). Within medical professions, communication has also been found to be related to decreasing the effects of secondary traumatization (Bartram, 2010) and increasing compassion satisfaction (Adams & Frankel, 2007). No known research is known to have investigated the relationship between communication and compassion fatigue and satisfaction within the veterinary profession. This relationship needs to be addressed and understood to further enhance

communication training and overall wellness for students and professionals within veterinary medicine.

Communication and Burnout

The relationship between communication skills and burnout has been documented in human medical literature (Awa, Plaumann, & Walter, 2010; Loiselle, Gelinas, Cassoff, Boileau, & McVey, 2012; Quenot et al., 2012; Sluiter et al., 2005). Effective communication skills have been found to be beneficial in reducing stress and burnout, as well as increasing job satisfaction, reducing job stress, and enhancing professional efficacy and esteem (Ramirez et al., 1995). In human medicine, 44% of a sample of physicians reported they had not received sufficient training in communication skills; this group of physicians showed higher levels of disconnection from their emotions and lower levels of personal accomplishment than professionals who reported that they felt adequately trained in communication (Ramirez et al., 1995). Individuals who reported not feeling confident in their training showed lower levels of professional satisfaction in their job and lower pleasure from the challenges of their job. Also, the individuals who did not feel adequately trained reported higher levels of stress related to dealing with patients who were suffering than individuals who felt confident in their training (Ramirez et al., 1995). Further, Lee et al. (2010) found that interpersonal demands and resources, including communication skills, were found to better explain stress and burnout levels than job demands and resources. Among a sample of physicians, the use and interpretation of nonverbal communication, as well as building rapport with clients, served to strengthen self-efficacy, lessen emotional fatigue, and increase emotional

engagement with clients (Lee et al., 2010). These findings support communication skills as a protective factor against burnout and fatigue.

Support has also been found for increased communication skills reducing the risk of burnout and influencing the professional's confidence in his or her style of communication (Miller et al., 1988). Communication was found to play a key role in the development of a professional's view of his or her occupation and personal value within this occupation. In addition, the helping professional's occupational self-esteem and sense of worth were found to be highly related to his or her ability to communicate in an *empathically responsive* (Ludick & Figley, 2017) way to clients (Miller et al., 1988). Professionals who did not believe they were able to communicate compassionately and responsively to their clients' needs were more likely to experience burnout and were also more likely to feel diminished personal accomplishment and experience lower commitment to their profession (Miller et al., 1988; Miller, Birkholt, Scott, & Sage, 1995). This ability to care for one's clients and provide support and compassion is essential to the helping professions. Consistent with other helping professions, the responsibility of compassion and communication is not evenly distributed within veterinary medicine (Miller et al., 1988). Therefore, the veterinarian carries the burden of maintaining the client relationship through correct responses, information, and emotional resources without receiving reciprocal support. In addition to communication skills, the way in which one communicates and the word choice used is important in the medical setting (Curtis, Sprung, & Azoulay, 2014). Ineffective communication skills and styles and low levels of *empathic ability* (Ludick & Figley, 2017) can contribute to

additional stress and burden on the veterinarian and lead to more difficulty connecting with others.

Communication and Secondary Traumatic Stress

Communication is vital to social connection with others, and *social support* (Ludick & Figley, 2017) is necessary for overall health and wellness for veterinarians (Bartram, 2010). Whether stressed and exhausted or not, when veterinarians isolate themselves rather than reach out and communicate to others, harmful effects often transpire. Effective communication skills may reduce the negative effects of exposure to trauma and decrease risk of secondary traumatic stress for veterinarians. Though veterinarians cannot avoid professional exposure to trauma, communication with others can alleviate negative effects from this exposure (Catheral, 1995).

Bartram (2010) found that verbalizing and communicating the experience of personally upsetting events improved mental health outcomes and physical outcomes for individuals who experienced trauma. These gains were specifically related to the communication of the experience rather than thoughts and feelings internally processed about these experiences. O'Mahoney et al. (2016) suggested that ineffective communication practices, including withdrawal and avoidance, can exacerbate symptoms of secondary traumatic stress among medical workers. Veterinarians who are better equipped with communication skills may be more likely to express their experiences than veterinarians who do not feel adequately prepared to communicate their experiences, thus having lower risk of secondary traumatization.

Communication and Compassion Satisfaction

Communication skills can decrease occupational stress and promote the veterinarian's *sense of satisfaction* (Ludick & Figley, 2017), which in turn could decrease the risk of compassion fatigue. Effective communication has been found to enhance clinical outcomes, client relationships, workplace relationships, and overall career success (Klingborg & Klingborg, 2007). Effective communication practices contribute to workplace agreement and satisfied clients, leading to veterinarians being able to better enjoy their profession and find satisfaction in their ability to care for animals (Adams & Frankel, 2007). This compassion satisfaction provides reward and happiness for veterinarians, systemically contributing to lower levels of stress and fatigue.

Hatch et al. (2011) reported that a lack of specific veterinary training in communication, coping skills, and recognition of emotions is a precursor to poor mental health and burnout among veterinarians. Emotions are important to veterinary medicine. However, many veterinarians are not getting adequate instruction and training on how to communicate about and cope with the emotions and *exposure to suffering* (Ludick & Figley, 2017) that inevitably emerge as part of veterinary medicine (Adams et al., 2004). Emotions are part of the daily experience in the veterinary workplace. As a professional group, veterinarians should work to develop their perception of emotions to become more effective communicators, using emotions in problem-solving, critical thinking, and creative solution-building.

It is important for veterinarians to work toward understanding emotions and how they influence actions and communications. One aspect of veterinary compassion and communication is often overlooked is that veterinarians must be able to effectively

manage their own emotionality to facilitate effective communication practices with both clients and coworkers (Viner, 2010). Creating veterinary training and workplace environments that promote emotional recognition and self-care will also promote effective communication, leading to higher levels of veterinary wellness and success, work-life balance, and compassion satisfaction (Halliwell & Hoskin, 2005; Kinsella, 2010). More research is needed to determine if specific styles of communication may serve to boost compassion satisfaction or reduce risk of compassion fatigue experiences among veterinarians.

Summary

Support exists for the relationship between communication and the effects of compassion. Communication has been found to be related to both burnout and secondary traumatic stress, which are the two factors that compose compassion fatigue. Communication has also been found to be related to increased compassion satisfaction. However, a significant gap in the literature warrants further explanation – how is communication related to compassion fatigue and compassion satisfaction within veterinary medicine? Because no previous research has directly answered this question, the present study begins to investigate the ways that communication may impact levels of compassion fatigue and compassion satisfaction in the earliest stages of veterinary work.

CHAPTER III

METHODOLOGY

This research study provides specific information about the relationship between the effects of compassion and communication behaviors. To begin building the literature on the interactions between communication and compassion satisfaction and fatigue, this study investigated veterinary students' experience of compassion in the earliest stages of clinical work and how this may be related to communicative behaviors. Exploring the experiences of students who are nearing graduation and entry into professional practice is salient to understanding how to address the needs of the current and future generations of veterinarians to enhance the profession as a whole.

Research questions

Because the relationship of communication and compassion for veterinary students is unknown, this research is a general exploratory study of the interaction between the two concepts. Since both the effects of compassion fatigue and communication behaviors are difficult to quantitatively measure with accuracy and efficiency in any other way, self-report measures have been used to gather data from veterinary students. A collection of communication behaviors, also referred to as a communication style, was investigated along with levels of compassion fatigue and compassion satisfaction. This research answers three questions:

- Do the communication styles of fourth-year veterinary students significantly relate to their levels of compassion fatigue and compassion satisfaction?
- Do the communication styles of men and women veterinary students differ significantly?
- Do levels of compassion fatigue and compassion satisfaction of men and women veterinary students differ significantly?

Selection of Participants

Participants for this study were students enrolled in the fourth year of their Doctorate of Veterinary Medicine (DVM) training programs at colleges accredited by the American Veterinary Medical Association within the United States (AVMA, 2016a). Fourth-year students were chosen because most veterinary colleges in the United States begin the clinical phase of training in the fourth year of study. To investigate professional compassion fatigue and compassion satisfaction, it is necessary that participants have experienced hands-on clinical practice as a veterinarian-in-training. AVMA Standards of Accreditation dictate that accredited Colleges must provide “a minimum of one academic year of hands-on clinical education” (AVMA, 2015). Although several schools begin clinical training during the third year of study, fourth-year students are the population that best represents veterinarians-in-training with clinical experience.

Selection of Universities

Thirty universities in the United States have a College of Veterinary Medicine accredited by the AVMA’s Council on Education (AVMA, 2016a). A random sample of

these 30 universities was selected to receive invitations for their students to participate in this study. Sampling was accomplished by selecting the schools that reside in regions according to the regional divisions provided by the United States Census Bureau (2015a). These regions include West, Midwest, South, and Northeast. Within these four regions, each city in which the schools are located have been classified as either rural or urban by the standards set by the United States Census Bureau. The standards dictate that a city is classified as urban if the population exceeds 50,000 people and classified as rural if this standard is not met (United States Census Bureau, 2015c). For each region, two schools – a school in an urban location and a school in a rural location – were randomly selected to receive an invitation to participate in this research. The population of the city in which each university is housed was found using the most recent census information available, which was published by the United States Census Bureau in 2014 (2015b).

West region. Six Colleges of Veterinary Medicine are located in the West region (AVMA, 2016b). Five of these schools are classified as urban according to their location: Midwestern University, The University of California, Western University of Health Sciences, Colorado State University, and Oregon State University. One school, Washington State University, is classified as rural according to its location. Washington State University was selected by default as the rural school, and Colorado State University was randomly selected as the urban school in the West region (U.S. Census Bureau, 2015b). After receiving the invitation to participate in this study, the administration at Washington State University declined to be part of this research project. Due to Washington State University being the only rural school in the West region, an urban school was randomly selected to replace this university. The University of

California was randomly selected to replace Washington State University; however, The University of California's administration also declined to participate in this study. Next, Oregon State University was randomly selected as Washington State University's replacement and accepted the invitation to participate.

Midwest region. Nine Colleges of Veterinary Medicine are located in the Midwest region (AVMA, 2016b). Six of these schools are classified as urban according to their location: Iowa State University, Kansas State University, The University of Minnesota, The University of Missouri, Ohio State University, and The University of Wisconsin. Three schools are classified as rural according to their location: The University of Illinois, Purdue University, and Michigan State University. Purdue University was randomly selected as the rural school, and The University of Missouri was randomly selected as the urban school within the Midwest region (U.S. Census Bureau, 2015b).

South region. Twelve Colleges of Veterinary Medicine are located in the South region (AVMA, 2016b). Seven of these schools are classified as urban according to their location: Auburn University, The University of Florida, The University of Georgia, Louisiana State University, North Carolina State University, Texas A&M University, and The University of Tennessee. Five schools are classified as rural according to their location: Tuskegee University, Mississippi State University, Oklahoma State University, Lincoln Memorial University, and Virginia Polytechnic Institute and State University. Mississippi State University was randomly selected as the rural school, and Texas A&M

University was randomly selected as the urban school in the South region (U.S. Census Bureau, 2015b).

Northeast region. Three Colleges of Veterinary Medicine are located in the Northeast region (AVMA, 2016b). One school, The University of Pennsylvania, is classified as urban according to its location. The remaining two schools, Tufts University and Cornell University, are classified as rural according to their locations. The University of Pennsylvania was by default the urban school selected. Cornell University was randomly selected as the rural school in the Northeast region (U.S. Census Bureau, 2015b).

Justification for Selection Process

This method of selecting Colleges of Veterinary Medicine for research participation was developed for several reasons. The population of 30 schools was narrowed to streamline this research project. However, a sample of colleges that best represents the diversity of the different regions of the country was desired. For this reason, the divisions established by the United States Census Bureau (2015a) have been utilized to determine how to divide the schools into appropriate regions. Random selection within these regions was utilized to achieve a representative sample of the Colleges of Veterinary Medicine in the United States. The author determined before recruitment began that, should a school decline to participate in this research, an alternate would be selected from within the same region and, if possible, the same classification as the school declining the invitation. Schools in each of the different regions were chosen to increase the generalizability and applicability of the data from this research. Schools

in rural and urban areas were classified separately to include a diverse sample of students who will work with different populations of animals and people.

Specializations of Colleges

Small animal and large animal hospitals are common to most veterinary training colleges. However, some schools offer opportunities and training programs that are not available at other schools. For example, in addition to their small and large animal clinics, Cornell University houses the Cornell Feline Health Center focusing on treatment and health of felines (Cornell University, 2014a). The University of Missouri offers three clinics providing services to small animals, large animals, and food animals (University of Missouri, 2015). Texas A&M has one of few training programs which house Zoo Medicine Services within their Large Animal Hospital (Texas A&M, 2016). The University of Pennsylvania's New Bolton Center Hospital for Large Animals is internationally renowned as one of the highest standards of care for equine patients (PennVet, 2015). These differences in veterinary schools are recognized as having an influence on participants' training because of the different experiences represented in large animal medicine, small animal medicine, and other specialty areas of veterinary medicine (Cartwright, 2016; Munoz, 2010; Roy, 2015; Self, Safford, & Shelton, 1988; Williams, Butler, & Sontag, 1999).

Study Participants

The researcher invited all students enrolled in the fourth and final year of the DVM program at the eight schools selected to participate in this study. The total number of participants invited to participate in this study was approximately 825 students

according to enrollment information provided to the author by personnel at each of the eight veterinary training programs (L. Chappell, personal communication, February 7, 2017; H. Fason, personal communication, June 14, 2016; M. Frye, personal communication, June 13, 2016; J. Hamilton, personal communication, June 14, 2016; C. Linn, personal communication, June 15, 2016; J. Mailey, personal communication, June 14, 2016; M. O'Brien, personal communication, June 13, 2016; S. Tornquist, personal communication, April 19, 2017). A total of 314 participants were included in the data analyses, giving this study a 38% response rate.

Instruments

Demographic Questionnaire

Participants completed a demographic questionnaire developed by the author for this research study. Questions asked participants to identify their age, sex (*[a] Male, [b] Female, [c] Other*), and race (*[a] White, [b] Hispanic or Latino, [c] Black or African American, [d] Native American or American Indian, [e] Asian or Pacific Islander, [f] Other*). Participants were asked in what area of veterinary medicine they plan to work upon graduation (*[a] companion animal, [b] large animal, [c] equine, [d] zoological, [e] food animal, [f] internal medicine, [g] emergency and critical care, [h] radiology, [i] pathology, [j] other*). Participants were asked to indicate which one of the eight selected training programs they are currently attending from a drop-down menu. Finally, participants were asked to identify their year of study within their DVM program (*[a] First-year student (Class of 2020), [b] Second-year student (Class of 2019), [c] Third-year student (Class of 2018), [d] Fourth-year student (Class of 2017), [e] Not a DVM*

Student). Year of study was used as a screening question to eliminate students who were not currently in their fourth year of study.

Professional Quality of Life Scale: Veterinary Medicine Version

To measure professional quality of life, the Professional Quality of Life Scale, or ProQOL, was used (Stamm, 2009a). The ProQOL is the most frequently used scale to measure the positive and negative impact of working with individuals who have experienced trauma or other highly stressful events. This scale has been used extensively for people who are working in helping professions, including mental health workers, military, law enforcement, volunteers after traumatic situations, and medical workers (Stamm, 2010). Use of the ProQOL is expanding to animal care providers because of an increasing body of literature recognizing the susceptibility of this group to compassion fatigue and burnout (Cohen, 2007; Figley & Roop, 2006; Rank et al., 2009). Consistent with previous research published by Rank et al. (2009) and with permissions granted to the public by the instrument author, the ProQOL has several wording changes specific to the experiences of animal care providers and has become the ProQOL: Veterinary Medicine Version. Professional quality of life includes two components: compassion satisfaction (positive) and compassion fatigue (negative; Stamm, 2010).

Scales. The ProQOL is a 30-item self-report questionnaire answered on a 5-point Likert-type scale (*1=Never, 2=Rarely, 3=Sometimes, 4=Often, and 5=Very Often*). Participants are directed to indicate the number on the scale that honestly reflects their experiences over the past 30 days. Two constructs are measured by the ProQOL: Compassion Satisfaction and Compassion Fatigue. The Compassion Satisfaction (CS)

Scale contains 10 items, including items 3, 6, 12, 16, 18, 20, 22, 24, 27, and 30. Sample items from the CS scale include, “I get satisfaction from being able to professionally care for animals/people,” and “I am happy that I chose to do this work”. Higher scores on the Compassion Satisfaction Scale indicate higher levels of compassion satisfaction. Scores on this scale can range from 10-50 (Stamm, 2010).

Two concepts are included in the measurement of Compassion Fatigue (CF): Burnout and Secondary Trauma. The Burnout (BO) Scale contains 10 items including items 1, 4, 8, 10, 15, 17, 19, 21, 26, and 29. Five of these items (1, 4, 15, 17, and 29) are reversed scored. Sample items from the Burnout Scale include, “I feel worn out because of my work as an animal care provider,” and “I feel overwhelmed because my work load seems endless.” Higher scores reported on this scale indicates higher levels of burnout experienced by the participant. Scores on this scale can range from 10-50 (Stamm, 2010).

The Secondary Trauma Scale (STS) also contains 10 items, including items 2, 5, 7, 9, 11, 13, 14, 23, 25, and 28. Sample items from the STS include, “I feel as though I am experiencing the trauma of an animal/someone I have professionally cared for,” and “I am preoccupied with more than one animal/person I professionally care for.” Higher scores reported on this scale indicate higher levels of secondary trauma experienced by the participant. Scores on this scale can range from 10-50 (Stamm, 2010). Scores on the CS, BO, and STS scales can be converted to z-scores and t-scores to compare to the norming data for this scale (Stamm, 2010).

Reliability and validity estimates. The ProQOL has been used in over 50 peer reviewed studies on compassion fatigue (Stamm, 2010). Coefficient alpha scale

reliability estimates are reported as .88 for the Compassion Satisfaction Scale, .75 for the Burnout Scale, and .81 for the Secondary Traumatic Stress Scale (Stamm, 2010). Inter-scale correlations for the Compassion Fatigue construct are low, showing 2% shared variance ($r = -.23$; $n = 1187$) with Secondary Traumatic Stress and 5% shared variance ($r = -.14$; $n = 1187$) with Burnout. Total shared variance between Secondary Traumatic Stress and Burnout is 34% ($r = .58$; $n = 1187$). The shared variance between these scales may reflect the shared distress in both conditions, though they are separate constructs (Stamm, 2010).

Communication Styles Inventory

The Communication Styles Inventory, or CSI, is a 96-item inventory designed to measure self-reported communication behaviors (de Vries et al, 2013). This questionnaire contains six domain-level scales, including Expressiveness, Preciseness, Verbal Aggressiveness, Questioningness, Emotionality, and Impression Manipulativeness. Each of these six domains contains four facets, and each of these facets includes four items, totaling 16 items per domain. All questions are answered on a 5-point Likert-type scale ($1=Completely Disagree$, $2=Disagree$, $3=Neutral$, $4=Agree$, $5=Completely Agree$). Twenty-seven items on the CSI are reverse scored. Scores on each facet can range from 4–20, with scores on each domain ranging from 20–80. Higher scores for each facet indicate higher endorsement of communication behaviors within a domain; lower scores indicate less endorsement of communication behaviors within a domain.

Domains and facets. The CSI was developed through a lexical study using adjectives and verbs describing how people communicate with each other (de Vries et al., 2009). The authors determined that several descriptive terms loaded upon the factors in each domain and were heavily associated with these factors. For Expressiveness, extraverted and articulate are opposite of withdrawal and silence. The four facets of Expressiveness are Talkativeness, Conversational Dominance, Humor, and Informality. A sample item within this domain is, “I always have a lot to say.” Preciseness is associated with expertness and professionalism as opposed to rambling or confusion. Preciseness includes the four facets of Structuredness, Thoughtfulness, Substantiveness, and Conciseness. A sample item within this domain is, “When I tell a story, the different parts are always clearly related to each other” (de Vries et al., 2013).

Emotionality is associated with being stressed, sad, or disgruntled. Facets of Emotionality include Sentimentality, Worrysomeness, Tension, and Defensiveness. A sample item from this domain is, “When I see others cry, I have difficulty holding back my tears.” Questioningness is characterized by the tendency for self-assessment or others-assessment as opposed to coolness and formality. The four facets include Unconventionality, Philosophicalness, Inquisitiveness, and Argumentativeness. A sample item from this domain is, “I like to talk with others about the deeper aspects of our existence.” The Impression Manipulativeness domain reflects behaviors for the purpose of deception. The facets of this domain are Ingratiation, Charm, Inscrutableness, and Concealingness. A sample item is, “I sometimes conceal information to make me look better” (de Vries et al., 2013).

Finally, from the information in the lexical study, the domain of Verbal Aggressiveness is a combination of Threateningness, reversed Niceness and reversed Supportiveness. Niceness is characterized by kindness and softheartedness versus badgering or dwelling upon a mistake. Supportiveness is associated with comforting or honoring others as opposed to sarcasm and cynicism. Threateningness refers to abusing someone, exploiting someone, or making threats. Because of the influence of these three combined domains, the domain of Verbal Aggressiveness includes the four facets of Angriness, Authoritarianism, Derogatoriness, and Nonsupportiveness. A sample item from the Verbal Aggressiveness domain is, “I have been known to be able to laugh at people in their face” (de Vries et al., 2013).

Reliability. Estimated Cronbach reliabilities for all facets of the six domains are reported to be $> .70$, with the exception of four facets (Tension, $a = .55$; Inscrutableness, $a = .60$; Concealingness, $a = .64$, and Inquisitiveness, $a = .68$). All estimated reliabilities of the six domain-level scales are reported to be $> .80$. The item means on each domain and facet were within acceptable limits, ranging from 2.5 to 3.5 for all domain scales and 2 to 4 for all facet scales (de Vries et al., 2013). No information was found on validity estimates for this questionnaire.

Procedures

Veterinary students are subject to demanding and rigorous schedules and extensive hours of studying and professional preparation activities. With respect to the time demands placed upon the students, the author designed a descriptive study with online survey methodology to investigate the relationship between compassion and

communication styles of fourth-year veterinarians-in-training. The online design allowed students to participate at their convenience via the internet without detracting from their training activities.

Institutional Approval

This research was approved by the Human Research Protection Program at the Institutional Review Board (IRB) at Mississippi State University. Additionally, the author corresponded directly with personnel at the IRBs at each of the seven other institutions at which participants are enrolled. Cornell University's IRB did not require any involvement in this research study (J. Jayne, personal communication, February 9, 2017). The University of Missouri's IRB did not require any involvement in this research study (H. Mitchel, personal communication, February 9, 2017). Purdue University's IRB did not require any involvement in this research study (A. Martin, personal communication, February 14, 2017). The University of Pennsylvania's IRB did not require any involvement in this research study (A. Mayan, personal communication, February 14, 2017). Oregon State University's IRB did not require any involvement in this research study (J. Coleman, personal communication, April 7, 2017).

Colorado State University's IRB did not require any involvement in this research study but requested that the author send a copy of her institution's IRB approval letter, IRB application, recruitment documents, and consent documents to their office before recruiting students from their campus (E. Swiss, personal communication, February 27, 2017). Texas A&M's IRB required for the author to submit a copy of her institution's IRB approval letter, IRB application, and a copy of the survey instrument to their office and waiting for a letter of approval before recruiting students on their campus (K.

Douglas, personal communication, February 27, 2017). The author took appropriate steps to meet the requests and requirements of the IRB offices at Colorado State University and Texas A&M University. This study was determined by the Association of American Veterinary Medical Colleges to be exempt from their research approval procedures (T. Shanahan, personal communication, July 19, 2016).

Recruitment

The author arranged for Dr. Kent Hoblet, Dean of the College of Veterinary Medicine at Mississippi State University, to send an official letter attached within a personalized email to the deans of the other selected Colleges; this letter and personal message provided endorsement of the research study and requested the participation of each College in this study. The dean of each College of Veterinary Medicine was asked to give approval to the research and to facilitate the distribution of this invitation from his/her office because of his/her role as the hierarchical leader and most powerful administrator within the College. This email was sent by Dr. Hoblet to Dr. Lorin Warnick, Dean of Cornell University's College of Veterinary Medicine; Dr. Joan Hendricks, Dean of The University of Pennsylvania's School of Veterinary Medicine; Dr. Neil Olson, Dean of The University of Missouri's College of Veterinary Medicine; Dr. Bryan Slinker, Dean of Washington State University's College of Veterinary Medicine; Dr. Willie Reed, Dean of Purdue University's College of Veterinary Medicine; Dr. Eleanor Green, Dean of Texas A&M's College of Veterinary Medicine and Biomedical Sciences; and Dr. Mark Stetter, Dean of Colorado State University's College of Veterinary Medicine and Biomedical Sciences. After receiving the letter, Dr. Bryan Slinker actively declined for his school to participate in this research. A letter was then

sent to Dr. Michael Lairmore, Dean of The University of California's School of Veterinary Medicine. When Dr. Lairmore passively declined to participate, a letter was then sent to Dr. Susan Tornquist, Dean of the Oregon State University's College of Veterinary Medicine.

The dean at each of the veterinary schools was asked to complete a Letter of Permission provided by the author to give permission for her to recruit fourth-year DVM students from the college. Each dean was also asked to provide the name, email address, and phone number of a contact person within his/her office that would facilitate email distribution to students according to scripted directions from the author. This email sent from the dean's contact to the fourth-year students requested for participants to complete the questionnaire accessed through the Survey Monkey website link provided. The author collaborated with the contact provided by the dean to have an initial invitation distributed via email to the students, as well as a reminder invitation distributed approximately 10 days after the initial invitation and a final invitation distributed approximately 20 days after the initial invitation. A total of three emails were sent to students at each college. The web link for this questionnaire remained open for 10 days after the final invitation was distributed to the students at the last of the eight Colleges. The web link was active for a total of 34 days from April 10, 2017 through May 12, 2017.

Online questionnaire

Students were asked to click on a Survey Monkey website link (www.surveymonkey.com/r/DVMclassof2017) included in their email invitation.

Through a welcome page including Informed Consent information, students agreed that

they are 18 years of age or older and gave consent to continue the study, or else declined consent and exited the web page. Students who gave consent to participate were directed to a demographic information page. After completing these questions, participants were presented with a web page titled *ProQOL: Veterinary Medicine Version* with directions instructing them to answer questions about their experiences in veterinary medical work over the past 30 days. After completing these questions, students were directed to a web page titled *Communication Experiences (Page 1 of 2)* and then a web page titled *Communication Experiences (Page 2 of 2)*. On these two pages, participants were asked to complete the questions describing their communication behaviors and tendencies as honestly as possible. Questions listed were the items from the CSI. The questionnaire took approximately 15 minutes to complete. Upon completing the second communication experiences page, participants continued to a closing page thanking them for their participation in the study.

On this final page, participants were given the opportunity to enter an email address to enter to win a \$25 Visa gift card. If participants chose to provide an email address, they were entered in a drawing to win one of 20 Visa gift cards that was sent to winners electronically using only an email address. All gift card winners were notified via email by the author in June 2017 and had 10 days to claim their prize. Gift cards were claimed by replying to the author confirming the email address to which they would like their electronic gift card to be sent. If a winner did not claim his/her prize within 10 days, a new winner was randomly selected and notified via email following the same procedures described. Participants also had the opportunity to enter an email address to

receive a summary of study results upon the completion of the research project. All email addresses provided were kept confidential and stored separately from survey data.

Statistical Analyses

The primary research question guiding this study is an inquiry of whether the communication styles of fourth-year veterinary students are significantly related to their levels of compassion fatigue and compassion satisfaction. To answer this question, a canonical correlation was used to determine the strength of the relationship between communication styles (six independent variables) and the levels of compassion fatigue and satisfaction (two dependent variables) of fourth-year veterinary students using data from the CSI and the ProQOL: Veterinary Medicine Version (Hair, Black, Babin, & Anderson, 2010). Additionally, a one-way multivariate analysis of variance (MANOVA) was used to determine the difference in communication styles (six dependent variables) between sexes to indicate whether male and female students report significantly different communication styles from one another. A one-way MANOVA was used to determine the difference in levels of compassion satisfaction and fatigue (two dependent variables) between sexes to indicate if levels of compassion fatigue and compassion satisfaction of veterinary students significantly differ between male and female students. An alpha level of .05 was used to identify significance for the three research questions. A more stringent alpha level of .01 was used to identify significance for the nine hypothesized outcomes to reduce risk of Type I error when identifying specific associations between variables. Before beginning data collection, the author determined that a total sample of 300 participants was desired to provide power in excess of .90 for all statistical analyses;

however, a minimum of 230 participants was determined to be a fail-safe sample size that would provide power of at least .80 for all statistical analyses (Rosenthal, 1979).

CHAPTER IV

RESULTS

The purpose of this study was to provide a description of communication styles and levels of both the positive and negative elements of compassion among veterinary students, as well a description of the relationship between compassion and communication. This research study utilized online survey methodology to investigate how strongly the self-reported communication styles of students enrolled in the fourth year of study in a veterinary training program are related to their levels of compassion fatigue and compassion satisfaction. Three research questions were addressed in this study:

1. Do the communication styles of fourth-year veterinary students significantly relate to their levels of compassion fatigue and compassion satisfaction?
2. Do the communication styles of men and women veterinary students differ significantly?
3. Do levels of compassion fatigue and compassion satisfaction of men and women veterinary students differ significantly?

Descriptive data

A total of 347 students gave informed consent to participate in this study. However, 33 participants were excluded from all data analyses due to completing only the demographic information and skipping the remainder of the survey. A total of 314

students completed the ProQOL: Veterinary Medicine Version and were included in data analysis, indicating an overall response rate of approximately 38% from the eight schools included in this study. A total of 281 participants continued on to complete the entire questionnaire. See Table 1 for demographic information of the 314 students included in data analysis.

Women represented a larger proportion of the sample ($n=282$, 89.8%). The ages of participants ranged from 24 years of age to 47 years of age, with a mean age of 27.3 ($SD = 3.28$) and a mode of 26 years of age. The majority of respondents indicated they were Caucasian/White ($n = 281$, 89.5%), with the remainder of respondents indicating their race as Hispanic or Latino ($n = 14$, 4.5%), Asian/Pacific Islander ($n = 8$, 2.6%), African American ($n = 3$, 1.0%), Native American ($n = 1$, 0.3%), or mixed race ($n = 7$, 2.2%).

Of this sample, 46 participants (14.6%) were enrolled in Colorado State University's College of Veterinary Medicine and Biomedical Sciences, giving this school a 33.3% response rate. Thirty-two participants (10.2%) were enrolled in Cornell University's College of Veterinary Medicine, giving this school a 32% response rate. Fifty participants (15.9%) were enrolled in Mississippi State University's College of Veterinary Medicine, giving this school a 60.9% response rate. Thirty-nine participants (12.4%) were enrolled at the University of Missouri's College of Veterinary Medicine, giving this school a 34.8% response rate. Fifty-one participants (16.2%) were enrolled at the University of Pennsylvania's School of Veterinary Medicine, giving this school a 40.5% response rate. Thirty participants (9.6%) were enrolled at Purdue University's College of veterinary medicine, giving this school a 35.7% response rate. Fifty

participants (15.9%) were enrolled at Texas A&M University's College of Veterinary Medicine and Biomedical Sciences, giving this school a 37.3% response rate. Eleven participants (3.5%) were enrolled at Oregon State University's College of Veterinary Medicine, giving this school a 21.6% response rate. Five participants (1.6%) indicated enrollment at an Other university and were part of one of the eight Colleges for all or part of their clinical training during the fourth year of their Doctor of Veterinary Medicine program.

The most common veterinary medicine career path upon graduation indicated by participants was companion animal medicine ($n = 177$, 56.4%). The second most common career path indicated was mixed animal medicine ($n = 50$, 15.9%). Next, equine medicine ($n = 16$, 5.1%) and emergency and critical care medicine ($n = 14$, 4.5%), along with laboratory animal medicine ($n = 9$, 2.9%) and food animal medicine ($n = 8$, 2.5%) were indicated by participants. Additional categories indicated included large animal medicine ($n = 7$, 2.2%), zoological or exotic animal medicine ($n = 6$, 1.9%), internal medicine ($n = 5$, 1.6%), research ($n = 5$, 1.6%), military veterinary service ($n = 4$, 1.3%), and government veterinary employment ($n = 4$, 1.3%). Work areas listed that individually accounted for less than 1% of the sample were combined into the category of Other ($n = 9$, 2.9%).

Table 1

Demographic Characteristics of Participants

Characteristic	<i>n</i>	Percentage of sample
Sex		
Female	282	89.8
Male	32	10.2
Race		
Asian American or Pacific Islander	8	2.6
Black or African American	3	1.0
Caucasian or White	281	89.5
Hispanic or Latino	14	4.5
Native American or American Indian	1	0.3
Two or more races	7	2.2
Age		
24 – 26 years old	176	56.0
27 – 29 years old	88	28.0
30 – 32 years old	25	8.0
33 – 35 years old	13	4.2
36 - 38 years old	5	1.6
39 years old and older	6	1.9
College		
Colorado State University	46	14.6
Cornell University	32	10.2
Mississippi State University	50	15.9
University of Missouri	39	12.4
University of Pennsylvania	51	16.2
Purdue University	30	9.6
Texas A&M University	50	15.9
Oregon State University	11	3.5
Other	5	1.6
Work Plans		
Companion animal medicine	177	56.4
Mixed animal medicine	50	15.9
Equine medicine	16	5.1
Emergency and critical care medicine	14	4.5
Laboratory animal medicine	9	2.9
Food animal medicine	8	2.5
Large animal medicine	7	2.2
Zoological or exotic medicine	6	1.9
Internal medicine	5	1.6
Research	5	1.6
Military veterinary service	4	1.3

Table 1 (Continued)

Government veterinary employment	4	1.3
Other	9	2.4

Note. $N = 314$. One participant did not report Age.

Analysis of Data

Data were inspected prior to conducting any analysis procedures. Inspection revealed 36 missing data points, or approximately 0.1% of the data set. The missing data were distributed among 30 different participants and 32 survey questions, with no individual participant missing more than three answers and no individual question having more than two missing answers. The missing data were determined to be missing completely at random, and hot deck imputation was utilized. The author selected matches that were determined based on the demographic characteristics of sex, age, race, work plans, and college, weighted in importance in the order listed. Participants who showed the closest match on these five demographics were selected to input the needed data points for the 30 participants with missing answers. Fourteen participants with missing data were matched with participants with the same five variables; six participants with missing data were matched with participants with four matching variables; nine participants with missing data were matched with participants who showed matches in the three demographics of sex, age, and race. The one remaining participant did not list an age; this data point was not substituted.

The 33 participants who did not complete the entire questionnaire were analyzed to determine if this group was significantly different from the 281 participants who completed the entire questionnaire. Differences in sex were investigated using a chi square test; results show no statistically significant differences between non-completers

and completers, $\chi^2 (1) = .029, p = .862$. Differences in race were inspected using group descriptive statistics; 94% ($n = 31$) of non-completers identified themselves as Caucasian/White compared to 89% ($n = 250$) of completers. Differences in work plans were inspected using descriptive statistics; 56% ($n = 19$) of non-completers reported entering companion animal medicine compared to 58% ($n = 158$) of completers. Differences in age were investigated using an independent samples t-test; results show a statistically significant difference in age between non-completers and completers, $t (311) = -1.631, p = .006$. Descriptive statistics show that non-completers reported a mean age of 28.79 ($SD = 4.32$) compared to completers, with a mean reported age of 27.16 ($SD = 3.05$). Although differences in age are noted, completers and non-completers were determined to be satisfactorily similar enough to not present concern for data analysis.

Research Question 1

The question, “do the communication styles of fourth-year veterinary students significantly relate to their levels of compassion fatigue and compassion satisfaction?” was investigated using a canonical correlation analysis. Canonical correlation analysis is the preferred and most powerful multivariate technique for descriptive research designs that include multiple independent and dependent variables (Hair et al., 2010). This analysis investigated the association between the two ProQOL variables (Compassion Fatigue, Compassion Satisfaction) described as the Compassion Set, and the six CSI variables (Expressiveness, Emotionality, Questioningness, Impression Manipuativeness, Verbal Aggressiveness, Preciseness) described as the Communication Set. A total of 281

participants completed both the ProQOL: Veterinary Medicine Version and the Communication Styles Inventory and were included in the canonical correlation analysis.

Outliers. The data were screened for outliers according to Mahalanobis Distance. The Compassion set did not exceed critical values ($\alpha = .005$). Among the Communication set, two cases (Case 265 = 38.05, Case 266 = 31.42) were found to exceed the critical value standards set by Jennings and Young (1988) and were excluded from the analysis. After these two cases were excluded, Cook's test revealed that no individual cases were determined to be highly influential in the data set. The remaining 279 cases were included in the analysis. See Table 2 for descriptive statistics for each of the variables included in the analysis.

Table 2

Descriptive Statistics for Research Question 1

Variable	<i>M</i>	<i>SD</i>
Compassion Satisfaction	38.48	5.79
Compassion Fatigue	49.73	10.25
Expressiveness	48.52	9.18
Emotionality	51.00	8.37
Impression Manipulativeness	43.79	6.87
Questioningness	46.62	7.73
Preciseness	50.07	7.25
Verbal Aggressiveness	38.20	7.99
Compassion Satisfaction (transformed)	3.28	0.88
Compassion Fatigue (transformed)	7.02	0.72
Verbal Aggressiveness (transformed)	6.15	0.65

Notes. $N = 279$. Mean of CS is derived from summed totals of the compassion satisfaction subscale of the ProQOL (score range = 10-50). Mean of CF is derived from the summed totals of the burnout and secondary traumatic stress subscales of the ProQOL (score range = 20-100). Mean of Expressiveness, Emotionality, Impression Manipulativeness, Questioningness, Preciseness, and Verbal Aggressiveness are derived from the summed totals of each subscale of the CSI (score range for each variable = 20-80).

Normality. Multivariate normality was checked for both variable sets using Mardia's test. For the Compassion set of variables, Mardia's test showed skewness of $p = .190$ and kurtosis of $p = .692$, meeting the assumption of multivariate normality. For the Communication variables, Mardia's test showed skewness of $p = .010$ and kurtosis of $p = .004$, violating the assumption of multivariate normality. Due to this violation, univariate normality was checked for each of the variables using graphic methods and Shapiro-Wilk test. Using the Shapiro-Wilk test, the variables of Emotionality ($p = .474$), Expressiveness ($p = .301$), Questioningness ($p = .228$), and Impression Manipulativeness ($p = .659$) each met the assumption of normality. However, Compassion Fatigue ($p < .001$), Compassion Satisfaction ($p < .001$), Verbal Aggressiveness ($p = .044$), and Preciseness ($p = .010$) violated the assumption of normality. Using square root transformations, both Compassion Fatigue ($p = .061$) and Verbal Aggressiveness ($p = .334$) met the assumption of normality. Using a reflect and square root transformation, Compassion Satisfaction ($p = .126$) was corrected. However, normality was not achieved for Preciseness and cannot be assumed for this variable.

Table 3

Correlations

	CS	CF	EXP	EM	IM	QU	PR	VA
CS	1	.521*	-.326*	.144	.044	.000	-.094	.127
CF	.532*	1	-.109	.467*	.191*	.122	-.173*	.239*
EXP	.334*	-.108	1					.190*
EM	-.136	.460*	.000	1				.094
IM	-.035	.180*	.084	.021	1			.194*
QU	.017	.124	.285*	.120	.085	1		.389*
PR	.100	-.165*	-.223*	-.401*	.038	-.124	1	-.208*
VA	-.136	.239*	.187*	.093	.192*	.389*	-.198*	1

Notes. $N = 279$; Correlations above the diagonal represent transformed values; Correlations below the diagonal represent non-transformed values; CS = Compassion Satisfaction; CF = Compassion Fatigue; EXP = Expressiveness; EM = Emotionality; QU = Questioningness; IM = Impression Manipulativeness; VA = Verbal Aggressiveness; PR = Preciseness. * = Correlation is significant at the 0.01 level (2-tailed).

Linearity. Inspection of a scatterplot of the dependent variables showed that Compassion Fatigue and Compassion Satisfaction met the assumption of linearity. Inspection of a scatterplot of the dependent variables showed the assumption of linearity was satisfied for the Compassion variables. Inspection of a scatterplot of the independent variables showed not all variables demonstrated linear relationships. This is attributed to the low linear strength among the variables demonstrated by low correlations among the Communication variables. Linearity cannot be assumed for the Communication set.

Table 4

Canonical Correlation Sets

Correlations for Compassion Set

	CS	CF
CS	1	
CF	.521	1

Correlations for Communication Set

	EXP	EM	QU	IM	VA	PR
EXP	1					
EM	.000	1				
QU	.285	.120	1			
IM	.084	.021	.085	1		
VA	.190	.094	.389	.194	1	
PR	-.223	-.401	-.124	.038	-.208	1

Correlations between Compassion Set and Communication Set

	EXP	EM	QU	IM	VA	PR
CS	-.326	.144	.000	.044	.127	-.094
CF	-.109	.467	.122	.191	.239	-.173

Notes. $N = 279$. CS = Compassion Satisfaction; CF = Compassion Fatigue; EXP = Expressiveness; EM = Emotionality; QU = Questioningness; IM = Impression Manipulativeness; VA = Verbal Aggressiveness; PR = Preciseness. Transformed values used for CS, CF, and VA.

Homoscedasticity and multicollinearity. Plots of standardized residuals and standardized predicted values for all variables were inspected. Each of the plots showed a patternless trend, demonstrating evidence of homoscedasticity. Inspection of the correlations within each of the two variable sets revealed no instance of a correlation in excess of .53 (see Table 4). The variables were therefore judged not to have issues due to multicollinearity.

Canonical correlation. The canonical correlation for this data set yielded two functions. Function 1 was found to be statistically significant, $R_c = .552$; Wilks' $\lambda = .601$, $F(12, 542) = 13.08$, $p < .001$ (see Figure 2 for canonical loadings). In Function 1, the

average squared loading, or adequacy measure, for the Compassion set is .603 (see Table 5); the average squared cross loading, or redundancy measure, is .184 (see Table 6). Therefore, the two variables composing the Compassion set share an average of 60.3% of their variance with the linear composite of scores from their own set and an average of 18.4% of their variance with the linear composite of the Communication set. The adequacy measure for the Communication set is .204; the redundancy measure is .062. Therefore, the six variables in the Communication set share an average of 20.4% of their variance with the linear composite of scores from their own set and an average of 6.2% of their variance from the linear composite of the Compassion set.

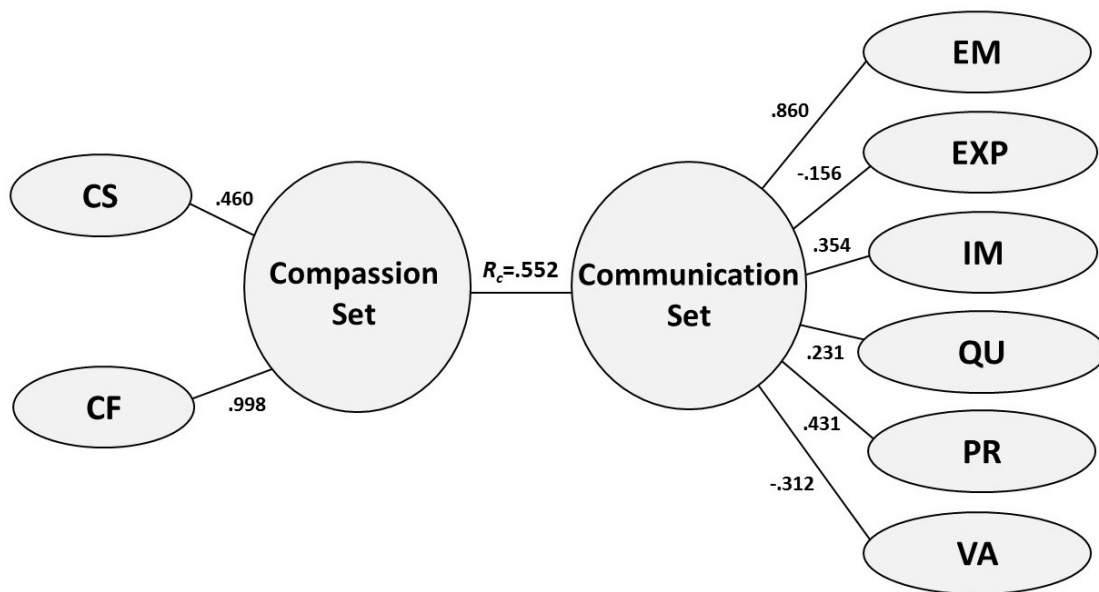


Figure 2. Canonical Function 1.

Note. Values shown with their root are canonical loadings.

As shown in Table 5 by the standardized coefficients, within Function 1, Compassion Fatigue (.998) is weighted most heavily among the Compassion set, and Emotionality (.860) is weighted the most heavily among the Communication set. The

Compassion Fatigue and Emotionality pair is given the most emphasis within the canonical root of the first canonical function. Function 1 explains 26% of the variance within the data set.

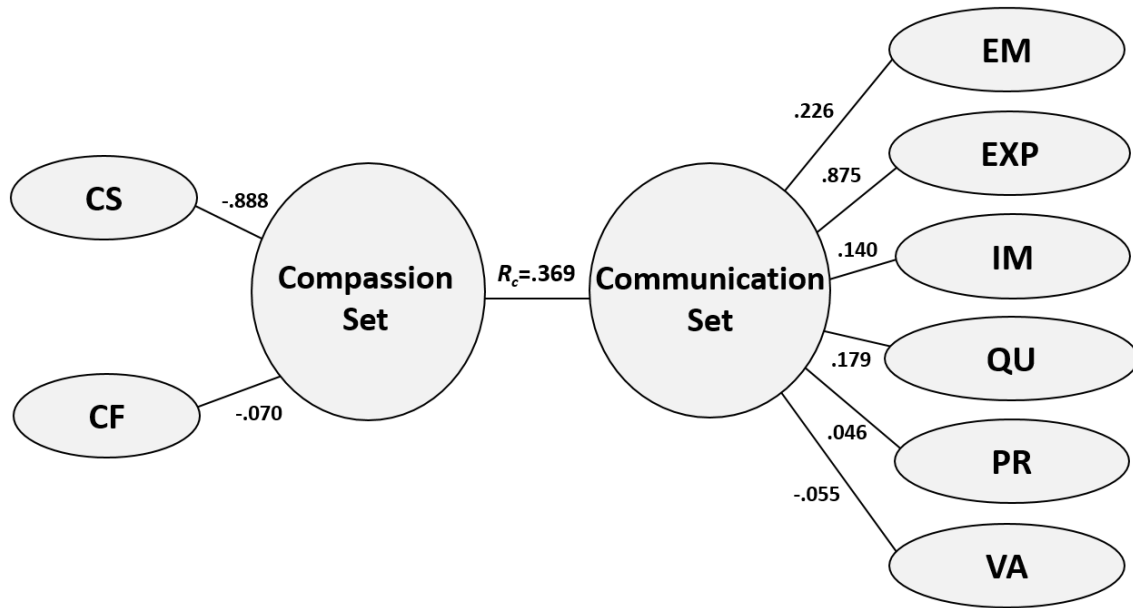


Figure 3. Canonical Function 2.

Note. Values shown with their root are canonical loadings.

Function 2 was also found to be statistically significant, $R_c = .369$; Wilks' $\lambda = .864$, $F(5, 272) = 8.56$, $p < .001$ (see Figure 3 for canonical loadings). In Function 2, the adequacy measure for the Compassion set is .397 (see Table 5); the redundancy measure is .054 (see Table 6). Therefore, the amount of variance that the Compassion set shared with the linear composite of their own scores is an average of 39.7%, and the amount of variance shared with the linear composite of Communication is an average of 5.4%. The adequacy measure for the Communication set is .146, and the redundancy measure is .020. Therefore, the amount of variance shared with the linear composite of the

Communication scores is an average of 14.6%, and the amount of variance shared with the linear composite of Compassion is an average of 2%.

Table 5

Canonical Loadings

	Funct. 1	Stzd Coeff.	Unstzd Coeff.	Funct. 2	Stzd Coeff.	Unstzd Coeff.	h^2
Compassion Set							
CS	.460	-.083	-.093	-.888	-1.169	-1.322	1.00
CF	.998	1.041	1.440	-.070	.539	.745	1.00
<i>Adequacy</i>	.603			.397			
Communication Set							
EXP	-.156	-.252	-.027	.875	1.002	.109	.790
EM	.860	.828	.099	.226	.400	.048	.791
QU	.231	.054	.007	.179	-.034	-.004	.085
IM	.354	.288	.042	.140	.076	.011	.145
VA	.431	.330	.509	-.055	-.205	-.315	.189
PR	-.312	.028	.004	.046	.380	.052	.099
<i>Adequacy</i>	.204			.146			

Notes. $N = 279$. CS = Compassion Satisfaction; CF = Compassion Fatigue; EXP = Expressiveness; EM = Emotionality; QU = Questioningness; IM = Impression Manipulativeness; VA = Verbal Aggressiveness; PR = Preciseness; Funct. 1 = Function 1; Stzd Coeff = standardized coefficients; Unstzd Coeff = unstandardized coefficients; Funct. 2 = Function 2; h^2 = sum of squared loadings.

As shown in Table 5 by the standardized coefficients, within Function 2, Compassion Satisfaction (-1.169) is weighted most heavily among the Compassion set, and Expressiveness (1.002) is weighted the most heavily among the Communication set. The Compassion Satisfaction and Expressiveness pair is given the most emphasis within the canonical root of the second canonical function. Function 2 explains approximately 14% of the variance in the data set.

Table 6

Canonical Cross-Loadings

	Function 1	Function 2
Compassion Set		
CS	.254	-.327
CF	.550	-.026
<i>Redundancy</i>	.184	.054
Communication Set		
EXP	-.086	.322
EM	.474	.083
QU	.127	.066
IM	.195	.051
VA	.238	-.020
PR	-.172	.017
<i>Redundancy</i>	.062	.020

Notes. $N = 279$. CS = Compassion Satisfaction; CF = Compassion Fatigue; EXP = Expressiveness; EM = Emotionality; QU = Questioningness; IM = Impression Manipulativeness; VA = Verbal Aggressiveness; PR = Preciseness.

Hypothesized outcomes.

Hypothesized outcome 1.1. The first hypothesized outcome regarding research question 1 predicted that Emotionality would be statistically significantly associated with Compassion Fatigue. Pearson's correlation for Emotionality and Compassion Fatigue ($r = .467$) is significant ($p < .001$) and represents a medium effect size (Cohen, 1988). The coefficient of determination ($r^2 = .218$) shows that Emotionality and Compassion Fatigue share 21.8% of their variance with one another.

Hypothesized outcome 1.2. The second hypothesized outcome regarding research question 1 predicted that Expressiveness would be statistically significantly associated with Compassion Satisfaction. Pearson's correlation for Expressiveness and Compassion Satisfaction ($r = -.326$) is significant ($p = .001$) and represents a medium effect size

(Cohen, 1988). The coefficient of determination ($r^2 = .106$) shows that Expressiveness and Compassion Satisfaction share 10.6% of their variance with one another.

Hypothesized outcome 1.3. The third hypothesized outcome regarding research question 1 predicted that Expressiveness would be statistically significantly associated with Compassion Fatigue. Pearson's correlation for Expressiveness and Compassion Fatigue ($r = -.109$) is not significant ($p = .070$), and the null hypothesis is retained.

Hypothesized outcome 1.4. The fourth hypothesized outcome regarding research question 1 predicted that Impression Manipulativeness would be statistically significantly associated with Compassion Fatigue. Pearson's correlation for Impression Manipulativeness and Compassion Fatigue ($r = .191$) is significant ($p = .001$) and represents a small effect size (Cohen, 1988). The coefficient of determination ($r^2 = .036$) shows that Impression Manipulativeness and Compassion Fatigue share 3.6% of their variance with one another.

Hypothesized outcome 1.5. The fifth hypothesized outcome regarding research question 1 predicted that Verbal Aggressiveness would be statistically significantly associated with Compassion Satisfaction. Pearson's correlation for Verbal Aggressiveness and Compassion Satisfaction ($r = .127$) is not significant ($p = .033$), and the null hypothesis is retained.

Additional outcome. Although not a hypothesized research outcome, Verbal Aggressiveness was found to be statistically significantly associated with Compassion Fatigue ($p = .001$). Pearson's correlation for Verbal Aggressiveness and Compassion

Fatigue ($r = .239$) represents a small effect size (Cohen, 1988). The coefficient of determination ($r^2 = .057$) shows that Verbal Aggressiveness and Compassion Fatigue share 5.7% of their variance with one another.

Research Question 2

The question, “do the communication styles of men and women veterinary students differ significantly?” was investigated using a one-way MANOVA. A total of 281 participants completed the Communication Styles Inventory and were included in this analysis. Before proceeding with the analysis, the author checked for outliers and each of the assumptions of MANOVA. The two outlier cases removed for the canonical correlation analysis were also removed for this analysis; the remaining 279 cases were included.

Table 7

Descriptive Statistics for Research Question 2

	Mean	SD	<i>n</i>	Transformed Mean	Transformed SD
Expressiveness					
Males	50.11	8.10	28		
Females	48.34	9.29	251		
Emotionality					
Males	46.21	6.69	28		
Females	51.53	8.38	251		
Questioningness					
Males	49.32	7.29	28		
Females	46.31	7.73	251		
Impression Manipulativeness					
Males	47.21	6.49	28		
Females	43.41	6.82	251		
Verbal Aggressiveness					
Males	41.32	7.57	28	6.40	.59
Females	37.85	7.98	251	6.12	.65
Preciseness					
Males	52.14	5.31	28		
Females	49.84	7.41	251		

Notes. $N = 279$. Mean scores are summed totals of corresponding CSI subscales. Verbal Aggressiveness transformed using square root transformation.

Multivariate normality was checked for the data set. Mardia's test showed that the assumption of multivariate normality was met for the male group (skewness: $p = .400$, kurtosis: $p = .725$) but not for the female group (skewness: $p = .028$; kurtosis: $p = .003$). The Shapiro-Wilk test revealed that Questioningness (males: $p = .374$; females: $p = .373$), Emotionality (males: $p = .278$; females: $p = .549$), and Impression Manipulativeness (males: $p = .915$; females: $p = .690$) met the assumption of univariate

normality. Verbal Aggressiveness (males: $p = .912$; females: $p = .039$), Preciseness (males: $p = .022$; females: $p = .043$), and Expressiveness (males: $p = .049$; females: $p = .492$) were found to violate this assumption. Using a square root transformation, Verbal Aggressiveness achieved univariate normality (males: $p = .959$; females: $p = .340$). However, no transformations corrected the violated assumption for the Preciseness or Expressiveness variables. Despite achieving satisfactory fit to normal distributions for the individual variables, multivariate normality was not achieved. Box's M Test showed that the assumption of equality of covariance was satisfied for the data set ($p = .381$).

Results from the MANOVA indicate that statistically significant differences among men and women were found; Wilks' λ was reported at .910, $F(6, 272) = 4.46$, $p < .001$, $\eta^2 = .090$. Sex accounts for 9% of the variance in communication style scores reported by this sample. According to Cohen (1988), results indicated a medium effect size. No norming data were available for the Communication Styles Inventory.

Hypothesized outcomes.

Hypothesized outcome 2.1. The first hypothesized outcome regarding research question 2 predicted that females would endorse significantly different levels of Emotionality than males. The univariate effects yielded significant differences between the sexes on scores of Emotionality ($p = .001$; $\eta^2 = .037$). Sex accounted for 3.7% of the variance in scores of Emotionality, indicating a small effect size (Cohen's $d = .646$; Cohen, 1988). Results show that women ($M = 51.53$, $SD = 8.38$) endorsed statistically significantly higher levels of Emotionality than men ($M = 46.21$, $SD = 6.69$).

Hypothesized outcome 2.2. The second hypothesized outcome regarding research question 2 predicted that women would endorse significantly different levels of Expressiveness than men. The univariate effects yielded no significant differences between sexes ($p = .335$) and the null hypothesis is retained.

Hypothesized outcome 2.3. The third hypothesized outcome regarding research question 2 predicted that men would endorse significantly different levels of Preciseness than women. The univariate effects yielded no significant differences between sexes ($p = .111$) and the null hypothesis is retained.

Additional outcome. Although not predicted to be significant, the univariate effects yielded statistically significant differences between men and women on scores of Impression Manipulativeness ($p = .005$; $\eta^2 = .028$). Sex was found to account for 2.8% of the variance in Impression Manipulativeness, indicating a small effect size (Cohen's $d = .556$; Cohen, 1988). Men ($M = 47.21$, $SD = 6.49$) endorsed statistically significantly higher scores on Impression Manipulativeness than women ($M = 43.41$, $SD = 6.87$).

Research Question 3

The question, “do levels of compassion fatigue and compassion satisfaction of men and women veterinary students differ significantly?” was investigated using a one-way MANOVA. A total of 314 participants completed the ProQOL: Veterinary Medicine Version and were included in this analysis. Before proceeding with the data analysis, the author checked for outliers and each of the assumptions of MANOVA. Mahalanobis distance revealed no cases exceeded critical value ($\alpha = .005$) set by Jennings

and Young (1988). Cook's test revealed that no individual cases were determined to be highly influential in the data set, giving satisfactory evidence for independence.

The Shapiro-Wilk test revealed that the Compassion Fatigue (males: $p = .729$; females: $p = .002$) and Compassion Satisfaction (males: $p = .132$; females: $p < .001$) scores violated the univariate test of normality. Scores were tested after using a square root transformation for Compassion Fatigue (males: $p = .767$; females: $p = .077$) and a reflect and square root transformation for Compassion Satisfaction (males: $p = .692$; females: $p = .052$) and satisfied the assumption of univariate normality. Multivariate normality was checked for the data set. Mardia's test showed that the assumption of multivariate normality was met for the data set, with the male group showing skewness of $p = .998$ and kurtosis of $p = .191$ and the female group showing skewness of $p = .115$ and kurtosis of $p = .626$. Box's M Test showed that the assumption of equality of covariance was satisfied for the data set ($p = .247$). Multivariate tests indicated that statistically significant differences among men and women were found, $F(2, 311) = 3.15, p = .044, \eta^2 = .020$. Results indicated that sex accounts for 2% of the variance in compassion for this sample, representing a small effect size (Cohen, 1988).

Table 8

Descriptive Statistics for Research Question 3

	<i>M</i>	<i>SD</i>	<i>n</i>	Transformed <i>M</i>	Transformed <i>SD</i>
Compassion Satisfaction					
Males	38.25	5.85	32	3.32	.87
Females	38.45	5.88	282	3.28	.91
Compassion Fatigue					
Males	46.31	7.71	32	6.78	.57
Females	50.13	10.36	282	7.04	.73

Notes. $N = 314$. Mean of Compassion Satisfaction is derived from summed totals of the compassion satisfaction subscale of the ProQOL (score range = 10-50). Compassion Satisfaction was transformed using reflect and square root transformation. Mean of Compassion Fatigue is derived from the summed totals of the burnout and secondary traumatic stress subscales of the ProQOL (score range = 20-100). Compassion Fatigue was transformed using square root transformation.

Limited norming data were available for the ProQOL instrument. Scores from the current sample were converted to z-scores and then to t-scores to be compared to norming data. This comparison shows consistent scores on Compassion Satisfaction for this sample compared to the norming sample (see Table 9). Although scores on Compassion Fatigue are consistent for females across groups, the current sample shows a lower score for males ($M = 46.34$, $SD = 7.53$) on Compassion Fatigue compared to the norming group ($M = 49.02$, $SD = 9.85$). No descriptive information was provided for the norming data; therefore, comparison of norms according to sex should be interpreted cautiously. However, this comparison does show that the reported Compassion Satisfaction scores from the current sample are similar to scores reported by the norming group sample. Stamm (2010) reported that no statistically significant differences were observed across sex for the norming group.

Table 9

Comparison of Current Sample and Norming Group According to Sex for ProQOL

	Current Sample			Norming Group		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Compassion Satisfaction						
Males	49.31	9.80	32	49.01	10.81	315
Females	50.08	10.04	282	50.14	9.77	760
Compassion Fatigue						
Males	46.34	7.53	32	49.02	9.85	315
Females	50.40	10.17	282	50.28	10.21	760

Note. Current sample scores were converted to z-scores ($M = 0$, $SD = 1$) and then to t-scores ($M = 50$, $SD = 10$) to compare to norming data provided by Stamm (2010).

Hypothesized outcome. The only hypothesized outcome regarding research question 3 predicted that women would report significantly different levels of Compassion Fatigue than men. Univariate tests indicated no significant differences between the sexes on levels of Compassion Fatigue ($p = .051$), and the null hypothesis was retained. Additionally, no differences were found between the sexes on levels of Compassion Satisfaction ($p = .786$).

CHAPTER V

DISCUSSION

This chapter contains a discussion of the results of the canonical correlation and two MANOVAs conducted by the author. This study investigated the association between communication styles and the positive and negative aspects of compassion among fourth-year veterinary students, as well as the reported differences between the sexes in communication style and compassion experiences. This chapter includes a summary of the study, interpretation according to the CFR Model, limitations and delimitations, implications for veterinary training programs, and recommendations for future research.

Summary

Veterinary medical professional preparation programs in the United States include four years of vigorous training in the technical competencies of practicing medicine for a variety of animal species. However, within this specialized training, many students do not receive adequate training in the non-technical competencies (personal resources) needed to succeed in professional practice (Adams et al., 2004; Figley & Roop, 2006; Mitchener & Ogilvie, 2002; Rank et al., 2009). When non-technical competencies are not emphasized during veterinary training programs, veterinary graduates may enter the workforce without the interpersonal skills and coping skills necessary to succeed in clinical practice, and thus have increased risk for developing burnout, compassion

fatigue, and mental health issues (Flin et al., 2008; Miller et al., 1988; Nett et al., 2015; Rank et al., 2009; Rollin, 2011).

Two competencies that are particularly salient to veterinary success are communication skills and the influences of compassion. Communication skills are essential to veterinary clinical outcomes, client satisfaction, and veterinary wellbeing (Coe, 2008, 2012; Hatch et al., 2011; McArthur & Fitzgerald, 2013). Compassion has two juxtaposed effects, offering both the potential to be rewarding and satisfying, but also the potential to lead to stress, exhaustion, and suffering (Figley & Roop, 2006; Rank et al., 2009; Stamm, 2010). A deeper understanding of these two non-technical competencies is needed to better understand how they influence one another, implications for veterinary wellness, and to begin creating strategies to equip young professionals to be successful in these two competency areas. The CFR Model (Ludick & Figley, 2017) offers a framework in which to interpret the interaction between these two competencies.

The three research questions that guided this study are:

- Do the communication styles of fourth-year veterinary students significantly relate to their levels of compassion fatigue and compassion satisfaction?
- Do the communication styles of men and women veterinary students differ significantly?
- Do levels of compassion fatigue and compassion satisfaction of men and women veterinary students differ significantly?

Compassion Fatigue and Compassion Satisfaction were measured using a version of the Professional Quality of Life Scale (ProQOL; Stamm, 2009a) adapted for this study,

called the ProQOL: Veterinary Medicine Version. Communication styles were measured using the Communication Styles Inventory (de Vries et al., 2013), which identifies six domains of communication style, including Emotionality, Expressiveness, Impression Manipulativeness, Preciseness, Questioningness, and Verbal Aggressiveness.

Fourth-year veterinary students from eight veterinary training colleges across the United States were invited to participate in an online questionnaire using Survey Monkey software. Participating schools included: Colorado State University's College of Veterinary Medicine and Biomedical Sciences, Cornell University's College of Veterinary Medicine, The University of Pennsylvania's School of Veterinary Medicine; Purdue University's College of Veterinary Medicine; The University of Missouri's College of Veterinary Medicine; Mississippi State University's College of Veterinary Medicine; Oregon State University's College of Veterinary Medicine, and Texas A&M's College of Veterinary Medicine and Biomedical Sciences. This study yielded a 38% response rate, with 314 participants out of approximately 825 eligible students.

Discussion of Results and Compassion Fatigue Resilience Model

Representativeness of Sample

The present sample is satisfactorily representative of the population of students enrolled in veterinary training programs in the United States (see Table 10). According to the data collected for the 2016-2017 academic year by the Association of American Veterinary Medical Colleges, men represent 19.5% of students enrolled in veterinary training programs, and women represent 80.5% of students enrolled (University of Florida, 2017). Similarly, the current sample is 89.8% female and 10.2% male students. Additionally, Caucasian/White students represent the majority (78.1%) of the national

enrollment of veterinary students and of the current sample (89.5%) and other races are represented consistently in both samples.

Table 10

Sample Demographics and National Enrollment Demographics

Characteristic	Current sample	National veterinary student enrollment
Sex		
Female	89.8%	80.5%
Male	10.2%	19.5%
Race		
Caucasian or White	89.5%	78.1%
Hispanic or Latino	4.5%	5.4%
Asian American or Pacific Islander	2.6%	4.8%
Black or African American	1.0%	2.5%
Native American or American Indian	0.3%	0.5%
Two or more races	2.2%	3.8%
Other	none	4.04%

Notes. Current sample $N = 314$; National veterinary student enrollment $N = 12,769$. National enrollment data taken from the Association of American Veterinary Medical Colleges as published by The University of Florida (2017).

Additionally, the American Veterinary Medical Association’s Market Research Statistics from 2016 were used to compare the current sample of veterinary students to veterinarians employed within the United States (see Table 11). This sample’s reported work plans are comparable to the national employment statistics; the majority of both the current sample and the national veterinary employment population reported working (or planning to work) with companion animals. Although the current sample shows a larger number of individuals pursuing mixed animal medicine and just over one quarter of the national veterinary sample employment is unknown, the other listed work areas do not suggest any cause for concern regarding the representativeness of this sample.

Table 11

Sample Employment and National Employment Statistics

Area of Employment	Current sample	U.S. Veterinary Employment
Companion animal (exclusive and predominant)	56.4%	47%
Food animal (exclusive and predominant)	2.5%	4.2%
Mixed animal	15.9%	3.9%
Equine	5.1%	3.6%
Uniformed services	1.3%	0.7%
Government (state, local, or federal)	1.3%	2.7%
Other veterinary work area	17.1%	17.6%
Employment unknown	n/a	26%

Notes. Current sample $N = 314$; U.S. Veterinary Employment $N = 114,262$. U.S. Veterinary Positions data taken from the American Veterinary Medical Association's Market Research Statistics (2016). U.S. Veterinary Employment totals over 100% because some veterinarians hold more than one position within veterinary medicine.

Research Question 1

Do the communication styles of fourth-year veterinary students significantly relate to their levels of compassion fatigue and compassion satisfaction? This question was answered by using a canonical correlation analysis. The Professional Quality of Life Scale: Veterinary Medicine Version (ProQOL) provided the dependent variable set, or Compassion Set, and included the two variables of Compassion Satisfaction and Compassion Fatigue. The Communication Styles Inventory (CSI) provided the independent variable set, or Communication Set, which included the six variables of Expressiveness, Emotionality, Questioningness, Preciseness, Impression Manipulativeness, and Verbal Aggressiveness.

The canonical correlation analysis found that the Compassion Set was statistically significantly associated with the Communication Set. The two functions yielded in the analysis explain approximately 40% of the variance in the data set. Function 1 explained

26% of the variance within the data set, and the redundancy index revealed that the Compassion Set shared an average of 18% of its variance with the Communication Set, and the Communication Set shared an average of 6% of its variance with the Compassion Set. Function 2 explained 14% of the variance within the data set, and the redundancy index revealed that the Compassion Set shared an average of 5% with the Communication Set, and the Communication Set shared an average of 2% with the Compassion Set. The practical significance of this shared variance is explained through the relationships among the variables in each set.

Compassion fatigue and emotionality. As predicted by the first hypothesized outcome regarding research question 1, Emotionality was found to be statistically significantly associated with Compassion Fatigue. These two variables were the most influential pair in the first canonical function and are the most strongly correlated pair of variables across the sets. Results from this study indicate a positive correlation between the variables and a medium effect size for this relationship. Because Emotionality describes an individual's level of stress and worry communicated to others (de Vries et al., 2009; de Vries et al., 2013), it is not surprising that the negative effects of compassion show a significant association. This association is consistent with other literature; higher levels of Emotionality is likely to increase the distress the veterinarian routinely experiences from stressful workplace experiences related to moral stress (Rollin, 2011), euthanasia (Shaw & Lagoni, 2007), working hours (Cohen, 2007), and the "culture of silence" (Feinstein et al., 2002, p. 1574) in veterinary medicine (Crane et al., 2015; Kinnarney, 2015; Larkin, 2013), which can all be linked to increased risk of developing compassion fatigue. Additionally, an individual who is experiencing Compassion

Fatigue may communicate with more tension, stress, and worry due to the symptomology he or she is experiencing, and thus demonstrate higher levels of Emotionality.

This positive correlation between Emotionality and Compassion Fatigue is congruent with the CFR Model. Individuals who are more communicative of their levels of sentimentality, worry, and tension are likely to have an increased disposition toward recognizing the suffering of others (*empathic ability*) and open themselves up to higher levels of *empathic concern* compared to individuals with low levels of Emotionality. The level of stress, tension, and worry that an individual shows may play a role in his or her ability to show care and empathy to others (*empathic response*) and may also influence on how deeply he or she is affected by the suffering of others. The CFR Model recognizes that *empathic concern*, *empathic ability*, and *empathic response* are all avenues to the development of compassion fatigue (Ludick & Figley, 2017). Veterinary training programs that help students to recognize and understand this association may be able to help new veterinarians increase protective factors to cope with Emotionality and guard against compassion fatigue.

Compassion satisfaction and expressiveness. As predicted by the second hypothesized outcome regarding research question 1, Compassion Satisfaction was found to be statistically significantly associated with Expressiveness. These two variables were the most influential pair in the second canonical function and are the second most strongly correlated pair of variables across the sets. Results from this study show a negative correlation between these two constructs and a medium effect size for this relationship.

Initially, this result appears to be inconsistent with previous literature. Positive relationships and higher levels of connection with coworkers, clients, and others have been cited as sources of compassion satisfaction (Figley & Roop, 2006; Cohen, 2007; Klingborg & Klingborg, 2007; Moore et al., 2014), which seems to indicate that Expressiveness should increase compassion satisfaction. However, Expressiveness as measured by the CSI includes the facets of conversational dominance, talkativeness, humor, and informality (de Vries et al., 2009; de Vries et al., 2013), some of which are not necessarily congruent with positive and strong connections to others. For example, conversational dominance may be experienced negatively by one's conversation partners and serve to hinder the development of a meaningful relationship connection (Manson, Gervais, Fessler, & Kline, 2014). Talkativeness also may not necessarily reflect positive relationship building and may not always be perceived as favorable (Burd, 2013)

Using the CFR Model as a framework for this finding, it is possible that Expressiveness, as measured in this study, may serve to decrease connection to others, leading to decreased reward and satisfaction from one's work and lower levels of resilience-building *social support* and *sense of satisfaction* from the job (Ludick & Figley, 2017). It is also possible that the association between Expressiveness and Compassion Satisfaction may be moderated by an external factor, such as anxiety. For example, a veterinarian may become more expressive in the workplace when feeling anxious, which could lead to decreased empathic connection to clients and coworkers, and thus decrease his or her Compassion Satisfaction and reward from caring for others. Further research is needed to better understand the relationship between Compassion Satisfaction and Expressiveness and possible moderating variables.

Compassion fatigue and expressiveness. The third hypothesized outcome for research question 1 predicted that Expressiveness would be statistically significantly associated with Compassion Fatigue. Results indicated that a statistically significant relationship between these two variables was not found. This finding is presumed to be related to the way that Expressiveness is measured by the CSI, with the domains of conversational dominance, informality, talkativeness, and humor (de Vries et al., 2009; de Vries et al., 2013). These domains do not capture a person's ability to connect with others; therefore, a measure of expressiveness more focused on skills and behaviors related to building meaningful social support might yield a different outcome. Further research is needed to better understand how connection to others can help to reduce the veterinarian's risk of experiencing compassion fatigue.

Compassion fatigue and impression manipulateness. As predicted by the fourth hypothesized outcome regarding research question 1, Compassion Fatigue was found to be statistically significantly associated with Impression Manipulateness. These two variables show a positive correlation. Although this correlation shows a small effect size, the implications of this relationship are important to veterinary medical training and the overall professional culture of veterinary medicine. Impression Manipulateness is characterized by communication used to deceive others, whether to (a) make oneself look better, (b) protect oneself from negative consequences, (c) keep others from getting emotionally close to oneself, or (d) gain something (de Vries et al., 2009; de Vries et al., 2013).

Impression manipulateness is perhaps the quintessential display of the "culture of silence" (Feinstein et al., 2002, p. 1574) in veterinary medicine that contributes to

difficulty communicating about challenges, admitting struggles, sharing mistakes, or asking for help (Crane et al., 2015; Fritschi et al., 2009; Kinnarney, 2015; Larkin, 2013; White et al., 2006). Individuals who enter veterinary medicine often already have a tendency toward perfectionism and conscientiousness (Crane et al., 2015; Larkin, 2013), which can easily lead to communicating in ways to manipulate the impressions of oneself that others may have, especially when surrounded by those who have similar tendencies and also are engaging in Impression Manipulativeness communication behaviors (Crane et al., 2015; Larkin, 2013; Schoenfeld-Tacher et al., 2015; Zenner et al., 2005; Zuziak, 1991a). In this environment, anything less than perfection can be seen as weakness and failure, and constantly striving for better can become more important than anything else. When this imbalance occurs, compassion fatigue is a likely consequence, as one will often continue to work and give to others without regard to his or her own self-care. This cyclic association can also be reversed; when an individual is experiencing Compassion Fatigue, Impression Manipulativeness may be used as a protective mechanism to keep silent and refrain from showing weakness to others.

Results are consistent with the CFR Model, which acknowledges that a silent and perfectionistic culture exacerbates the risk of experiencing Compassion Fatigue. If managing the impressions of others within a “culture of silence” (Feinstein et al., 2002, p. 1574), each of the protective factors of *self-care*, *detachment*, *sense of satisfaction*, and *social support* will likely be decreased. Any difficulties one has with *exposure to suffering*, overextension of self through *empathic response*, or even stresses from *other life demands* will likely not be shared with others in a genuine way, and the individual may remain isolated and vulnerable to the negative effects of caring for others (Ludick &

Figley, 2017). Veterinary training programs that are willing to promote a ‘culture of support’ and create a training environment where both strengths and challenges can be accepted can help students to decrease levels of Impression Manipulativeness and increase coping skills and non-technical competencies, thus decreasing risk of experiencing Compassion Fatigue. As veterinary schools shift the way future generations of students are trained, the “culture of silence” (Feinstein et al., 2002, p. 1574) within veterinary medicine can be changed to become more accepting, more open, and more willing to support colleagues who face challenges both personally and within the workplace (Kinnarney, 2015).

Compassion satisfaction and verbal aggressiveness. The fifth hypothesized outcome for research question 1 predicted that Verbal Aggressiveness would be statistically significantly associated with Compassion Satisfaction. Results indicated that a statistically significant relationship between these two variables was not found. This hypothesis was based on previous findings that veterinarians who communicate with lower levels of empathy and supportiveness toward their clients were found to have less satisfied clients and lower retention of clients (McArthur & Fitzgerald, 2013; Tinga et al., 2001), which may influence the veterinarian’s positive reward from the job. Although this hypothesis is not supported, further description of compassion’s association with verbal aggressiveness is described in the following research outcome.

Compassion fatigue and verbal aggressiveness. Although not a hypothesized study outcome, Compassion Fatigue was found to be statistically significantly associated with Verbal Aggressiveness. Results show these two variables have a positive correlation and a small effect size. Verbal Aggressiveness is characterized by

communicating with others in ways that are unsupportive, angry, derogatory, and domineering (de Vries et al., 2009; de Vries et al., 2013). Verbal Aggressiveness is, in many ways, the opposite of communicating empathy and compassion. Although representing only a small amount of shared variance, the implications of this association for veterinary training must be recognized.

The link between Verbal Aggressiveness and Compassion Fatigue is a new contribution to veterinary literature but aligns with previous research regarding client satisfaction, clinical outcomes, and veterinary satisfaction. Clients are most satisfied when their veterinarian displays warmth and empathy and works collaboratively to provide care to their companion animal (Coe, 2008, 2012; McArthur & Fitzgerald, 2013). Clinical outcomes are enhanced when clients perceive increased levels of supportiveness and higher levels of collaboration with their veterinarian (Silverman et al., 2005). Veterinarians are most satisfied with their jobs and experience lower levels of stress and fatigue when they are confident in their ability to connect with their clients and communicate in *empathically responsive* ways (Ludick & Figley, 2017; Miller et al., 1988; Miller et al., 1995). This literature suggests that communicating in verbally aggressive ways in the workplace could lead to many negative outcomes for the veterinarian, which may include increased risk of Compassion Fatigue. On the other hand, Compassion Fatigue and the accompanying symptomology may deplete the veterinarian's personal resources and contribute to him or her communicating with others in a more aggressive manner.

The association between Verbal Aggressiveness and Compassion Fatigue is consistent with the CFR Model – Verbal Aggressiveness may negatively influence a

veterinarian's protective factors against Compassion Fatigue. A veterinarian who is unsupportive, demeaning to others, and not collaborative is likely to experience low levels of *sense of satisfaction* from his or her work and to have low levels of *social support* from others. Additionally, Verbal Aggressiveness will influence an individual's *empathic response*; it may be more difficult for veterinarians with high levels of Verbal Aggressiveness to communicate an empathic response, whether or not the veterinarian feels empathy toward that person or animal. Verbal aggressiveness could also be a maladaptive coping mechanism to handle stress and keep others from approaching for help or support when one is experiencing exhaustion or Compassion Fatigue from work or from *other life demands* (Ludick & Figley, 2017). This finding supports the idea that veterinary schools that not only purposefully help their trainees to see the link between verbal aggression and compassion fatigue but also help students to find alternate communication techniques and coping strategies will help to decrease the risk of compassion fatigue that their graduates will experience.

Research Question 2

Do the communication styles of men and women veterinary students differ significantly? This question was answered using a one-way MANOVA. This analysis revealed that men and women showed statistically significant differences in their communication styles. Results represent a medium effect size and are consistent with previous veterinary literature that has highlighted sex differences in communication (Butler et al., 2002; Shaw et al., 2006; Shaw et al., 2012).

Sex and emotionality. As predicted by the first hypothesized outcome regarding research question 2, men and women veterinarians-in-training were found to endorse

statistically significantly different levels of Emotionality. Women reported statistically significantly higher levels of Emotionality compared to men, showing higher levels of sentimentality, worrisomeness, tension, and defensiveness as measured by the CSI. This finding is consistent with Shaw et al.'s (2012) research, which found that women veterinarians value empathy toward clients more, show more empathy to clients, and are perceived as more supportive by clients, compared to men veterinarians. Although empathy is not necessarily synonymous with Emotionality, it is plausible that individuals with high levels of Emotionality might be additionally inclined to experience the stress and suffering of clients and patients with whom they interact, and perhaps also be more supportive and sympathetic toward client needs.

Because Emotionality was found to also have a statistically significant positive association with Compassion Fatigue, results would suggest that female veterinarians are at greater risk of developing Compassion Fatigue. Other studies have reported congruent outcomes; Figley and Roop (2006) reported that women have shown higher levels of compassion fatigue than men. Additionally, women veterinarians have been found to be at greater risk of experiencing burnout (Hatch et al., 2011), *secondary traumatic stress* (Cohen, 2007), and higher levels of *other life demands* (Phillips-Miller et al., 2000) compared to men.

Because the veterinary field has shifted to having more women than men employed (AVMA, 2017) and because over 80% of currently enrolled veterinary students are women (The University of Florida, 2017), veterinary training programs must consider how their training curricula can best address the Emotionality levels that women veterinarians are facing. This association between Emotionality and Compassion Fatigue

indicates an urgency for training schools to include communication and wellness training to give veterinarians additional skills and resources to manage the emotional aspects of veterinary employment. As acknowledged by the CFR Model, individuals rely on their training, skills, and natural abilities to provide an empathic and emotional responses to others; veterinarians who receive training and support to handle the emotions of the workplace will have more resources to protect themselves against Compassion Fatigue (Ludick & Figley, 2017). Women may benefit more from training in this area than men; however, training designed to increase the coping skills and resources of all individuals within veterinary medicine can be helpful to strengthen the profession as a whole.

Sex and impression manipulateness. Although not a hypothesized research outcome, men and women veterinarians-in-training were found to have statistically significantly different levels of Impression Manipulateness. Men were found to have statistically significantly higher levels of Impression Manipulateness compared women. This difference shows a small effect size and is a new contribution to veterinary literature. However, the characteristics of what is being measured by the Impression Manipulateness domain must be considered. A person who is high in levels of Impression Manipulateness may not be willing to answer the questions on this scale honestly and may be prone to social desirability response bias (Zerbe & Paulhus, 1987). It is possible that this small sample of men is not generalizable to the population of male veterinary students, that women felt more freedom to answer the questions honestly than did men, or that the ongoing sex shift within the veterinary profession may have an impact on how men perceive they must present themselves to others within a now majority women field (AVMA, 2015). Further research is needed to determine the

reliability of this research outcome and to identify any number of contextual factors that may contribute to sex differences in levels of Impression Manipulativeness. Previous findings in this research study acknowledged the relationship between Impression Manipulativeness and Compassion Fatigue; efforts made by training programs to reduce Impression Manipulativeness among both men and women are likely to lower the risk of students developing compassion fatigue in their future job settings.

Sex, expressiveness, and preciseness. Hypothesized outcome two regarding research question 2 predicted that women would endorse statistically significantly different levels of Expressiveness than men. Also, hypothesized outcome three regarding research question 2 predicted that women would endorse statistically significantly different levels of Preciseness than men. However, results did not support either of these two hypothesized outcomes. Sex differences were not found to be statistically significant for levels of Expressiveness or Preciseness endorsed. These hypothesized outcomes were based on previous research that found women veterinarians spent more time building rapport with clients and were rated as sounding less rushed, less anxious, and more friendly compared to male veterinarians (Shaw et al., 2012). Nevertheless, this research did not find similar outcomes, and no differences in these two aspects of communication for men and women were found. More research is needed to further identify possible sex differences in communication style among veterinarians-in-training, as well as the factors contributing to any differences between men and women.

Research Question 3

Do levels of compassion (positive and negative) of men and women veterinary students differ significantly? This question was answered by using a one-way

MANOVA. This analysis revealed that men and women veterinarians-in-training showed statistically significant differences in their overall levels of compassion. Results represent a small effect size and are not surprising, given that previous veterinary literature has found women veterinarians to be at greater risk of experiencing compassion fatigue than men veterinarians (Figley & Roop, 2006; Hatch et al., 2011). However, the univariate effects of this analysis revealed that men and women did not show statistically significant differences in levels of compassion satisfaction nor levels of compassion fatigue. Results are consistent with the norming sample, where Stamm (2010) reported no significant differences among men and women. However, the small sample of men in the current study makes it difficult to generalize this finding to the population of veterinary students. Although the multivariate effect is significant, the lack of difference on the individual variables, the small effect size, and the small sample of men in this study indicate a need for more research to determine in what ways men and women might experience compassion differently and how to best provide relevant resources and support for men and women veterinarians-in-training and veterinarians.

Limitations and Delimitations

Delimitations

Several delimitations of this research design are important to discuss. First, this study targeted a very specific group: fourth-year veterinary students. The inclusion of other groups would have detracted from this study's purpose. Students in earlier years of training were excluded because of lack of veterinary clinical work experience, and doctors of veterinary medicine in professional practice were excluded to provide research outcomes most relevant to veterinary training program curricula and design.

Second, the timing of the survey introduced both strengths and challenges. This survey was distributed from mid-April to early May of 2017, which is just weeks or days before the graduation ceremonies for the students recruited by this study. This timing was intentionally chosen in order to investigate the self-reports of students who have spent the maximum amount of time in their training program and who have had the maximum amount of hands-on clinical experience; both time and experience in clinical settings influence the compassion experiences of veterinarians-in-training. However, this period of time is naturally stressful and busy for this group of students who are close to graduating and transitioning into a professional setting, which may have influenced student participation and survey responses.

Third, this study was designed to include only 8 of the 30 accredited veterinary training programs in the United States; therefore, only a sample of the fourth-year veterinary student population was invited to participate. Within this sample of colleges, schools within each region of the country were randomly selected to be either the urban or rural representation for their region. This selection process was utilized to make this research project more manageable but also to provide results that would be maximally generalizable to the population of fourth-year veterinary students. This random selection was successful in both the Midwest region and the South region of the United States. However, in the Northeast region, The University of Pennsylvania was selected by default because of being the only urban school in the region. In the West region, Washington State University was selected by default because of being the only rural school in the region. Furthermore, Washington State University declined to participate in the study, and urban-located Oregon State agreed to participate instead. This series of

events gave this research study two urban schools within the West region rather than an urban school and a rural school. The need to deviate from the optimal study design did not give the author as representative of a sample as desired but was unavoidable.

Fourth, the online survey methodology chosen to distribute the survey and collect responses introduced both strengths and challenges. Although this method allowed the author to quickly, efficiently, and cost-effectively distribute the survey across the country and access more students than would be possible with a face-to-face study design, a lack of personal interaction with the students may have influenced student willingness to participate in the survey. The online survey methodology used e-mail as the only technique to invite individuals to participate and may have been forgotten or ignored by busy students. Finally, this study did not examine the *other life demands* (Ludick & Figley, 2017) that this group of students may have been experiencing during the time in which they were surveyed. It is possible that other moderating factors had a significant influence on the amount of compassion fatigue and compassion satisfaction that these students had experienced within the past 30 days of participating in this research.

Limitations

Additionally, several limitations are important to note. First, this sample included a substantially higher number of women than men. Although the ratio of men to women in this sample is representative of the population of veterinarians-in-training, the small sample of men does not allow the author to confidently generalize the results to the population of men enrolled in veterinary training programs. Second, this research is based on the self-reports of the participants, which can be subject to a number of factors that may influence the results. One factor that is believed to be particularly relevant to

this group is social desirability response bias (Zerbe & Paulhus, 1987); as discussed previously, the culture of veterinary medicine may contribute to students answering the survey questions in ways perceived to be more favorable than what might be the most accurate representation of themselves. Third, the descriptive methodology and statistical analyses present some limitations. The canonical correlation used can only detect correlations between the sets of variables and cannot infer causation; similarly, the two MANOVA analyses utilized in this study can detect differences in compassion or communication by sex, but not the cause of the differences.

Next, during the recruitment of deans phase, the author learned from an administrator at Texas A&M's College of Veterinary Medicine and Biomedical Sciences that the Association of American Veterinary Medical Colleges was planning to send out their annual climate survey via email to the same sample of students recruited by this study. The author contacted Dr. Lisa Greenhill at the Association of American Veterinary Medical Colleges and learned that the climate survey was to be sent out the week of April 17th, 2017 [L. Greenhill, personal communication, April 7, 2017]. The author also sent out research invitations during this same week. The overlapping time frame of this study and the national climate survey may have influenced the amount of responses received.

One aspect of research invitation distribution over which the author did not have control was by whom the email to the students was sent. The author requested for each dean to provide a contact person but did not specify who that person should be, since different schools have different administrative positions and hierarchy structures. One school chose to have an administrative assistant to the dean send the email invitations to

students, and another school chose to have the dean send the email invitations. Other schools chose to have an on-site mental health professional, an assistant dean, or an associate dean distribute the email invitations to students. The influence that the person sending the email may have had on the actual number of survey responses is unknown.

Another factor that could not be controlled in this research study was the most recent rotation or internship site at which the fourth-year veterinary students worked. The rotation on which the student was currently working or had just finished may have a direct influence on his or her levels of compassion fatigue and compassion satisfaction. For example, some students may have had a break from clinical work within the 30 days before taking the ProQOL: Veterinary Medicine Version, and some students may have had a highly intense and difficult internship site or rotation (e.g., shelter medicine) within the past 30 days before taking the ProQOL. The complex way that fourth-year student schedules are arranged within each College did not allow for the author to survey students who had just completed the same clinical rotation or similar internship experiences.

The length of the survey appeared to present challenges for a group of participants, as 33 individuals dropped out before finishing the first standardized instrument (ProQOL), and another 33 dropped out before finishing the final instrument (CSI). The survey required approximately 15 minutes to complete, and the intense and busy schedules that students were managing may not have allowed time to start or complete the survey. Additionally, participation was voluntary and did not offer a substantial reward or benefit to students; the option to enter to win one of 20 visa gift cards worth \$25 may have provided more incentive for some students than others to

participate in the survey and therefore may have influenced the sample. Finally, although Mississippi State University's College of Veterinary Medicine was randomly selected to be included in this research, the author has worked as a mental health professional at this College for the past two years, and subsequently her name and research interests are known by many of the veterinarians-in-training. Even though recruitment procedures and scripted invitations were identical at each of the eight Colleges, the increased familiarity that the Mississippi State University students have with the author may have influenced the number of survey responses from this College.

Implications for Veterinary Training Programs

The communication styles of veterinarians-in-training are indeed significantly related to their levels of compassion fatigue and compassion satisfaction. Therefore, veterinary training programs have the opportunity to capitalize on not just communicative success but also maximize overall wellness of future graduates through addressing both of these non-technical competencies within the training curricula. This research supports the idea that veterinarians-in-training who have the resources and skills to manage their Verbal Aggressiveness, Impression Manipulativeness, and Emotionality will experience lower levels of compassion fatigue in the workplace. Since communication is learned behavior (Adams & Kurtz, 2012; Carson, 2007; Kurtz, 2006; Kurtz et al., 2005; Shaw, 2006), training programs could shift their curricula to include opportunities for students to learn non-technical skills and coping resources to communicate in professional and effective ways and build healthy connections with clients and coworkers. This training could use the CFR Model as the framework to also include other elements of wellness and self-care to help veterinarians-in-training understand the relationship between caring

for self and caring for others. These learning opportunities could be maximally beneficial with mental health professionals and wellness-conscious veterinarians working together to design and implement the curriculum, and this training could be provided to students through professional development, electives, or incorporated into clinical rotations.

Implications for Counselor Educators

In addition to providing empirical information about veterinary student training and well-being, this research also holds implications for the training and well-being of students in another helping profession: counseling. Similar to the veterinary profession, compassion fatigue has been recognized as an occupational hazard for individuals working within the various mental health professions (Beaumont, Durkin, Martin, & Carson, 2016; Christopher & Maris, 2010; Figley, 1995b, 2002; Merriman, 2013). Counselor educators have the responsibility to provide compassion fatigue education to their trainees, including coping methods and self-care strategies to promote personal well-being in the midst of caring for others (Merriman, 2013). This research suggests that counselor educators might also consider incorporating information about communication styles and skills into a self-care curriculum to provide a more holistic approach to compassion fatigue education. Previous research by Merriman (2013) suggested that compassion fatigue education is best incorporated into clinical supervision to enhance training for counseling students. This research indicates that it may be beneficial to include information about communication styles and skills with compassion fatigue education, as part of the supervisory relationship for counselors-in-training, in order to provide students with additional protective factors and coping strategies. Counseling students who develop skills to recognize and manage risk of compassion

fatigue will be better equipped for personal wellness during clinical practice. More research is needed to demonstrate the benefits that counselors experience from receiving compassion fatigue education during their clinical training.

Recommendations for Future Research

This research study has provided a foundation on which future studies of compassion and communication for veterinarians-in-training and veterinarians can be built. Ideally, future research could be expanded to include all 30 accredited veterinary colleges across the United States. This study has highlighted the need for additional research regarding Impression Manipulativeness within the veterinary community. Future studies should continue the investigation of the association of Impression Manipulativeness with compassion among both students and professionals and include other factors that may influence Impression Manipulativeness, such as perfectionism, anxiety, and self-esteem. An empirical understanding of how Impression Manipulativeness may be related to negative outcomes for veterinarians-in-training and veterinarians – including compassion fatigue, anxiety, depression, and suicidality – is necessary to evoke positive changes in mental health support services offered, the structure and pace of the training curricula, and the professional culture of veterinary medicine.

With Expressiveness found to be negatively related to Compassion Satisfaction, it would be helpful to better understand the role that social support plays in the compassion experiences of veterinarians-in-training. Future research should investigate how both perceived social support and ability to build meaningful connections with others may influence the veterinary student's experiences of compassion fatigue. Additionally, more

research is needed to understand if individuals with certain personality types might be more prone to experiencing compassion satisfaction or compassion fatigue.

Additional research is needed to better understand the differences between men and women veterinarians-in-training in levels of compassion fatigue and compassion satisfaction. Future researchers could use the ProQOL: Veterinary Medicine Version to measure compassion fatigue and compassion satisfaction among veterinarians-in-training, and also include a greater number of veterinary training programs to collect a larger and more generalizable sample of men. A more time-intensive research design could follow a fourth-year cohort from the beginning of the year until graduation to learn more about compassion experiences in a training setting. The researcher could distribute the ProQOL: Veterinary Medicine Version to students after completing each rotation to investigate if certain rotations (e.g., emergency and critical care, ambulatory services) evoke stronger negative compassion experiences, and what other factors may contribute to these compassion experiences and sex differences. This research study highlights the need to continue pursuing empirical information that will help current and future veterinarians to experience wellness and satisfaction both professionally and personally.

Conclusion

Compassion and communication are two important non-technical competencies in veterinary medicine. This research has examined the relationship between these two constructs among fourth-year veterinarians-in-training, as well as differences in each construct reported by men and women. Results indicated that a statistically significant association was found between communication style and compassion experiences of fourth-year veterinarians-in-training. Specifically, Compassion Fatigue and Emotionality

were found to have a statistically significant positive association, supporting the CFR Model's theory that individuals who are more deeply affected by the suffering of others – and perhaps also show increased empathic response – have increased risk of experiencing Compassion Fatigue (Ludick & Figley, 2017).

Next, Compassion Satisfaction and Expressiveness were found to have a statistically significant negative association. Using the CFR Model, this finding supports the theory that individuals with higher levels of Expressiveness may have decreased connection to others and thus experience lower levels of *social support* from others and *sense of satisfaction* from their work (Ludick & Figley, 2017). Additionally, Compassion Fatigue and Impression Manipulativeness were found to have a statistically significant positive association. Impression Manipulativeness is an excellent representation of the “culture of silence” (Feinstein et al., 2002, p. 1574) in veterinary medicine, which the CFR Model recognized as having an exacerbating effect on risk factors for developing Compassion Fatigue. Finally, Compassion Fatigue and Verbal Aggressiveness were found to have a statistically significant positive association, which supports the idea that veterinarians who communicate in verbally aggressive ways are likely to have decreased protective factors against the development of Compassion Fatigue, including lower *sense of satisfaction* from their work, lower levels of *social support* from others, as well as less connection to others through decreased *empathic response* (Ludick & Figley, 2017).

Results of this study also indicated that men and women veterinarians-in-training were found to have statistically significant differences in their communication styles. Women reported statistically significantly higher levels of Emotionality than men, and men reported statistically significantly higher levels of Impression Manipulativeness than

women. These findings support the idea that training programs could decrease risk of Compassion Fatigue and increase the wellness of their graduates by providing specific training and resources regarding how to manage the emotional situations inherent in the practice of veterinary medicine. Veterinary schools also have the opportunity to begin to acknowledge and change the systemic “culture of silence” (Feinstein et al., 2002, p. 1574) within veterinary medical training and professional practice that encourages Impression Manipulativeness and increases risk of experiencing Compassion Fatigue. Finally, results of this study indicated that men and women veterinarians-in-training were found to have statistically significant differences in their compassion experiences. However, although women reported higher scores of Compassion Fatigue than men, univariate effects were not found to be statistically significant. Study findings indicate that more research is needed to determine if statistically significant differences in levels of compassion fatigue and compassion satisfaction might be found among a larger sample or in specific work areas within veterinary medicine.

Findings from this study support the need for veterinary schools to develop trainings to help their students learn and develop skills and resources to manage their Emotionality, Verbal Aggressiveness, and Impression Manipulativeness to decrease risk of Compassion Fatigue and increase levels of Compassion Satisfaction. This research suggests that the implementation of training that addresses Emotionality is particularly urgent due to veterinary schools currently seeing women represent over 80% of veterinary school enrollment (University of Florida, 2017). Together, mental health professionals and veterinary school administrators can decrease risk of Compassion Fatigue, increase levels of Compassion Satisfaction, enhance communication skills, and

strengthen the veterinary profession through the development of programming that addresses the communication and compassion experiences of veterinarians-in-training.

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APPENDIX A

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER



NOTICE OF APPROVAL FOR HUMAN RESEARCH

DATE: April 07, 2017
TO: Chelsey Hess-Holden, MS, Counsel Ed Psych & Foundation
FROM: Jodi Roberts, HRPP Officer, MSU HRPP
PROTOCOL TITLE: Communication and Compassion Experiences of Fourth-Year Veterinarians-in-Training
PROTOCOL NUMBER: 16-223
Approval Date: April 07, 2017 Expiration Date: April 07, 2018

This letter is your record of the Human Research Protection Program (HRPP) approval of this study as exempt.

On April 07, 2017, the Mississippi State University Human Research Protection Program approved this study as exempt from federal regulations pertaining to the protection of human research participants. The application qualified for exempt review under CFR 46.101(b)(2).

Exempt studies are subject to the ethical principles articulated in the Belmont Report, found at www.hhs.gov/ohrp/regulations-and-policy/belmont-report/#

If you propose to modify your study, you must receive approval from the HRPP prior to implementing any changes. The HRPP may review the exempt status at that time and request an amendment to your application as non-exempt research.

In order to protect the confidentiality of research participants, we encourage you to destroy private information which can be linked to the identities of individuals as soon as it is reasonable to do so.

The MSU IRB approval for this project will expire on April 07, 2018. If you expect your project to continue beyond this date, you must submit an application for renewal of this HRPP approval. HRPP approval must be maintained for the entire term of your project. Please notify the HRPP when your study is complete. Upon notification, we will close our files pertaining to your study.

If you have any questions relating to the protection of human research participants, please contact the HRPP by phone at 325.3994 or email irb@research.msstate.edu. We wish you success in carrying out your research project.

Jodi Roberts

Review Type: EXEMPT
IRB Number: IORG0000467

APPENDIX B

LETTER OF SUPORT FROM DEAN KENT HOBLET



Dear College of Veterinary Medicine Dean,

I am contacting you to ask for your assistance in a dissertation research project that is being conducted by Mrs. Chelsey Hess-Holden, one of our on-site mental health professionals here at the College of Veterinary Medicine at Mississippi State University. Chelsey is a Licensed Marriage and Family Therapist who has been working as a graduate assistant at our College since June of 2015, and she has played an important role in promoting the mental health and wellness of our students. I am very thankful for her contributions to our College and have agreed to endorse this research because of its valuable contribution to the empirical literature on the experiences of veterinarians-in-training. This study will examine the relationship between compassion fatigue, compassion satisfaction, and communication styles of fourth-year veterinarians-in-training and will provide useful insight for both administrators and mental health professionals in veterinary training programs.

Chelsey has randomly selected your school and seven other veterinary training programs across the country to participate in this research. She hopes that you will consent for her to recruit students from the current fourth-year DVM student cohort at your school. This dissertation project is an online research study that will be distributed via e-mail and will take 15 minutes for your students to complete at their convenience. With your permission, Chelsey would like to have email invitations sent to all your fourth-year students asking them to participate in this research. As a component of this study, Chelsey requests for you to provide the name and contact information of a person within your office who will distribute an initial email invitation and two reminder emails to the DVM Class of 2017 at your university. Chelsey would like to begin this process as soon as possible to allow students the opportunity to participate before graduating.

This research study is in the process of being approved by the IRB at Mississippi State University and will satisfy all requirements dictated by your university's IRB. The Letter of Permission (also included as an email attachment) is needed to finalize IRB approval at Mississippi State and at your institution. No students will be contacted until an official IRB approval letter is granted. Chelsey would be glad to provide her IRB approval letter to you when she receives it.

This research has been determined by the AAVMC to be exempt from their research approval procedures. Students will not be required to disclose any identifiable information; responses will not be categorized according to school and will be reported only in aggregate form. However, Chelsey would be glad to provide an executive summary of this dissertation research to you after the study has been completed, as well as a summary of data collected at your school.

I hope that you will encourage your students to participate in this important online research that will help our profession's educational programs better equip students with the critical non-technical skills needed to promote quality of life among young veterinarians. Please complete the attached Letter of Permission and email the form to Chelsey, along with the name, email address, and phone number of a contact person who would be willing to facilitate email distribution for this study once IRB approval has been granted. Contact Chelsey at clh888@msstate.edu or 251-655-0631 with any questions or concerns.

Sincerely,

Kent H. Hoblet

Kent H. Hoblet, DVM
Dean
Mississippi State University
College of Veterinary Medicine

APPENDIX C

SAMPLE LETTER OF PERMISSION COMPLETED BY DEAN

Note: Please fill in all highlighted information and remove all highlights before sending this form to Chelsey Hess-Holden at clh888@msstate.edu. Contact Chelsey at 251-655-0631 or at the above email address with any questions.

Date

Office of Research Compliance
P. O. Box 6223
Mississippi State, MS 39762

Dear IRB Members,

After reviewing the proposed study entitled “Compassion and Communication Experiences of Fourth-Year Veterinarians-in-Training,” presented by Chelsey Hess-Holden, MS, LMFT, I have granted permission for her to recruit fourth-year Doctor of Veterinary Medicine students at our school name to participate in this study.

The purpose of the study is to better understand the levels of compassion fatigue and compassion satisfaction experienced by fourth-year veterinary students, as well as how these levels of compassion might be related to communication style. This information will be used to strengthen training and support offered to veterinarians-in-training. I understand that participants will be asked to complete an online survey and the survey will take approximately 15 minutes to complete. I expect that this project will end not later than April of 2018.

I understand that Chelsey Hess-Holden will present information regarding informed consent to all participants. I understand that informed consent information will be provided on the beginning page of the online study and will explain the procedures of study involvement to each participant. I understand that participation in this study will not require students to disclose any identifiable information.

If the IRB has any concerns about the permission being granted by this letter, please contact me with the information listed below.

Sincerely,

Insert Dean’s Signature
Insert School Name
Insert Contact Information

APPENDIX D

EMAIL 1 OF 3 SENT TO CONTACT PROVIDED BY DEAN

Subject:

Assistance with Email Recruitment of Class of 2017 DVM Students for Dissertation Research

Body:

Dear Mr./Ms./Dr. *[contact provided by Dean]*

My name is Chelsey Hess-Holden, and I am a Licensed Marriage and Family Therapist working at the College of Veterinary Medicine at Mississippi State University. Your Dean's office provided me with your contact information in order for you to assist me with my dissertation research project! *[He/she]* has consented for me to recruit participants for my research from the fourth-year Doctor of Veterinary Medicine student cohort, and I am so grateful for your assistance to send several important emails to students in your College!

I am requesting for you to send out a scripted email to all of the fourth-year students in your Doctor of Veterinary Medicine program that will invite them to participate in an online research study. I have included the scripted information below this message so that you can easily copy and paste the message into a cohort-wide email. I would appreciate if you would send this email to the students as soon as possible in order to provide the students with time to participate before their upcoming graduation. I ask that you send this only to the Class of 2017 because of this study's specific focus on fourth-year students who have had maximum clinical experience.

To recruit the maximum number of student participants, I would like to also have a reminder invitation sent out at approximately 10 days *[insert date]* after the initial invitation, and a final invitation sent out 20 days *[insert date]* after the initial invitation. When these dates arrive, I will send you an email with a script that can be quickly and easily copied into an email to send to the Class of 2017.

Please let me know if you have any questions about this process. My email address is chess@saffairs.msstate.edu and my phone number is 251-655-0631.

Thank you so much for your time and your assistance!

Best regards,

Chelsey Hess-Holden, MS, LMFT
clh888@msstate.edu
251-655-0631

[See next page for email script to copy and paste into email for DVM Class of 2017 cohort]

Please do not include highlighted words in email forwarded to students.

Title of Email:

Request for Graduating DVM Student Participation in Online Dissertation Study

Body of Email:

Dear Graduating 4th Year DVM Student,

You are invited to participate in an online dissertation research study investigating the compassion fatigue and communication experiences of fourth-year veterinarians-in-training. This study is being conducted by Chelsey Hess-Holden, a Licensed Marriage and Family Therapist at the College of Veterinary Medicine at Mississippi State University.

This online research study is anonymous and will take 15 minutes of your time. Upon completing this survey, you may enter to win one of 20 Visa gift cards worth \$25.

Compassion fatigue is a major concern in the veterinary profession and has a severe impact on the careers and personal relationships of many veterinarians. This dissertation will be used to develop wellness training and support that can better prepare veterinarians to handle the compassion fatigue and emotional difficulties that your profession often includes. Your participation in this research will strengthen the field you are entering by providing training to help future students and young veterinarians guard against compassion fatigue.

Please follow this link to participate:

<https://www.surveymonkey.com/r/DVMclassof2017>

This research project has been approved by the Institutional Review Board at Mississippi State University. Please email Chelsey with any questions at clh888@msstate.edu.

Thank you so much for your valuable time!

Chelsey Hess-Holden, MS, LMFT

Graduate Assistant, Student Counseling Services

College of Veterinary Medicine, Mississippi State University

<http://www.cvm.msstate.edu/cvm-counseling-and-psychological-services>

APPENDIX E

EMAIL 2 OF 3 SENT TO CONTACT PROVIDED BY DEAN

Subject:

Reminder Email for DVM Students as part of Dissertation Research

Body:

Dear Mr./Ms./Dr. *[contact provided by Dean]*

Thank you so much for sending the email invitation for my dissertation research to the DVM Class of 2017 at your school. It has been approximately 10 days since the first email, and I am hoping that you will now send out the first of two reminder emails to this student group. I have listed the text below that you can easily copy and paste into a cohort-wide email to your fourth-year students. Please send this email only to the DVM Class of 2017 at your institution.

Please let me know if you have any questions about this process. My email address is chess@saffairs.msstate.edu and my phone number is 251-655-0631.

Thank you so much for your time and your assistance!

Best regards,

Chelsey Hess-Holden, MS, LMFT

clh888@msstate.edu

251-655-0631

[See next page for email script to copy and paste into email for DVM Class of 2017 cohort]

Please do not include highlighted words in email forwarded to students.

Title of Email:

Reminder: Request for Graduating 4th Year DVM Student Participation in Online Dissertation Study

Body of Email:

Dear Graduating 4th Year DVM Student,

You are invited to participate in an online dissertation research study investigating the compassion fatigue and communication experiences of fourth-year veterinarians-in-training. This study is being conducted by Chelsey Hess-Holden, a Licensed Marriage and Family Therapist at the College of Veterinary Medicine at Mississippi State University.

This online research study is anonymous and will take 15 minutes of your time. Upon completing this survey, you may enter to win one of 20 Visa gift cards worth \$25.

Compassion fatigue is a major concern in the veterinary profession and has a severe impact on the careers and personal relationships of many veterinarians. This dissertation will be used to develop wellness training and support that can better prepare veterinarians to handle the compassion fatigue and emotional difficulties that your profession often includes. Your participation in this research will strengthen the field you are entering by providing training to help future students and young veterinarians guard against compassion fatigue. *If you have already participated in this study, thank you very much!!! Please disregard this reminder email.*

Please follow this link to participate:

<https://www.surveymonkey.com/r/DVMclassof2017>

This research project has been approved by the Institutional Review Board at Mississippi State University. Please email Chelsey with any questions at clh888@msstate.edu.

Thank you so much for your valuable time!

Chelsey Hess-Holden, MS, LMFT

Graduate Assistant, Student Counseling Services

College of Veterinary Medicine, Mississippi State University

<http://www.cvm.msstate.edu/cvm-counseling-and-psychological-services>

APPENDIX F

EMAIL 3 OF 3 SENT TO CONTACT PROVIDED BY DEAN

Subject:

Final Email for DVM Students as part of Dissertation Research

Body:

Dear Mr./Ms./Dr. *[contact provided by Dean]*

Thank you so much for the two emails you have previously sent to the DVM Class of 2017 for my dissertation research! It has been approximately 20 days, and I am hoping that you will now send out the final reminder email to this student group. I have listed the text below that you can easily copy and paste into a cohort-wide email to your fourth-year students.

Please let me know if you have any questions about this process. My email address is clh888@msstate.edu and my phone number is 251-655-0631.

Thank you so much for your time and your assistance! This dissertation would not have been possible without you! Please reach out to Mississippi State for help with any future research project in which we can assist! Again, I am so thankful for your help and the time that you have spent helping me with this dissertation project! Have a great day!

Best regards,

Chelsey Hess-Holden, MS, LMFT

clh888@msstate.edu

251-655-0631

[See next page for email script to copy and paste into email for DVM Class of 2017 cohort]

Please do not include highlighted words in email forwarded to students.

Title of Email:

Final Reminder: Request for Graduating DVM Student Participation in Online Dissertation Study

Body of Email:

Dear Graduating 4th Year DVM Student,

You are invited to participate in an online dissertation research study investigating the compassion fatigue and communication experiences of fourth-year veterinarians-in-training. This study is being conducted by Chelsey Hess-Holden, a Licensed Marriage and Family Therapist at the College of Veterinary Medicine at Mississippi State University.

This online research study is anonymous and will take 15 minutes of your time. Upon completing this survey, you may enter to win one of 20 Visa gift cards worth \$25.

Compassion fatigue is a major concern in the veterinary profession and has a severe impact on the careers and personal relationships of many veterinarians. This dissertation will be used to develop wellness training and support that can better prepare veterinarians to handle the compassion fatigue and emotional difficulties that your profession often includes. Your participation in this research will strengthen the field you are entering by providing training to help future students and young veterinarians guard against compassion fatigue. *If you have already participated in this study, thank you very much!!! Please disregard this final reminder email.*

Please follow this link to participate:

<https://www.surveymonkey.com/r/DVMclassof2017>

This research project has been approved by the Institutional Review Board at Mississippi State University. Please email Chelsey with any questions at clh888@msstate.edu.

Thank you so much for your valuable time!

Chelsey Hess-Holden, MS, LMFT

Graduate Assistant, Student Counseling Services

College of Veterinary Medicine, Mississippi State University

<http://www.cvm.msstate.edu/cvm-counseling-and-psychological-services>

APPENDIX G

SURVEY MONKEY INFORMED CONSENT AND QUESTIONNAIRE



Communication and Compassion Experiences of Graduating DVM Students Across the United States

Informed Consent

Thank you for your interest in this study! Please read the following information and continue to the next page when you are ready.

You are being asked to participate in a confidential online research study that is investigating the experiences of fourth-year students enrolled in a Doctor of Veterinary Medicine program. Participation in this study should take about 15 minutes of your time. At the end of this survey, you will be given the opportunity to enter a drawing to win one of 20 Visa gift cards worth \$25 by providing an email address. Email address will be kept confidential. Winners will be notified via email in June 2017.

This is a dissertation study being conducted by Chelsey Hess-Holden, MS, LMFT. Only Chelsey Hess-Holden and her dissertation committee chairs will have access to this research data. Your confidentiality is being protected by the fact that participation in this survey does not require any identifying information, Survey Monkey will not keep record of any computer information, and email addresses provided will be stored separately from research data. This research may be presented at a professional conference or submitted for professional publication. Any publications or presentations based on this research will refer to individual participants using code names or will present data in group form so that no participant can be identified. The information that you give will be combined with data from other participants in order to gain a deeper understanding of the experiences of veterinarians-in-training.

There are no foreseeable risks if you choose to participate in this study. All of the data collected in this questionnaire will be stored in a secure location. Your participation is voluntary and you may refuse to participate or discontinue participation at any time without penalty.

This project has been reviewed by the Human Research Protection Program at Mississippi State University, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the Office of Research Compliance, P.O. Box 6223, Mississippi State, MS 39762, (662) 325 – 3294. Also, you may contact Chelsey Hess-Holden at clh888@msstate.edu or her major professor, Dr. Deborah Jackson, at djackson@colled.msstate.edu with any questions or concerns.

If you would like to print a copy of this form for your records, please do so before navigating to the next page.

1

By continuing to the next page, you are indicating that you are 18 years of age or older and are giving informed consent to participate in this study.

Your participation is greatly appreciated! Thank you for your time!

2



Communication and Compassion Experiences of Graduating DVM Students Across the United States

Demographic Information

* 1. Please identify your sex:

- Male
 Female
 Other (please specify)

2. Please select your age:

3. Please identify your race:

- White
 Hispanic or Latino
 Black or African American
 Native American or American Indian
 Asian or Pacific Islander
 Other (please specify)

* 4. Please identify your classification:

- 4th-year DVM Student (Class of 2017)
- 3rd-year DVM Student (Class of 2018)
- 2nd-year DVM Student (Class of 2019)
- 1st-year DVM Student (Class of 2020)
- I'm not a DVM Student
- Other (please specify)

* 5. Please identify the College at which you are enrolled:

6. Upon graduation, in which area of veterinary medicine do you plan to work?

- Companion Animal
- Large Animal
- Equine
- Zoological
- Food Animal
- Internal Medicine
- Emergency and Critical Care
- Radiology
- Pathology
- Other area (please specify)

4



MISSISSIPPI STATE UNIVERSITY™
COLLEGE OF VETERINARY MEDICINE

Communication and Compassion Experiences of Graduating DVM Students Across the United States

PROQOL: Veterinary Medicine Version

5

* 7. When you professionally care for animals and people, you have direct contact with their lives. As you may have found, your compassion for those you care for can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as an animal care provider. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things **in the last 30 days**

	Never	Rarely	Sometimes	Often	Very Often
I am happy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am preoccupied with more than one animal/person for whom I provide veterinary care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get satisfaction from being able to provide veterinary care for animals/people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel connected to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I jump or am startled by unexpected sounds.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel invigorated after working with those for whom I provide veterinary care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it difficult to separate my personal life from my life as an animal care provider.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not as productive at work because I am losing sleep over traumatic experiences of an animal/person for whom I provide veterinary care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that I might have been affected by the traumatic stress of those for whom I provide veterinary care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel trapped by my job as an animal care provider.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because of my work, I have felt "on edge" about various things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like my work as an animal care provider.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel depressed because of the traumatic experiences of the animals/people for whom I provide veterinary care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel as though I am experiencing the trauma of an animal/someone for whom I provide veterinary care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have beliefs that sustain me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6

* 8. PROQOL: Veterinary Medicine Version, Continued

	Never	Rarely	Sometimes	Often	Very Often
I am pleased with how I am able to keep up with professional animal care techniques and protocols.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am the person I always wanted to be.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work makes me feel satisfied.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel worn out because of my work as an animal care provider.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have happy thoughts and feelings about those for whom I provide veterinary care and how I could help them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel overwhelmed because my work load seems endless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe I can make a difference through my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid certain activities or situations because they remind me of frightening experiences of the animals/people for whom I provide veterinary care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am proud of what I can do to provide veterinary care for animals/others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As a result of my work, I have intrusive, frightening thoughts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel "bogged down" by the system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have thoughts that I am a "success" as an animal care provider.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can't recall important parts of my work with traumatized animals/people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a very caring person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am happy that I chose to do this work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Communication and Compassion Experiences of Graduating DVM Students Across the United States

Communication Experiences (Page 1 of 2)

* 9. Please answer the following questions about yourself as honestly as possible.

On each question, **select the number that best represents you**

	Completely Disagree	Disagree	Neutral	Agree	Completely Agree
I always have a lot to say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I tell a story, the different parts are always clearly related to each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If something displeases me, I sometimes explode with anger.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes toss bizarre ideas into group discussions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I see others cry, I have difficulty holding back my tears.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes praise somebody at great length, without being really genuine, in order to make them like me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often take the lead in a conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think carefully before I say something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not very likely to tell someone what they should do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I never enter into discussions about the future of the human race.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I'm worried about something, I find it hard to talk about anything else.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes use my charm to get something done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because of my humor, I'm often the center of attention among a group of people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conversations with me always involve some important topic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I never make fun of anyone in a way that might hurt their feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During a conversation, I always try to find out about the background of somebody's opinion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 10. Please answer the following questions about yourself as honestly as possible.

On each question, **select the number that best represents you.**

	Completely Disagree	Disagree	Neutral	Agree	Completely Agree
Because of stress, I am sometimes unable to express myself properly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make sure that people cannot read it from my face when I don't appreciate them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I communicate with others in a distant manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't need a lot of words to get my message across.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can listen well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To stimulate discussion, I sometimes express a view different from that of my conversation partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The comments of others have a noticeable effect on me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes conceal information to make me look better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a hard time keeping myself silent when around other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes find it hard to tell a story in an organized way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when I'm angry, I won't take it out on someone else.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often say unexpected things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During a conversation, I am not easily overcome by emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In discussions I sometimes express an opinion I do not support in order to make a good impression.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of the time, other people determine what the discussion is about, not me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I weigh my answers carefully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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* 11. Please answer the following questions about yourself as honestly as possible.

On each question, **select the number that best represents you.**

	Completely Disagree	Disagree	Neutral	Agree	Completely Agree
I sometimes insist that others do what I say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to talk with others about the deeper aspects of our existence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to talk about my concerns a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes flirt a little bit to win somebody over.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a hard time being humorous in a group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You won't hear me jabbering about superficial or shallow matters.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have at times made people look like fools.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't bother asking a lot of questions just to find out why people feel the way they do about something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can be visibly tense during a conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when people ask for my thoughts on something, I seldom speak my mind if those thoughts are unacceptable for others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I behave somewhat formally when I meet someone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of the time, I only need a few words to explain something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always show a lot of understanding for other people's problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to provoke others by making bold statements.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nasty remarks from other people do not bother me too much.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes "forget" to tell something when this is more convenient for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Communication and Compassion Experiences of Graduating DVM Students Across the United States

Communication Experiences (Page 2 of 2)

* 12. Please answer the following questions about yourself as honestly as possible.

On each question, **select the number that best represents you.**

	Completely Disagree	Disagree	Neutral	Agree	Completely Agree
I am never the one who breaks a silence by starting to talk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always express a clear chain of thoughts when I argue a point.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to snap at people when I get annoyed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In discussions, I often put forward unusual points of view.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I describe my memories, I sometimes get visibly emotional.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sometimes I use flattery to get someone in a favorable mood.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often determine which topics are talked about during a conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The statements I make are not always well thought out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect people to obey when I ask them to do something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I never engage in so-called philosophical conversations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People can tell when I feel anxious.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would not use my appearance to make people do things for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My jokes always draw a lot of attention.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am someone who can often talk about trivial things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been known to be able to laugh at people in their face.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I ask a lot of questions to uncover someone's motives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 13. Please answer the following questions about yourself as honestly as possible.

On each question, **select the number that best represents you.**

	Completely Disagree	Disagree	Neutral	Agree	Completely Agree
I am able to address a large group of people very calmly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to hide negative feelings about other people well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I address others in a very casual way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am somewhat long-winded when I need to explain something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always take time for someone if they want to talk to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to find out what people think about a topic by getting them to debate with me about it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When people criticize me, I am visibly hurt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tell people the whole story, even when this is probably not good for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to talk a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My stories always contain a logical structure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can sometimes react somewhat irritably to people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In conversations, I often toy with some very wild ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People can tell that I am emotionally touched by some topics of conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To be considered likeable, I sometimes say things my conversation partner likes to hear.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often determine the direction of a conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I choose my words with care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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* 14. Please answer the following questions about yourself as honestly as possible.

On each question, **select the number that best represents you.**

	Completely Disagree	Disagree	Neutral	Agree	Completely Agree
When I feel others should do something for me, I ask it in a demanding tone of voice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I regularly have discussions with people about the meaning of life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I worry, everybody notices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes put on a very seductive voice when I want something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often manage to make others burst out laughing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely if ever just chatter away about something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have humiliated someone in front of a crowd.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always ask how people arrive at their conclusions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it hard to talk in a relaxed manner when what I have to say is valued highly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other people can easily tell when I think badly about them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I come across as somewhat stiff when dealing with people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With a few words I can usually clarify my point to everyone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always treat people with a lot of respect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By making controversial statements, I often force people to express a clear opinion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not always able to cope easily with critical remarks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even if I would benefit from withholding information from someone, I would find it hard to do so.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Survey Complete!

Thank you so much for completing this survey - I know your time is very valuable, and I am so grateful for your help with my dissertation research! This information will contribute to enhanced training and mental health services provided to future cohorts of DVM students! *Please encourage your classmates to also participate.* Thanks again for your time!

- Chelsey Hess-Holden, MS, Licensed Marriage and Family Therapist, PhD Candidate

15. OPTIONAL: If you would like to enter the drawing to win one of 20 Visa gift cards worth \$25, please enter an email address at which you can be contacted in the box below. Winners will be contacted via email in June 2017

*Email addresses will be kept confidential and separate from research data. All email addresses will be destroyed after winners have claimed their prizes.

16. OPTIONAL: If you would like to receive a summary of this dissertation research from Chelsey Hess-Holden once it has been completed, please enter an email address at which you can be contacted in the box below.

*Email addresses will be kept confidential and separate from research data. All email addresses will be destroyed after research summary has been sent.

APPENDIX H

PERMISSION TO USE COMMUNICATION STYLES INVENTORY

RE: Communication Styles Inventory

Vries, R.E. de <re.de.vries@vu.nl>

Wed 1/13/2016 9:25 AM

To: Hess-Holden, Chelsey <chess@saffairs.msstate.edu>;

📎 1 attachment

De Vries 2009 CR Communication Styles.pdf;

Dear Chelsey,

Thanks for your interest in the CSI. There are no problems using the CSI for research purposes, so please go ahead. The CSI items are included in the attached publication.

Of course I'm interested in the outcomes of your research, so if you happen to publish an article or have a chapter for your PhD-thesis, I would be interested in receiving a copy.

Best wishes and good luck with your future studies,
Reinout de Vries

From: Hess-Holden, Chelsey [mailto:chess@saffairs.msstate.edu]

Sent: 12 January 2016 22:30

To: Vries, R.E. de <re.de.vries@vu.nl>

Subject: Communication Styles Inventory

Dr. de Vries,

My name is Chelsey Hess-Holden, and I am a second year PhD student in Counselor Education at Mississippi State University. I am preparing my dissertation proposal and looking for a communication inventory to use with students of veterinary medicine. I have been reading about your Communication Styles Inventory and appreciate its comprehensiveness. I am interested in using this questionnaire in my research. Would you be willing to let me use the CSI? And if so, would you be willing to send me a copy of the scale? Thank you so much for your time!

-Chelsey

APPENDIX I

PERMISSION TO USE COMPASSION FATIGUE RESILIENCE MODEL IMAGE



Chelsey Hess-Holden <clh888@msstate.edu>

Permission to use Compassion Fatigue Resilience Model figure for Dissertation Research

Marne Ludick <marne.ludick@gmail.com>
To: Chelsey Hess-Holden <clh888@msstate.edu>

Wed, Mar 29, 2017 at 12:01 PM

Hi Chelsea,

We feel honoured by your request to use our Compassion Fatigue Resilience Model for your dissertation.

This email will grant you once off rights to use the model in your University dissertation, however, subject to the following conditions:

1. The model must be reproduced exactly as it appears in the publication. If edited, it must be clearly indicated that it was adapted from the publication.
2. Full acknowledgement of the title, authors, copyright and publisher must be stated to this effect::

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3. You must reapply for permission if your dissertation is later published or if articles are published from your dissertation in which the model appears.

Thank you for your enquiry. Best of luck with your dissertation!

Regards

Dr. Marné Ludick

BA Hons (Unisa) MA PhD (Wits)

.....
Psychology Researcher
Cell: 083-575-5932