Veterinarian Wellbeing in New Zealand: Examining the Effectiveness of a Mindfulness-Based Stress Reduction (MBSR) Programme in Improving Veterinarian Wellbeing Experiences, Affect and Self-Perception (a Mixed Methods Study)

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Abstract

Evidence shows that veterinarian wellbeing is compromised more often than any other profession, with a proportionate suicide rate four times greater than the average population. The current support mechanisms endorsed by the veterinary industry bodies and provided by employers are interventions that take a deficit perspective, aimed at addressing already experienced mental strain or illness. While such interventions can be important, aiming to address and minimise the presence of mental illness is not synonymous with supporting the presence of mental health. Evidence suggests there are benefits associated with the promotion of wellbeing as opposed to the prevention of illness. Mindfulness is an example of a practice which supports the promotion of a person's wellbeing, with evidence of successfully supporting the wellbeing of human health professionals. Given the scarcity of research regarding mindfulness and practising veterinarians, this thesis aims to explore whether mindfulness practice is suitable for supporting veterinarians' wellbeing.

Using a concurrent mixed-method design, the current state of wellbeing of veterinarians was explored and the wellbeing benefits associated with the cultivation of mindfulness were examined amongst a group of ten companion animal veterinarians over a five-month period. Participants partook in an eight-week mindfulness-based stress reduction (MBSR) programme and were interviewed (1) prior to commencement of the programme (week 0), (2) upon completion of the programme (week eight) and (3) three-months following completion (week 20). The initial interview provided greater context around the circumstances influencing veterinarian wellbeing and the pressures being faced. In addition, the subsequent interviews provided context around the experience of the MBSR programme, the use of mindfulness techniques, and the impact of the MBSR programme on wellbeing.

In addition, participants were asked to complete self-report surveys measuring their level of affect and self-compassion over time. The surveys were completed (1) prior to the commencement of the programme (week 0), (2) halfway through the programme (week four), (3) upon completion of the programme (week eight) and (4) three-months following completion (week 20). The results of multiple paired comparisons over time found a significant decrease in levels of negative affect and a significant increase in levels of self-compassion.

Overall, the mixed-methods results suggest that wellbeing improved over time as a result of participation in the MBSR programme, although transferability of these findings to the wider veterinary population is questioned due to the small sample size

(*n* = 10). Whilst this research is the first to examine the effects of the MBSR programme on companion animal veterinarian wellbeing, the results are consistent with previous research of MBSR in allied health professionals, such as human health physicians and nurses, indicating that the MBSR programme may be an effective tool for the promotion of veterinarian wellbeing.

Table of contents

Abstract ... ii

Table of contents ... iv

List of figures ... x

List of tables ... xi

List of abbreviations ... xii

Attestation of authorship ... xiii

Acknowledgements ... xiv

Acknowledgement of ethics ... xv

Chapter 1. Introduction ... 1

1.1 Research aim, design, and purpose ... 4

1.2 Thesis overview ... 4

Chapter 2. Literature review ... 6

2.1 Defining wellbeing ... 6

2.1.1 Hedonism and the pursuit of happiness ... 6

2.1.1.1 Subjective wellbeing ... 7

2.1.2 Eudaimonism and the potential of flourishing ... 9

2.1.2.1 Psychological wellbeing theory ... 9

2.1.3 A combined perspective - The two continua model: Mental wellbeing versus mental illness ... 10

2.1.4 Cultivating mindfulness ... 11

2.1.4.1 Mindfulness and wellbeing ... 13

2.2 The workplace context of veterinary services ... 14

2.2.1 The veterinary work environment ... 15

2.2.1.1 The nature of veterinary work ... 15

2.2.1.2 Access to a peaceful means of suicide ... 17

2.2.2 The characteristics of a veterinarian ... 18

2.2.2.1 Attitudes towards death and euthanasia ... 18

2.2.2.2 Personality traits ... 19

2.2.2.3 Coping mechanisms 20

2.3 Mindfulness in the workplace... 21

2.3.1 MBSR and healthcare professionals... 23

2.4 Chapter summary... 24

Chapter 3. Research method 26

3.1 Research objectives 26

3.2 Research approach 26

3.2.1 A Pragmatist Epistemology 27

3.2.2 A Theoretical Perspective.. 28

3.2.3 Mixed-Methods Methodology.. 29

3.3 Research method 30

3.3.1 Ethical considerations.. 30

3.3.1.1 Ethical considerations for qualitative design............................. 30

3.3.1.2 Ethical considerations for quantitative design........................... 32

3.3.2 Participant selection method criteria 33

3.3.3 Qualitative method 34

3.3.3.1 Qualitative data collection 35

3.3.3.2 Qualitative data analysis 35

3.3.3.2.1 Transcribing the data... 36

3.3.3.2.2 Thematic analysis.. 36

3.3.4 Quantitative method 37

3.3.4.1 Quantitative data collection 38

3.3.4.2 Measures in the survey 38

3.3.4.3 Quantitative data analysis 40

3.3.5 Mixed-method 41

3.3.5.1 Mixed-method analysis 42

3.4 Research data trustworthiness and rigour 43

3.4.1 Qualitative data “trustworthiness” 43

3.4.1.1 Dependability 44

3.4.1.2 Credibility 45

3.4.1.3 Transferability 45

3.4.1.4 Conformability... 45

3.4.2 Quantitative data “rigour”... 45

3.4.2.1 External validity.. 46

3.4.2.2 Internal validity... 46

3.4.2.3 Reliability 46

3.4.3 Trustworthiness and rigour of mixed-methods research 47

3.5 Chapter summary.. 47

Chapter 4. Results 49

4.1 Qualitative results.. 49

4.1.1 Pre-implementation evaluation (T0): Baseline wellbeing and perceptions of mindfulness 49

4.1.1.1 Theme one: Precipitating individual factors – *“We’re all perfectionists, but I’m still not good enough”* 50

4.1.1.1.1 Personality traits... 50

4.1.1.1.2 Self- conceptualisation... 51

4.1.1.2 Theme two: The unique context and nature of the work – *“You haven’t got time to feel anything. You’ve just got to get on with it”*52

4.1.1.2.1 Traumatic experiences at work................................. 52

4.1.1.2.1.1 Verbal abuse and emotional blackmail........ 52

4.1.1.2.1.2 Emotionally weighted interactions............... 53

4.1.1.2.1.3 Euthanasia of companion animals 53

4.1.1.2.1.4 Workplace bullying..................................... 55

4.1.1.2.2 Managing the conflict of client expectations and animal welfare 56

4.1.1.3 Theme three: Minimal support is available – *“Making mistakes and then having people to talk to about it was missing”*... 57

4.1.1.4 Theme four: A lack of coping mechanisms – *“Um, and you don’t have the skill set to* cope *with it.”*.......................... 58

4.1.1.4.1 Behavioural coping strategies welfare 58

4.1.1.4.2 Psychological and medication-related strategies 59

4.1.2 The experience of mindfulness 60

4.1.2.1 Participant perceptions of mindfulness prior to participation (T0) – "*Just dealing with the here and now*" 60

4.1.2.2 Participant perceptions of mindfulness immediately after the MBSR programme (T1) – "*How you process your thoughts and what you pay attention to*" 61

4.1.2.2.1The benefit of a group approach 63

4.1.3 Participant perceptions of mindfulness three months after the MBSR programme (T2) – *"This isn't about changing our work environment and it's not the silver bullet; it's changing your perspective"* 64

4.1.4 Summary of qualitative results 66

4.2 Quantitative results 66

4.2.1 Testing assumptions 67

4.2.2 Rationale for planned comparisons 67

4.2.3 Descriptive statistics 68

4.2.4 Positive affect 70

4.2.4.1 Assumption: Normality 70

4.2.4.2 Assumption: Sphericity 70

4.2.4.3 Main effect for positive affect 71

4.2.4.4 Planned comparisons – Positive affect 71

4.2.5 Negative affect 71

4.2.5.1 Assumption: Normality 71

4.2.5.2 Assumption: Sphericity 71

4.2.5.3 Main effect for negative affect 72

4.2.5.4 Planned comparisons – Negative affect 72

4.2.6 Self-compassion 72

4.2.6.1 Assumption: Normality 72

4.2.6.2 Assumption: Sphericity 73

4.2.6.3 Main effect for self-compassion 73

4.2.6.4 Planned comparisons – Self-compassion 73

4.3 Chapter summary 74

Chapter 5. Discussion 76
5.1 A conceptual model of companion animal veterinarian wellbeing 76
5.1.1 The veterinarian 78
5.1.2 The workplace (the vet clinic) 79
5.1.3 The veterinary industry 82
5.1.4 The companion animal owning public 84
5.1.5 The MBSR programme, mindfulness and veterinarian wellbeing 85
5.1.5.1 MBSR and the cultivation of mindfulness for veterinarian participants 86
5.1.5.2 MBSR and self-compassion 88
5.1.5.3 MBSR and the self-regulation of emotions 90
5.1.5.4 MBSR and sustained change 91
5.1.5.5 MBSR – A buffer against negative events 92
5.2 Practical implications 93
5.2.1 Practical implications for veterinarians 93
5.2.2 Practical implications for veterinary clinics 94
5.2.3 Practical implications for the veterinary industry 95
5.2.4 Practical implications for the public 96
5.3 Strengths and limitations 97
5.3.1 Strengths 97
5.3.2 Limitations 98
5.4 Areas for future research 100
5.5 Conclusion 102
References **106**
Appendix A. Ethics Approval **128**
Appendix B. Tools Used **129**
Appendix B1. Participant information sheet 130
Appendix B2. Consent form 133
Appendix B3. Invitation to participate 134
Appendix B4. Interview Guide 136

Appendix B5. PANAS & SC-SF Scales 137

Appendix C. Acknowledgement of payment for the MBSR Programme 139

Appendix C1. Letter from Dr. Stephen Merchant 140

Appendix C2. Email from Sue Dykes... 141

Appendix D. Permission to reprint Figure 4 142

Appendix E. s179 Crimes Act 1961.. 143

Appendix F. Code of Professional Conduct 144

Appendix F1. Email from Seton Butler, Professional Advisor for the New Zealand Veterinary Council, regarding section 4 of the Code of Professional Conduct 145

Appendix F2. S4 Code of Professional Conduct.. 146

Appendix G. Recent update from the NZVA 147

Appendix G1. Email from Veronica Challies, newly hired Communications Manager at the NZVA, confirming public promotion campaign (29 June 2020) 148

Appendix G2. NZVA confirmation of public campaign (29 June 2020)................... 149

List of figures

Figure 1. Process of mixed-method data collection and analysis 42

Figure 2. Line graph showing the mean and standard deviations for the three dependent variables, positive affect (PA), negative affect (NA), and self-compassion (SC), across four measurements.. 69

Figure 3. A conceptual model of companion animal veterinarian wellbeing 77

Figure 4. Representation of the One Health model and the impact of veterinary services 97

List of tables

Table 1. Demographic characteristics of the participants 43

Table 2. The descriptions of 'trustworthiness' in qualitative research findings, chronologically ordered 44

Table 3. The mean and standard deviations for the three dependent variables, positive affect (PA), negative affect (NA), and self-compassion (SC), across four points in time in relation to the Mindfulness-Based Stress Reduction programme 69

Table 4. The results of the Shapiro-Wilks test of normality for positive affect (PA) across four points in time 70

Table 5. The results of the Shapiro-Wilk test of normality for negative affect (NA) across four points in time. 72

Table 6. The results of the Shapiro-Wilks test of normality for self-compassion (SC) across four points in time 73

List of abbreviations

MBSR	Mindfulness-Based Stress Reduction
PANAS	Positive and negative affect scale
SCS	Self-compassion scale
SCS-SF	Self-compassion short-form scale
PA	Positive affect
NA	Negative affect
SC	Self-compassion
VCNZ	New Zealand Veterinary Council
NZVA	New Zealand Veterinary Association

Attestation of authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Ana Djokovic

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Chapter 1. Introduction

Our work and choice of occupation is a significant part of our lives and is an important contributor to our wellbeing. Work provides necessary income and, in return, demands a significant amount of energy and time. When choosing an occupation, we are guided by our individual characteristics and intrinsic motivators, our interactions with others and the world, as well as the opportunities afforded to us through socioeconomic factors (Blau et al.,1956; Cordery & Parker, 2012). We may not be aware of all these factors and our choice may not be deliberate, but it is evident that there are often shared characteristics and circumstances of people in similar occupations, as postulated by Holland's theory of vocational choice (Holland, 1968). Holland describes that work environments are characterised by the "personalities that flourish in them" (p. 629, "Award for distinguished scientific applications", 2008) and that equally, similar personalities seek to find those same environments (Holland, 1968). The strong sense of suitability for a particular career is known as a vocation (Holland, 1968) and the veterinary profession is an example of a vocational occupation, with its occupants describing long-standing goals of becoming a veterinarian (Cardwell & Lewis, 2017).

Veterinarians describe being motivated by a love of animals and an interest in science and problem-solving (Cardwell & Lewis, 2017). Entry into veterinary medicine in New Zealand is competitive and typically attracts high-achieving intellectuals, who are passionate about animal welfare and working to the best of their ability. While they will have completed some work experience on clinical placements during their degree, their first role following graduation is a testing time, when veterinarians face constraints which limit their ability to provide care for animals commensurate with their capabilities, primarily restricted by clients' expectations and ability to afford treatment. These limitations placed on veterinarians' ability to perform to their high personal standards and the requirement to consider compromising animal welfare are examples of scenarios which are first experienced in the veterinary clinic (Hernandez et al., 2018). These are some of the factors contributing to the poor wellbeing statistics of the veterinary profession.

The wellbeing of veterinarians is at risk globally, evidenced by high rates of suicidality and an increase in those exiting the profession. Studies from the United Kingdom, the United States, Belgium, Norway and Australia, have reported that veterinarians are between three and four times more likely to die by suicide than members of the general public (Platt et. al, 2012). Platt et. al (2010) reported that, worldwide, of those veterinarians who had passed away, the cause of death for up to

43% was due to suicide, with an estimated 42-52 veterinarians per 100,000 taking their own life. Moreover, in the United Kingdom, the probability of the cause of death being suicide for veterinarians was four times greater than that of the general population and approximately twice the rate of other healthcare professionals (Kinsella, 2006; Schultz, 2008; Whitcomb, 2010). In the United States, the statistics found are similar: there is between 1.7 – 3.6 times higher proportion of death due to self-poisoning in the veterinary industry compared to the general population (Bartram & Baldwin, 2010). In addition, our neighbours, Australia, reported similar results to the United Kingdom, with veterinary suicide rates being four times greater than the general population (Bartram & Baldwin, 2010). In New Zealand, Gardner and Hini (2006) surveyed 927 veterinarians and identified that 14.7% of respondents reported having had serious thoughts about suicide and 2.2% reported having previously attempted suicide.

A combination of factors likely contribute to the increased risk of suicidality amongst veterinarians, including ease of access to a means of suicide (for example, access to the barbiturate given when euthanising animals), their attitudes towards death and euthanasia (for example, the normalisation of death), the nature of their work (including long shifts, afterhours care, and unrealistic client expectations), individual characteristics (for example, perfectionist traits and Type A personality) and the support mechanisms used (primarily relying on friends and family) (Platt et. al, 2012; Bartram & Baldwin, 2010).

The statistics on suicidality in the veterinary profession demonstrate a need to investigate veterinarian wellbeing and better understand the workplace factors contributing to these statistics. Wellbeing is a concept which has been examined for decades, with the meaning of the concept evolving, and with multiple theories developed. Wellbeing attempts to capture the essence of what it means to be well. In Western philosophy, two contrasting schools of thought regarding wellbeing are the hedonistic and eudaimonic perspectives, debating over the appropriateness of terms such as ‘happiness’ and living the ‘good life’.

Many modern day interpretations of wellbeing draw from the positive psychology movement, which has redirected attention from a preoccupation with pathology and mental illness to a focus on building upon the more positive qualities in life and the promotion of wellbeing (Dimidjian & Linehan, 2003). Briefly, the field of positive psychology investigates sources of strength people call upon when their environment is in chaos and their limits are tested (Seligman & Csikszentmihalyi, 2000). However, advocates in the field of positive psychology have determined that in order to understand positive functioning, it is equally important to understand abnormal

thoughts and behaviours (Seligman et al., 2005). Through a thorough understanding of the mechanisms which contribute to both wellbeing and illbeing, the right intervention can be put in place to enhance and promote wellbeing.

In the veterinary industry, the need to understand what interventions are suitable is increasingly important as otherwise the unfavourable statistics are unlikely to change. In a recent article about the current state of veterinarian wellbeing in New Zealand, Moir and Van den Brink (2020) identify that research on interventions is needed to explore the potential of optimising wellbeing. In particular, they identify mindfulness and self-compassion as promising areas for future research. While mindfulness and self-compassion are related, mindfulness has been explored in greater depth as a means of improving wellbeing (Barratt, 2017). Mindfulness supports positive human functioning through the development of an increased level of self-awareness as a result of paying attention to thoughts, emotions, and behaviours, without judgement (Bryan et al., 2007). This increased awareness improves self-regulation, augments perceptions and, in turn, improves psychological wellbeing (Brown & Ryan, 2003).

Self-regulation of thoughts, emotions and behaviours is an effective way of managing and responding to environmental stressors (Rolston & Lloyd-Richardson, 2016). The veterinary work environment has a variety of stressors, many of which veterinarians cannot control. An example is the nature of their work, where they are required to balance their role as a welfare guardian of the patient (the animal) with their responsibilities towards the client (the owner). A discrepancy between the two often conflicts with the veterinarians' ability to perform at their best, which is often limited by the owners' ability and willingness to pay for veterinary services. Therefore, self-regulation could support the mitigation of these unique environmental pressures through enhanced understanding and management of thoughts, emotions and behaviours in response to these pressures.

There has been some initial research on the cultivation of mindfulness as a tool for the support of wellbeing of veterinarians, with the majority of the research conducted internationally and using veterinary medical students (Correia et al., 2017; McArthur et al., 2017; Pontin et al., 2020). However, no research has been conducted in New Zealand with regard to mindfulness and veterinarian wellbeing. Given that there is only a small amount of research on mindfulness among veterinarians, this thesis will review broader healthcare literature to provide insights on the relevance of mindfulness to wellbeing.

The majority of research of mindfulness for healthcare professionals centres around cultivation of mindfulness through an intervention named Mindfulness-Based Stress Reduction (MBSR). For healthcare professionals, MBSR has successfully supported positive shifts in mood and anxiety disorders (Chisea 2013), improvements in psychological wellbeing (Camrody & Baer, 2007); reduced rumination, decreased emotional reactivity, improved attention, and improved memory (David & Hayes, 2011); as well as being a useful tool in supporting the reduction of workplace stress and burnout (Shapiro et al. 2005).

The veterinary industry in New Zealand is part of a global veterinary community who are in need of wellbeing support. Despite the compelling empirical research on mindfulness and MBSR, there is no research on the suitability of such an intervention for supporting the wellbeing of practising veterinarians in New Zealand. Therefore, the purpose of this thesis is to understand whether the MBSR programme is effective at improving veterinarian wellbeing experiences, with a particular focus on emotion and self-compassion.

1.1 Research aim, design, and purpose:

This thesis uses a mixed-methods approach to understand whether a MBSR programme is a suitable intervention for promoting wellbeing for veterinarians in New Zealand. The study is underpinned by a pragmatist paradigm and uses a concurrent mixed-method design to address the research objectives. This thesis explores the concept of wellbeing for veterinarians and how it is shaped by the work environment, as well as the concept of mindfulness and its role in the MBSR programme. Furthermore, the MBSR programme is evaluated in terms of its effectiveness at improving veterinarian wellbeing.

1.2 Thesis overview:

This thesis comprises five chapters. Following this introductory chapter, Chapter Two consists of a literature review split into four parts. Firstly, it introduces the concept of wellbeing and the variety of perspectives and theories created, which then inform the appropriateness of mindfulness for examining wellbeing. Secondly, research is presented supporting the concept of mindfulness and the MBSR programme as a suitable intervention, drawing particularly on research with human healthcare populations. Thirdly, the context of veterinarian wellbeing in New Zealand is provided. The chapter concludes with an outline of the rationale for conducting this study.

Chapter Three focuses on methods and methodology and describes the pragmatist philosophy which encompasses the mixed-methods approach used in this

study. The chapter describes why mixed-methods is suitable for wellbeing research generally, and for this study in particular. Chapter Three also outlines the specific mixed-methods research method used.

Chapter Four captures the quantitative and qualitative findings. It is important to note that with the necessarily small sample size (n=10) going through the MBSR programme, there was a planned emphasis on the qualitative findings, collected longitudinally, complemented by longitudinal quantitative data.

Chapter Five discusses the results, situating these within a multi-level conceptual model of veterinarian wellbeing. The findings address the various external influencers on veterinarian wellbeing and suggest the MBSR programme is suitable to enhance the ability to manage personal wellbeing amongst these environmental forces. Chapter Five also presents the strengths and limitations of the study. For example, a strength being the use of mixed-methods, which provides a thorough understanding of the experience of wellbeing and the effectiveness of the MBSR programme. However, acknowledging that the involvement of the researcher and the intensity of the focus on participants potentially adds to the positive impact of the research. Finally, the extensive practical implications for veterinarians and other stakeholders in the veterinary profession are outlined, noting that these are works in progress being undertaken as a result of this thesis. Recommendations for future research are covered, particularly focusing supporting the wellbeing of other strands of veterinary practice, such as large animal veterinarians, as well as supporting roles in the veterinary clinic, such as veterinary nurses.

Chapter 2. Literature review

2.1 Defining wellbeing

The notion of wellbeing is a broad concept with no universally accepted definition, but rather with shifting definitions according to research perspective and discipline (Dodge et al., 2012; La Placa et al., 2013; Hone et al., 2014). Traditionally, wellbeing was synonymous with health, and was perceived to be the absence of illness (Dodge et. al., 2012). It was assessed at the micro-level, from a deficit worldview, focusing on an absence of distress and dysfunction (Dodge, et. al., 2012). In contrast, contemporary discourse on wellbeing separates the notion of health from the notion of wellbeing, conceptualising wellbeing as a transient "state", thereby creating a separate phenomenon (La Placa et. al, 2013).

The idea that wellbeing is separate from health is supported by research into subjective levels of wellbeing and objective measures of health. Health is neither necessary nor sufficient to explain wellbeing, as evidenced by studies which investigate quality of life and identify that psychological symptoms do not automatically accompany physical distress (Bickenbach, Felder, & Schmitz, 2014). For example, in a survey of cancer survivors by the American Cancer Society from 2019, amongst long-term cancer survivors of 5 years or more, emotional wellbeing was comparable to that of those with no history of cancer. Furthermore, the report identified that only 1 in 4 cancer survivors reported a decreased quality of life due to physical problems, further emphasising the notion that physical health is not a consistent determinant of wellbeing. In addition, Howell and colleagues (2007) noted a pattern whereby wellbeing was temporarily lowered around the time of cancer diagnosis, but that levels recovered to a previous baseline within a year of discovering the cancer was present.

Given the lack of a single, central definition of wellbeing, it is useful to understand broader worldviews of wellbeing and the theories which stem from foundational philosophical perspectives throughout time. Traditionally, wellbeing has been viewed from two distinct philosophies, namely, the hedonic and eudaimonic perspectives.

2.1.1 Hedonism and the pursuit of happiness

Dating as far back as fourth century BC, Greek philosopher Aristippus equated wellbeing with hedonic pleasure (Ryan & Deci, 2001; Waterman et al., 2010). Happiness was deemed the totality of hedonic moments and life was about maximising pleasurable experiences (Ryan & Deci, 2001; Waterman et. al., 2010). The hedonic perspective of wellbeing is classed as subjective given that people assess their

experiences as either positive or negative and evaluate the degree to which they feel satisfied with their life (Ryan & Deci, 2008; Waterman, 2008). To understand the hedonic perspective, the focus has been on the concept of subjective wellbeing (Busseri & Sadava, 2011; Heathwood, 2014; Ryan & Deci, 2001).

2.1.1.1 Subjective Wellbeing

Subjective wellbeing was a term coined and popularised through the seminal work of Ed Diener, who identified methods of measuring and observing happiness (Brey, 2012; Dodge et. al., 2012). The concept of subjective wellbeing is based upon the observation that a person can feel that their life is desirable, pleasant and good, regardless of how others view it (Diener, 2009). The experience of subjective wellbeing is a combination of (1) frequent positive affect (pleasurable feelings), (2) infrequent negative affect (painful feelings) and (3) evaluating life as satisfying (Joshanloo, 2014; Keyes et al., 2002; Tov & Diener, 2013). This subjective wellbeing perspective emphasises a person's ability to meaningfully evaluate their own life and provide an accurate self-report of their wellbeing (Tov & Diener, 2013).

Although subjective wellbeing captures emotions as they change from moment to moment, overall reports of subjective wellbeing are stable over time, which is known as a 'set point' (Lucas et al., 2003). An individual who reports a high level of subjective wellbeing will likely report a similarly high level at a different point in time, regardless of the time interval between measurements (Emmons & Diener, 1985). This set point is determined primarily by intrapersonal, temperamental, and affective personality traits which are heritable and change little over a person's lifespan (Hahn et al., 2016). For example, a twin-study conducted by Lykken and Tellegen (1996) assessed the wellbeing of monozygotic twins at age 20 and age 30. Subjective wellbeing measures of Twin A at time 1 were compared with Twin B at time 2, and vice versa, for each set of twins (79 monozygotic pairs). The results found a correlation of 0.4 for subjective wellbeing ratings over time, suggestive of heritability and stability.

Luhmann and Intelisano (2018) argued that if subjective wellbeing is based on experiences, eventually sensitivity to the same experience changes, based on the process of adaptation. Adaptation is reached when external stimuli no longer evoke the same response and become neutral through exposure over time (Luhmann & Intelisano, 2018). As a result, through hedonic principals, lasting happiness can only be achieved through a constant stream of novel stimuli which evoke positive affect, a process described as the hedonic treadmill (Brickman & Campbell, 1971). Therefore, from this perspective, individuals have a set-point baseline equilibrium of subjective wellbeing which is not affected in the long-term by external factors, due to adaptation.

Despite evidence suggesting an inability to permanently shift a person's wellbeing set point, the implications of these findings are to focus on the consequences of non-stable, more transient factors and their influence on subjective wellbeing. Gloaguen et al. (1998) found that changing cognitive attitudes, for example, by participating in cognitive behavioural therapy, led to enhanced wellbeing. A change to cognition emphasises a change in response to stimuli as opposed to any change to the stimuli itself. More recent psychological interventions which pay attention to virtuous qualities such as gratitude (Emmons & McCullough, 2003) and forgiveness (McCullough, 2000) offer evidence suggesting that a change in cognition can improve subjective wellbeing. In addition, Lyubomirsky et al. (2005) argue that intentional activity offers the best potential route to increasing subjective wellbeing. For example, a study examining the effect of pursuing goals over the course of a semester for university students in the United States found that higher levels of goal progress and attainment consistently increased subjective wellbeing by way of increasing positive affect and life satisfaction, while decreasing negative affect (Sheldon 2002). For subjective wellbeing, an advantage of intentional activity is its ability to counteract hedonic adaptation through exerting intentional effort to change circumstances. If a person intentionally engages in an activity, they pay attention to the constants in their environment. This purposeful attention and acknowledgement of the original features which initially resulted in a positive change to wellbeing circumvents the likelihood of the hedonic treadmill of adaptation (Lyubomirsky et al., 2005).

The simplicity of the hedonistic perspective has come under scrutiny from psychologists who have identified other important dimensions of wellbeing. Importantly, the subjective interpretation of what is pleasurable, and the individual pursuit of such ends, leaves room for the legitimisation of behaviours which are negative, such as hurting others (Rawls, 1971). Individual interpretation is influenced by experience which can cause distortion of worldviews, for example, adaptation to oppression or deprivation (Axford et al., 2014). The unique perspective of each individual on what is a pleasurable experience and how satisfied they feel with their life means that subjective wellbeing is hard to compare, as there is no universal truth for comparison (Axford et. al., 2014). As a result, personal bias makes subjective wellbeing hard to quantify and measure objectively or in a standardised way. To research wellbeing, it is useful to have an objective standard for comparison. The eudaimonic perspective offers a view of wellbeing which extends beyond subject feelings of happiness and provides a framework of objective standards of wellbeing, encompassing thoughts, feelings and behaviours. These standards facilitate an understanding of the elements which lead to living what is deemed an 'authentic life'.

2.1.2 Eudaimonism and the potential of flourishing

The eudaimonic perspective of wellbeing de-emphasises happiness as the principal criterion and, in contrast, notes that not all fulfilled desires yield wellbeing, nor are all pleasurable experiences beneficial for wellbeing (Ryan & Deci, 2001). Instead, wellbeing is thought to be achieved when a person is capable of living in a way which aligns with their personal values such that they can lead an authentic life, where they are capable of positive psychological functioning (Ryan & Deci, 2011). While hedonic wellbeing does not distinguish the source of pleasurable experiences, eudaimonic pursuits arise from a connection with specific, meaningful sources (Waterman, 2008). These sources are activities which enable self-actualisation, where an individual strives towards fulfilling their personal potential (Waterman, 2008).

In comparison to the hedonic perspective, the eudaimonic perspective is supported by extensive research using a consistent set of operational definitions. There has been a rapid growth of research into wellbeing focusing on different aspects of positive human experiences. This has, in turn, lead to a proliferation of theories of wellbeing stemming from the eudaimonic perspective (Gagne & Vansteenkiste, 2013). This range of eudaimonic theories are deemed to be part of the positive psychology movement, which seeks to promote optimal functioning, otherwise known as flourishing (Gable & Haidt, 2005). For example, Ryff (1989) critiqued subjective wellbeing and acknowledged the lack of theoretical grounding as a limitation for understanding the essential features of flourishing (Heintzelman, 2018). Drawing on a combination of various psychological theories, including clinical, developmental and humanistic psychology, Ryff formed an integrated, multidimensional model of wellbeing known as psychological wellbeing theory (Ryff & Singer, 2008).

2.1.2.1 Psychological wellbeing theory

Ryff (1989) de-emphasised the hedonic perspective in which positive affect has a leading role in determining wellbeing, and instead drew on the eudaimonic perspective to develop six dimensions as important considerations with regard to flourishing and leading “a good life”. These six dimensions include: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. In an examination of these core dimensions, Ryff and Singer (2006) describe the various dimensions as follows: (1) self-acceptance refers to an awareness of personal strengths and weaknesses; (2) positive relations with others involves the ability to develop close and positive relationships with others; (3) autonomy refers to an internal evaluation of the self, including the regulation of thoughts and behaviours; (4) environmental mastery is the creation and management of a suitable environment

which meets individual needs and capacities and promotes positive psychological wellbeing; (5) purpose in life is concerned with creating meaning and direction in life to live authentically and with intention; and (6) personal growth, which is a dynamic process of continuously striving to reach one's potential, and is the closest in meaning to the original philosophical perspective of eudaimonia. Four of the six dimensions (positive relations with others, autonomy, purpose in life and personal growth) were novel contributions made by this model to the measurement of wellbeing (Heintzelman, 2018).

Although Ryff's (1989) operationalisation of wellbeing provided valid measurements, Ryff and Singer (2006) highlight that there can be conflict between different dimensions, which they called "constructive tensions". For example, a preoccupation with personal growth may be at the cost of relations with others, such as family, while responding more to the needs of others may interfere with a capacity for autonomy. However, the perspective of eudaimonia seeks to find a balance or a middle way, avoiding excess or extremes. Similarly, wellbeing can sit between the two perspectives of eudaimonia and hedonia. Combining that which can be objectively observed with a person's own subjective evaluation of their experience is necessary for understanding well-rounded wellbeing (Huta, 2015). The positive psychology movement, which psychological wellbeing is a part of, allows for a unified approach. As an example of this, in his work in positive psychology, Keyes (2002) draws from both the hedonistic and eudaimonistic perspectives to form the two continua model of wellbeing to demonstrate the focus on flourishing for mental health and wellbeing.

2.1.3 A combined perspective - The two continua model: Mental wellbeing versus mental illness

Keyes (2002) defines wellbeing through a combination of the hedonistic and eudaimonic perspectives, describing the need for transient positive emotion as well as the cultivation of abilities to function well and "do good in the world". In his approach to describing the components of wellbeing, Keyes clarifies mental health as being mental wellbeing and distinguishes it from mental illness. He posits that wellbeing is greater than the mere absence of mental illness; it is the presence of mental health (Keyes, 2002). In doing so, Keyes developed a two continua model of wellbeing, identifying wellbeing and mental illness as separate continua which are related but independent. The model suggests two important considerations: (1) wellbeing is not an indirect consequence of the absence of illness, and (2) individuals free from psychological dysfunction are not necessarily flourishing (Venning et. al., 2011). The presence or

absence of mental illness does not enhance or limit an individual's capacity to flourish and perceive optimal wellbeing (Keyes, 2002).

With regard to the model, Keyes' (2002) constitutes wellbeing as a 'syndrome', requiring a set of symptoms at a specified level and for a specified period of time. Part of the required set of symptoms for complete mental health is a combination of both (1) emotional wellbeing and an emphasis on the presence of positive affect and therefore a positive emotional state and (2) psychological wellbeing and the presence of the six dimensions as operationalised by Ryff (1989), which lead to positive functioning. These components collectively incorporate hedonistic (emotional wellbeing) and eudaimonic (psychological wellbeing) perspectives.

The two continua model of wellbeing shares affinities with the Buddhist approach to enlightenment which holds that it is important to understand that the experience of pleasure is fleeting, and that life consists of suffering. Understanding our role in the production of suffering can redirect our attention to the positive aspects on the path to enlightenment (Husgafvel, 2018).The absence of suffering, much like the absence of mental illness, does not achieve enlightenment in and of itself and, in order to continue on the path to enlightenment, we must strive to act in ways which are fundamentally good (Husgafvel, 2018). In addition, the Buddhist tradition identifies that enduring happiness can only be achieved through the purposeful cultivation of a positive state of mind (Siegel et al., 2009). The practice of mindfulness is a key feature of Buddhism which is aimed at the cultivation of a positive frame of mind and augmenting the way a person responds to life's difficulties (Kabat Zinn, 2003; Siegel et al., 2009). In Western society, the benefit of mindfulness practice for wellbeing has accumulated substantial empirical evidence (Keng et al., 2011). To understand the concept of mindfulness, and how its cultivation supports wellbeing, the practice of mindfulness will be explored in greater detail below.

2.1.4 Cultivating mindfulness

In the Buddhist tradition, mindfulness practice is viewed as a technique for the development of sustained awareness of both the body and the mind, in the present moment (Kabat-Zinn, 1982). For centuries, the practice of mindfulness has been a key feature of Buddhist philosophy, primarily with respect to changing how a person responds to difficulties in life (Xiao et al., 2017). Western definitions of mindfulness share Buddhist foundations (Kang & Whittingham, 2010) and the concept has been linked with both human flourishing and wellbeing (Bowlin & Baer, 2012; Brown et al., 2007; Brown & Ryan, 2003). In addition, mindfulness has been associated with greater

effectiveness of emotional regulation when in a challenging environment (Davis & Hayes, 2011).

However, similarly to wellbeing, mindfulness does not have one operational definition in Western psychology. Brown and Ryan (2003) view mindfulness as a state of attentiveness and awareness to what is taking place in the present moment. Shapiro et. al. (2008) view mindfulness as intentional, non-judgemental awareness of moment-to-moment experiences. In a study conducted by Baer et al. (2008), their attempt to create a unitary construct resulted in the creation of five separate elements of mindfulness, namely: (1) Observe, or noticing shifts in emotional states; (2) Describe, or accurately labelling emotional states; (3) Acting with awareness, or being focused in the present moment, without becoming easily distracted; (4) Non-judge, or accepting present thoughts and emotions; and (5) Non-react, or controlled reactions to thoughts and emotions.

Although there is no universally agreed upon definition, a widely adopted description of mindfulness comes from Jon Kabat-Zinn, who was the first person to introduce the concept of mindfulness into Western psychology (Kabat-Zinn, 2003). He defined the practice as "the awareness that emerges through paying attention on purpose, in the present moment, and non-judgementally to the unfolding experience moment by moment" (Kabat-Zinn, 2003, p. 145). Kabat-Zinn was also the first to develop a therapeutic intervention using mindfulness practice through his Mindfulness-Based Stress Reduction programme (MBSR). Specifically, he took his secular version of mindfulness and created an 8-week therapeutic programme, which was scientifically evaluated for effectiveness. This ability to measure MBSR in a scientific manner and prove its effectiveness as an intervention for a variety of populations led to the acceptance of Kabat-Zinn's work in the realms of science, medicine and psychology (Maex, 2011). The success of the MBSR intervention has perpetuated growing interest in the concept of mindfulness as it shifted from an amorphous Buddhist concept to an accepted psychological construct (Davie & Hayes, 2011). Within positive psychology, studies have focused on the positive effects mindfulness practice has on wellbeing, with evidence for success in improving both a person's mental health and psychological wellbeing (Brown & Ryan, 2003; Carmody & Baer, 2007; Grossman et al., 2004). With a focus on the promotion of wellbeing within the positive psychological realm, empirical evidence of the supportive effects of mindfulness for a variety of populations is explored in greater detail below.

2.1.4.1 Mindfulness and wellbeing

Spanning the past three decades, research on mindfulness practice has shown positive effects for an improvement in wellbeing for those with clinical diagnoses, such as supporting in the reduction of substance abuse (Bowen et. al., 2006), anxiety (Toneatto & Nguyen, 2007), depression (Brown & Ryan, 2003), and suicidal ideation (Serpa et al., 2014), as well as supporting the management of those suffering from eating disorders (Kristeller & Hallett, 1999); chronic pain (Rosenzweig et al., 2010) and fibromyalgia (Lush, et al., 2009). Mindfulness practices have also shown effectiveness for improving wellbeing in non-clinical populations, reducing levels of stress (Tang et al., 2007) and rumination (Davis & Hayes, 2011), and increasing attention and emotional regulation (Chambers et. al., 2008). In their research, Brown et al. (2007) hypothesised that psychological wellbeing improved from mindfulness practice in two ways: (1) indirectly, through the development of a greater capacity for self-regulation, and (2) directly, through the provision of clarity to the current experience and alleviation of discriminatory thoughts. They identify that mindfulness operates at the level of the ego, augmenting our experience of reality through conscious, attentive awareness into patterns of thought, emotions and behaviours which, in turn, promotes better self-regulation of these thoughts, emotions and behaviours. The attention, awareness and resulting self-regulation creates an objective lens; this enables avoidance of reactive, habitual cognitive schemas, and instead leads to adaptive functioning and positive long-term wellbeing (Brown et. al., 2007).

The cultivation of a mindful disposition has significant correlations with higher levels of both subjective and psychological wellbeing (Brown et.a al., 2007). Focusing on interventions that measured emotion and affect, Schroevers and Brandsma (2010) assessed 64 adults who had voluntarily signed up to participate in an 8-week mindfulness-based programme, based on MBSR. The results demonstrated that the cultivation of mindfulness increased self-report measures of positive affect and decreased self-report measures of negative affect following participation in the programme. In a study of 60 undergraduate and graduate university students from the University of California in the United States, Arch and Craske (2006) found that those who received mindfulness training showed a reduction in subjective and physiological reactivity to emotional stressors and recovered more quickly from emotionally unpleasant experiences. More recently, Iani et al. (2017) assessed 211 volunteers for their habitual use of mindfulness skills and levels of self-reported neuroticism, psychological wellbeing and subjective wellbeing, following mindfulness training. They found a strong association with the psychological wellbeing components of autonomy, purpose in life and personal growth as a result of the mindfulness training.

An important component of mindfulness is that it supports the acceptance of all aspects of an experience without judgement, regardless of how difficult the experience is, and thus creates room for self-compassion (Ferguson et al., 2014). Self-compassion requires: (1) Common humanity, and a recognition that mistakes, failures and hardship are part of the human experience; (2) Kindness, and removing harsh judgements of yourself during difficult times; and (3) Mindfulness, defined as maintaining an awareness of thoughts and emotions as opposed to avoidance, suppression, or overidentification (Baer et al., 2012). Self-compassion correlates with mindfulness as each present-moment experience is encouraged to include a quality of openness and compassion (Baer et al., 2012, Neff, 2003). Studies of mindfulness programmes which attempt to understand the concurrent effects of self-compassion and mindfulness cultivation have not successfully disentangled their potentially independent effects (Baer et al., 2012). Baer et al., (2012) showed that self-compassion and mindfulness were significantly correlated with each other (r=.69, p<.001). In addition, Van Dam et al., (2011) suggest that, given the high correlation between self-compassion and mindfulness, mindfulness can be better assessed via self-compassion because a participant can more accurately rate attitudes towards the self (self-compassion) as opposed to past conscious states (mindfulness) (Van Dam et al., 2011).

The question remains as to whether the cultivation of mindfulness would be an effective tool for the promotion of veterinarian wellbeing. In the veterinary industry, negative emotional states, an inability to work autonomously and fulfil purpose, as well as a lack of self-compassion are common forces working as barriers for veterinarian wellbeing (McArthur et al., 2017). As far as can be ascertained, no studies have examined the suitability of mindfulness training for the promotion of wellbeing for practising veterinarians. The next section provides an overview of the current state of wellbeing in the veterinary industry to give greater insight into the problems faced; and subsequently examines the suitability of a mindfulness based intervention to address the difficulties faced by veterinarians in their work.

2.2 The workplace context of veterinary services

The veterinary profession is at an elevated risk of suicide comparatively to other professions, as exemplified by a proportional mortality ratio four times that of the general population and approximately twice that of other healthcare professionals (Kinsella, 2006; Schultz, 2008; Zimlich, 2010). Usual variables which explain differences in wellbeing across occupations include demographic factors, such as age, gender, income, and level of education (Charlton, 1995). However, veterinarians have a greater risk of suicidality even when demographic factors are taken into account

(Charlton, 1995). As mentioned in Chapter One, this observation of increased risk for veterinarians is supported by studies across the world (Bartram & Baldwin, 2010; Platt et al., 2012).

This increased risk of suicidality in the veterinary profession is suggested to stem from an interaction of various possible factors (Bartram & Baldwin, 2008). These factors include the demanding nature of the work, access to the means of suicide, as well as attitudes to death and euthanasia, personality factors, and the level of support available and sought (Platt et. al, 2012; Bartram and Baldwin, 2010). Some of these factors are circumstances within the veterinarian's control, such as their willingness to seek support, but a large majority are not. The work environment is characterised by situations where the veterinarian has little control, and common individual predispositions and behaviours also contribute to a desire for a sense of control. The work environment and the individual characteristics of veterinarians will be explored in greater detail below.

2.2.1 The veterinary work environment

The veterinary work environment provides a unique context when examining wellbeing. Veterinarians have a distinctive role in society as the guardians of animal welfare, however their role extends beyond this to include the management of the people who own the animal. The diverse role of a veterinarian creates a unique workplace setting with complex pressures which contribute to harming their wellbeing. The nature of the work environment will be described in greater detail below, highlighting the unique complexities.

2.2.1.1 The nature of veterinary work

The nature of veterinary work has been identified as a major contributor to the larger proportionate ratio of suicide rates when compared to the population (Fawcett, 2014). There are a magnitude of elements identified which are sources of stress for veterinarians in the workplace. In a survey of 927 practising veterinarians in New Zealand conducted by Gardner and Hini (2006), respondents identified ten possible stressors in the workplace, with the top three greatest sources being the length of shifts, excessive client expectations, and unexpected treatment outcomes. Similarly, in a cross-sectional study of veterinarians in Australia, long hours of work and being on-call were the key contributing factors for elevated workplace stress (Fairnie, 2005). These identified sources of stress are based on factors extraneous to the veterinarian, with the veterinarian having little ability to predict or control them.

Furthermore, the ability of a veterinarian to apply their skillset in a discretionary manner is complicated by the multifaceted moral issues unique to veterinary medicine. The ethical and moral challenge veterinarians are often faced with requires a balance between their obligation to protect animal welfare and the expectations or demands of the animal's owner (Rollin, 2006). In New Zealand, the Animal Welfare Act (1999) is interpreted through a modern welfarist approach, which accepts that domestic animals are property, allowing ownership of animate objects (Caoet al., 2010). By virtue of meeting the criteria to uphold the status as property, the legal status of animals is as objects. This means animals are unable to hold rights, as these might otherwise prevent the exercise of ownership rights by owners when they conflict with animals' interests (Francione, 1995). In a cross-sectional study of the mental health of veterinary surgeons in the United Kingdom, Bartram et al. (2009) give examples of moral dilemmas resulting from the implications of the property categorisation of animals, including: The owner who demands ongoing treatment for a dying pet; the owner who demands euthanasia for a healthy animal; and the owner who cannot afford the cost of the most appropriate treatment.

Of these moral dilemmas, a key one is that of euthanasia for healthy animals. A key experience of animal shelter veterinarians is the moral upset caused as a result of the "caring-killing paradox" (Arluke, 1994) when presented with unwanted yet healthy animals (Rollin 1987). This paradox creates work-related stress and a reduction in job satisfaction, and has been proven to result in conflict at home, and cause a decline in physical and psychological health, including high blood pressure, substance abuse and depression (Rollin, 1987; Rohlf & Bennett, 2005). Rohlf and Bennett (2005) suggested that there is preliminary evidence that people whose occupation is to look after animals and who are required to euthanise animals, are an at-risk population for post-traumatic stress. People in such occupations are not only privy to persisting emotional distress but are required to actively participate in a traumatic event.

In addition, economic factors are involved in decision making, with the risk of suicide becoming elevated when receipt of income is dependent on the client (Stack, 2001). Labovitz and Hagedorn (1971) identified that, of the 36 occupations investigated, suicide rates were elevated at 1.5 times greater if the occupation was client-dependent for the generation of income. The fact that treatment decisions are client-dependent has multiple effects on the veterinarian, from the potential burden of moral stress to the potential burden of financial stress. In a survey conducted by Kipperman et al. (2017) of companion animal veterinarians in the United States and Canada, from a sample size of 1,088, approximately 60% stated that, on a daily basis, they were unable to provide the desired care. In addition, the study reported that clients

were increasingly likely to decide to end an animal's life due to economic reasons. In a 2010 study of owners of companion animals conducted by Bayer, a multinational pharmaceutical and life sciences company, they identified that over half of the 2,188 animal owner respondents agreed to some extent that veterinary costs were higher than expected (Kipperman et. al, 2017). Unrealistic expectations regarding treatment costs increases the likelihood of euthanasia as a primary option, since it provides a cheaper alternative and a certain outcome; however, such a choice perpetuates the moral stress of veterinarians. Furthermore, it reveals the ease of access that veterinarians have to a lethal drug due to the frequency with which euthanasia is performed, and which equally can be used to commit suicide. Witte et al. (2019) confirmed that the most common means of suicide for veterinarians was through an overdose of pentobarbital, the lethal drug used to euthanise animals, which was a speculation in the industry for some time.

2.2.1.2 Access to a peaceful means of suicide

Ready access to a means of suicide is hypothesised to be a prominent factor in the transition from a suicidal thought to a suicidal act (Hawton, 2007). The number of suicide attempts are highly affected by the opportunities available (Gladwell, 2019) and a decrease in the rate of suicide amongst populations have been attributed to reductions in the size of packets of over-the-counter painkillers and the installation of barriers on bridges (Hawton, 2007). These adjustments have been successful due to the impulsive nature of the decision to follow through with suicidal thoughts (Hawton, 2007; Sarchiapone et al., 2011). In addition, the opportunity prompts the behaviour, as opposed to a persistent desire to complete a suicide, as demonstrated by psychologist Richard Seiden's investigative work into unsuccessful suicide attempts. Seiden (1978) followed up with 515 people who had been unexpectedly restrained from jumping off of the Golden Gate Bridge between 1937 and 1971, and found that only 4.8% (25 people) persisted in completing the suicide following the initial attempt.

Furthermore, as mentioned in Chapter One, veterinarians have increased suicide proportionate ratios to that of the general population, and a likely contributing factor is both the availability and knowledge of dosage and effects (Hawton et. al, 2000). Given the frequency with which veterinarians perform euthanasia on animals, the required tools are commonplace within a clinic. In addition, veterinarians have the knowledge for implementation, for example, the dosage required. Due to this availability, deliberate self-poisoning is the most common method of suicide for both male and female veterinarians (Bartram and Baldwin, 2010). In England and Wales, suicide as a result of self-poisoning accounted for 76% of male and 89% of female

veterinarian deaths, compared to 20% and 46% respectively for the general population (Kelly & Bunting, 1998).

The frequency with which veterinarians are responsible for ending an animal's life means that providing a peaceful death becomes a routine experience (Bartram, 2009). Familiarity with death may have implications for veterinary attitudes towards euthanasia and the value of human life (Charlton et. al., 1993). To understand the wider implications of the work environment, the following section will examine the unique characteristics of veterinarians, including their attitudes towards death and euthanasia, their unique personality characteristics, and the consequential coping mechanisms developed for the management of work stressors.

2.2.2 The characteristics of a veterinarian

Attitudes, personality characteristics and coping mechanisms are a series of interrelated factors which can provide greater insight into the way veterinarians experience their place of work. The normalisation of death, a desire to avoid mistakes, and the absence of formal mechanisms of support are a few of the key contributing factors to the current state of wellbeing among veterinarians and will be explored in greater detail below.

2.2.2.1 Attitudes towards death and euthanasia

Alongside the access to lethal drugs and the knowledge of how to administer them, the frequency of performing euthanasia leads to the normalisation of death and affects attitudes towards life preservation (Ogden et. al., 2012). As a result, veterinarians may become desensitised to death from euthanasia. Moreover, convenience euthanasia, which falls under "non-justified euthanasia" as defined by the British Veterinary Association, is dissonant to the beliefs, self-concept, and duty to animal welfare that the veterinarian sees as their professional responsibility (Ogden et al., 2012). Cognitive dissonance theory, developed by Festinger (1957), suggests that when faced with psychological discomfort from conflicting views, people use a coping strategy of changing their attitudes and distorting previous perceptions to reduce the dissonance (Ogden et al., 2012). When applying cognitive dissonance theory to non-justified euthanasia in the veterinary context, veterinarians alter their perceptions and see this form of euthanasia as acceptable or at least necessary, or sometimes they may even perceive it as the best option (Bartram & Baldwin, 2010).

A study conducted of veterinary students and graduates in the United Kingdom identified that, at this early stage in their veterinary careers, attitudes towards convenience euthanasia were negative (Ogden et al., 2012). However, over time, for

example, when the same students were asked post-qualification, a greater tolerance towards this form of euthanasia was found, identifying a shift in attitude that matches with the explanation provided by cognitive dissonance theory. Interestingly, and also in line with cognitive dissonance theory, a Swedish study identified that veterinarians' attitudes towards the introduction of human euthanasia legislation in Sweden were more favourable than that of doctors or physicians (Lerner et. al, 2011). Similarly, in a small-scale study of human healthcare workers and veterinarians in the United Kingdom, over ninety percent of veterinary healthcare workers indicated that they were more inclined than not towards agreeing with human euthanasia (Kirwan, 2005). It is important to note that an increased tolerance to suicide, such as permissive attitudes, has a relationship with increased occurrence of suicidal thoughts and behaviours (Neeleman et. al, 1997).

2.2.2.2 Personality traits

A person's thoughts, feelings, and behaviours are important influencers of the pathways they choose in life. As mentioned in Chapter One, an individual's choice of occupation is influenced by the opportunities afforded to them, as well as their individual characteristics, including both cognitions and personality characteristics, which reflect enduring patterns of thought, feelings, attitudes and behaviours (Kanten et al., 2017). To commence the path of veterinary medicine, entry requirements focus on high academic achievement when filling limited entry student numbers. In New Zealand, between 300 – 330 students apply for the Bachelor of Veterinary Science programme (a five-year degree) and 100 spaces are available (Massey University, n.d.). The chosen students often face feelings of inadequacy as, historically, these academically able students would be used to outperforming their school peers, yet upon entering into veterinary medicine, they are confronted with people of equal intelligence and ability, which can lead to self-doubt, a fear that they are frauds and are not good enough (Zenner et. al., 2005). Students who are unable to adjust their expectations of themselves to better align with the reality of the circumstances are at risk of a predisposition to psychological problems (Henning et. al., 1998). In a study of first-year students from a veterinary college in the United States, psychometric evaluations identified that students had elevated levels of anxiety, placed significant value in comparing themselves to their peers, and held a consistent fear of failure (Zenner et. al., 2005). These veterinary students had high personal standards and felt that such high standards were expected of them by others, with both of these dimensions being associated with perfectionism. Traits of perfectionism, such as self-criticism, a preoccupation with making mistakes, self-doubt, and exaggerated expectations, are associated with suicidality (O'Connor, 2007). In addition, the trait of

perfectionism is associated with a Type A personality, exhibiting behaviours characterised by competitiveness and ambition (Flett et al., 1994). Individuals who exhibit Type A personality traits typically have high personal standards and are threatened when they perceive a loss of control over a situation (Feltt et al., 1994). Moreover, when faced with a stressor which has a significant moral component, a lack of control and an inability to reach or maintain high standards is associated with increased levels of psychological distress (Crane et al., 2015).

This desire for high standards and perfectionism clashes with the veterinary work environment where veterinarians have to cede decision-making of some aspects of care to owners. Specifically, the choice among treatment options for sick animals is ultimately governed by the owner’s decisions over their care, which are often made based on financial viability. Whilst a veterinarian is potentially capable of solving an animal health problem, they may not be afforded the opportunity to do so due to the owner’s financial constraints. Like many countries, veterinary care in New Zealand is not a government-subsidised cost, unlike human healthcare, which is subsidise or full-paid by the government. Therefore, veterinary clinics have to charge the high costs of employing skilled veterinarians, the costs of medicine and related medical procedures, alongside the normal costs of running a business. Clients’ financial constraints impact the ability of veterinarians to perform to their high personal standards, which can lead to feelings of self-doubt and failure (Flett et al., 1994).

Understanding the personality characteristics of veterinarians is helpful when examining the coping mechanisms they use to deal with the stressors found at work. Coping is a regulatory process used to manage the negative feelings which result from a stressful event, and is influenced by personality (Afshar et al., 2015). People with certain personality traits, such as perfectionism, are more likely to employ passive coping styles such as avoidance, directing efforts to the minimisation or denial of a stressful situation (Afshar et al., 2015). Research on how veterinarians cope when faced with an adverse situation is limited (Bartram, 2009), but will be explored in greater detail below.

2.2.2.3 Coping mechanisms

To support the wellbeing of the veterinary profession in New Zealand, both the Veterinary Council (VCNZ) and Veterinary Association (NZVA) industry bodies provide members with access to funded professional counselling services to support wellbeing by way of Vitae, a counselling helpline referral service. Given that practising veterinarians are required to be registered with the VCNZ, it is likely they have access to this service either through their professional registration or through voluntary

membership with the NZVA. Although this professional service is available free of charge, a study of veterinarians in New Zealand by Gardner and Hini (2006) identified that in moments of distress, veterinarians were most likely to seek information and assistance from friends, family, and colleagues, as opposed to professional sources such as counsellors and telephone helplines. Gardner and Hini (2006) found that uptake of the more formal professional services and mentoring resources was low and was only sourced by those whose self-reported levels of stress were severe. Thus, professional help seems like a final resort for self-aware and highly distressed veterinarians.

One barrier described across veterinary research investigating the reasons why more formal treatment is not sought is the perceived stigma around mental health and mental illness (Bartram & Baldwin, 2010). In the medical profession, stigma is a recognised barrier to seeking mental health support (Worley, 2008) and a similar stigma may apply within the veterinary health profession (Bartram & Baldwin, 2010). A more feasible approach that might provide a way forward to address mental health could be through broadening the focus to the realm of positive psychology, identifying ways to build a repertoire of coping strategies, and building a resilient workforce. In other words, a shift in focus from restoration of those who are mentally unwell to prevention strategies in order to maintain a mentally healthy workforce could mitigate the negative effects of aforementioned workplace and industry-wide stressors.

Mindfulness is an example of a mechanism which has been successfully implemented as a preventative tool for the support of employee wellbeing (Glomb et al., 2011). The technique of mindfulness has increased in popularity for the purpose of supporting people in the management of stress, from both clinical and non-clinical populations, across a variety of professions (Dane & Brummel, (2013; Glomb et al., 2011; Leroy et al., 2013). The small amount of research on mindfulness in the veterinary industry primarily involves veterinary students (Correia et al, 2017; McArthur et al., 2017; Stevens et al., 2019) and is non-existent with regard to practising veterinarians. The next section will provide examples of evaluations of the effectiveness of mindfulness interventions for workplace stress, with a primary focus on similar vocational occupations, such as human health physicians, nurses, and allied health professionals.

2.3 Mindfulness in the workplace

Research on mindfulness-based practices in the workplace has yielded promising results with regard to having a positive influence over behaviour, performance and wellbeing (Glomb et al., 2011). In a qualitative study conducted by

Glomb et al. (2011), 20 employed individuals who were regularly practising mindfulness were interviewed to understand how their practice influenced their attitudes, emotions, thoughts and behaviours at work. Drawing on the interview data, the authors came up with a model of processes which supports the understanding of how mindfulness practice leads to improved self-regulation of emotions, thoughts and behaviours at work: (Core 1) Decoupling the ego (the self) from thoughts, emotions, and experiences; (Core 2) decreasing automatic thoughts and habitual cognitive schemas; (Core 3) increased awareness of the body and physiological systems coupled with increased regulation. The secondary processes are: (Secondary 1) decreased rumination; (Secondary 2) increased empathy; (Secondary 3) an increased ability to pause before responding; (Secondary 4) improved emotion regulation; (Secondary 5) increased self-determination and persistence; (Secondary 6) enhanced working memory, and (Secondary 7) greater accuracy estimating the emotional impact of a future event. These processes identify the broad range of positive elements resulting from mindfulness practice and the general sequence they occur in. Moreover, the range of positive impacts described supported the participants of this study in the workplace by improving communication and decision making ability, improving their resilience and the time taken to recover from a negative event, reducing levels of negative affect, creating greater problem solving capabilities, supporting the ability to perform under stress, and increasing job satisfaction (Glomb et al., 2011). In addition, Leroy et al. (2013) partnered with a mindfulness institute training provider and examined who those employed in telecommunications, consulting roles, architecture, parliamentary and public services, and health insurance. Their results demonstrated that mindfulness was positively related to engagement with work, mediated by an awareness and subsequent variation of the self. In addition, Dane and Brummel (2013) found that mindfulness improved job performance and decreased turnover intentions of waiters and managers in the restaurant industry. Overall, these studies provide greater insight into the mechanisms of how mindfulness can impact behaviour, performance, and wellbeing at work, across a variety of industries.

However, although these studies suggest efficacy for mindfulness practice in the workplace, in order to understand the likelihood that mindfulness practices would be effective in the unique environment of the veterinary industry, it is important to examine the efficacy in similar vocational groups. In a study of 42 physicians in Spain, Amutio et al. (2015) found that mindfulness training increased the ability of the physicians to reduce their heart rate and improved relaxation levels, which supported a positive impact on emotional regulation. Moreover, a study of 93 health workers, including physicians from multiple specialties, nurses, psychologists and social

workers, identified that training in mindfulness techniques through a tailored programme over an 8-week period led to a significant reduction in burnout, emotional exhaustion, and a significant improvement in wellbeing (Shapiro et al., 2005). In particular, the study identified that reduced burnout levels remained for a further 15 months following the programme. The authors noted that the particular issues which caused distress in these professions that were supported by mindfulness were key variables that accompany perfectionism, including self-criticism, feelings of guilt, and feelings of not being good enough.

A majority of the studies conducted to understand the effect of mindfulness in the workplace for healthcare workers used the Mindfulness-Based Stress Reduction (MBSR) programme. MBSR focuses on teaching a variety of formal mindfulness practices, including breathing techniques, seated meditation, walking meditation, yoga, and a body scan; and informal techniques, such as bringing mindfulness to regular activities and to thoughts, emotions and physical sensations (Kabat-Zinn, 2003). Key elements of the programme include the group format, the emphasis on non-goal orientation, a sense of active engagement and responsibility for outcomes, a significant time commitment and a long-term perspective (Irving et al., 2009). MBSR does not rely on explicit instruction to change thoughts, emotions or cognitions, yet it has been shown to diminish the habitual tendencies to react emotionally, to ruminate on thoughts, to reduce feelings of stress, depression, and anxiety, to augment distorted views of the self and to enhance self-regulation of behaviours (Goldin & Gross, 2010). An examination of the MBSR programme and the way in which it supports the wellbeing of healthcare professionals will help facilitate an understanding of the appropriateness of such a programme for the veterinary industry.

2.3.1 MBSR and healthcare professionals

The demands faced by healthcare professionals are similar to the demands placed on veterinarians, including large caseloads, limited control of the work environment, long shifts, and engrained structures and processes (Irving et. al., 2009). An assessment of the effectiveness of MBSR for employee wellbeing was conducted with a group of 31 Dutch General Practitioners (GP) through a mixed-methods design (Verweij, et al., 2016). Following the course, participants described a greater awareness of their thoughts, recognising when their mind turned to 'autopilot', as well as an ability to recognise their thought and behavioural patterns. The GP participants described mindfulness as enhancing energy and increasing their self-compassion and compassion towards their patients. These changes supported wellbeing in the

workplace by decreasing levels of burnout and supporting improved communication between GPs and their patients.

In addition, a further study investigated the completion of the MBSR programme by 25 nurses at a hospital in California (USA), who described increased levels of patience and calmness, an enhanced ability to prioritise work, the minimisation of seeking perfection, and increased levels of self-compassion (Cohen-Katz et al., 2005). Similarly, Raab et al. (2015) focused on the effects of MBSR on a group of 22 female mental health workers. What is of particular note is that the mental health environment the participants were in was described as being characterised by the feeling of failure due to the patients more often not showing signs of significant improvement. Raab et al. (2015) found a significant shift in self-compassion, including a reduction in self-judgement and isolation and an increase in the identification of common humanity. Thus, even in such a difficult work environment, these mental health workers reported feeling better supported following participation in the MBSR programme.

2.4 Chapter summary

Scholars have argued that promoting wellbeing should extend beyond the absence of mental illness and towards a state of wellbeing in order to lead a fulfilling life full of flourishing. The field of positive psychology has supported the combination of two traditional perspectives of wellbeing, namely the hedonic perspective, associated with subjective wellbeing, and the eudaimonic perspective, associated with psychological wellbeing, allowing the synthesis of the two-continua model of wellbeing. This model shifts the focus away from mental health, towards a focus on mental wellbeing, recognising that the absence of mental illness is not enough to flourish.

Various methods have been explored to enhance wellbeing. An accumulation of empirical evidence supports the salutary effects of mindfulness practices, which improve and promote wellbeing. The promising results of mindfulness practices have led to studies specifically evaluating their impact on at-risk populations. Consequently, there is a growing body of evidence supporting the benefits of mindfulness for professionals in high stress work environments, such as healthcare professionals. Veterinarians are another profession who practice within a high stress work environment, and thus are at risk of poor wellbeing, with this demonstrated by the globally high suicide statistics. The individual characteristics of veterinarians and the unique pressures faced at work create an environment which, in its current state, is harmful to wellbeing.

Given the proven benefits of mindfulness on wellbeing at work, especially in similar industries such as healthcare, a mindfulness intervention is a potential

mechanism to support practising veterinarians. Most research on mindfulness interventions in the workplace have used an MBSR programme. Therefore, the purpose of this thesis is to evaluate whether an MBSR programme is effective in improving the experience of veterinarian wellbeing, including experienced emotion and self-compassion. In order to create a comprehensive understanding of the veterinary industry and the MBSR programme, a mixed-methods study was carried out, examining both the lived experience of veterinarians as they went through the MBSR programme, and more objective measures of the effectiveness of the MBSR programme. The next chapter outlines the research aims, methodology and methods used.

Chapter 3. Research method

This chapter outlines the philosophical view of the researcher, which informs the rationale for the choice of a mixed-methods research methodology. The research objectives guide the type of mixed-method selected to meet the aims of the study. Furthermore, this chapter outlines the practical component of this thesis by identifying the data collection and analysis methods for the qualitative and quantitative components. Ethical considerations, trustworthiness and rigour of the method choices are also discussed.

3.1 Research objectives

The literature review identifies the unique context of the veterinary profession and the current wellbeing challenges faced and suggests that an MBSR programme may be a useful intervention to support veterinarians. To understand the current context of veterinarian wellbeing in New Zealand and whether the MBSR programme is an effective tool, the broad research question to be answered is:

Is the MBSR programme effective in improving in improving veterinarian wellbeing experiences, including emotional affect and self-compassion?

The broader aim of the research can be further broken down into five sub-aims:

1. To understand the experience of veterinarian wellbeing in New Zealand.
2. To understand how veterinary participants experienced the MBSR programme.
3. To evaluate adjustments in emotional wellbeing over time, namely positive and negative affect, in relation to the MBSR programme.
4. To evaluate adjustments in self-compassion over time in relation to the MBSR programme.
5. To gauge the short- and medium-term effects of the MBSR programme on veterinarian wellbeing.

3.2 Research approach

In order to appropriately answer the research question, it is important for the researcher to give careful consideration to his or her own assumptions about the nature of reality and knowledge (Crotty, 1998). The way in which a researcher views the world guides his or her patterns of thought and interpretations of the world, with these governing views known as paradigms (Chilisa & Kawulich, 2012; Denzin & Lincoln, 2017). Paradigms are informed by beliefs about ontology, epistemology and methodology, and the underpinning philosophical assumptions drive the research methods chosen to investigate the research question (Denzin & Lincoln, 2017; Teddlie

& Tashakkori, 2009). There are many factors that lead to the determination of a paradigm, including the researcher's values system, the audience for the study, and the nature of the research problem (Creswell, 2014).

The preceding literature review outlined the complexities associated with wellbeing and key stressors negatively impacting veterinarians' wellbeing in the workplace. In order to best understand the intricacies of the nature of wellbeing in this environment, two research approaches were employed through a mixed-methods methodology. Two of the research sub-aims were to quantitatively examine how levels of affect and levels of self-compassion vary over time in relation to participating in the MBSR programme. In this regard, the aim was to test whether the MBSR programme was effective, as shown in previous studies in similar health-related industries. Alongside these sub-aims, the remaining research aims sought to better understand the experience veterinarians have had with wellbeing at work and the experience they had with the MBSR programme, without a priori assumptions or ideas. Through the interview process, participants were able to describe their experiences in detail. Moreover, their descriptions could be compared with the quantitative data collected, contextualising the interpretation of the data. Furthermore, the ongoing collection of data over a period of 5 months supported in developing an understanding of the ongoing impacts of the MBSR programme, if any, over time. This comprehensive approach was intended to provide insight not only to investigate whether the intervention was effective, but to also delve into why and how (Karankia-Murray & Biron, 2015). A mixed-methods approach provides the opportunity to deepen our understanding of the intricacies of a human experience and give insight into the complex and pertinent problem of veterinarian wellbeing.

The paradigm that best aligns to a mixed-methods approach is pragmatism, due to aligned ontological and epistemological assumptions (Johnson & Onwuegbuzie, 2004; Teddlie & Tashakkori, 2009). These points are described in further detail below, beginning with the epistemology of pragmatism.

3.2.1 A Pragmatist Epistemology

An objectivist epistemological stance depicts the social world in the same way as the natural word and rests on the assumption that reality is independent of the person and can therefore be accurately observed and measured (Guba & Lincoln, 1982; Hookway, 2012). In contrast, a subjective epistemological stance asserts that the subject (or person) is the only true source of reality for him- or herself, and that therefore, there are multiple constructions of reality – as many as there are people (Guba & Lincoln, 1982). Pragmatism does not side with either of these epistemological

philosophies, but rather provides a middle ground and references an ongoing interaction between the mind, body and world (Dewey, 1929). Pragmatism acknowledges that an external reality exists, but that the world is adaptive and malleable, based on the interactions and activity of the people within it (Shalin, 1986). This dynamic view of reality means each person has a unique experience of the world, as it changes, and that there is no one static view of the world. Any human experience can only be understood in the context in which it occurs (Dewey, 1922). This viewpoint is useful when addressing wellbeing which, like all human experiences, is not experienced uniformly. Thus, wellbeing is a dynamic experience that is a result of the relationship between biological, psychological, social and spiritual factors (Campion & Nurse, 2007; Cloninger et al., 2012). Given this study seeks to understand wellbeing, a dynamic construct, within the specific context of the veterinary clinic, a pragmatic worldview is adopted.

3.2.2 A Theoretical Perspective

Pragmatism is linked with evolutionary theory, through the idea that a person must adapt to a changing environment, and that such adaptation in turn causes change in the environment (Dewey, 1929). This means that each experience a person has ultimately shapes the environment within which they exist and act, and therefore shapes their future (Dewey, 1922). In other words, actions result in consequences, which in turn shape actions and therefore, each person has a unique experience as they create their own unique worldview (Dewey, 1922).

Embedded in pragmatism is the notion that knowledge does not lead to mastery of our world, but mastery within our world (Biesta & Burbules 2004; Dewey, 1929). At the heart of pragmatism is the belief that as people come across a problem in their world, they develop solutions to the problem and, if the problem is successfully solved, knowledge is gained (Dewey, 1938). The current research adopts a problem-solving approach to veterinarian wellbeing by understanding the workplace problems faced by veterinarians that impact their wellbeing, and assessing whether the MBSR programme supports the development of solutions to these problems. The MBSR programme is an intervention which, based on research to date, is likely to give veterinarians techniques to help them address some of the problems experienced. Through the implementation of these techniques, knowledge will be acquired. Given pragmatism is a problem-oriented philosophical worldview, it will be the foundation for this mixed-methods study, as it seeks to use research methods which best answer the research question (Tashakkori & Teddlie, 2003).

3.2.3 Mixed-Methods Methodology

Mixed-methods is a methodology which combines qualitative and quantitative models of research to provide a more complete and meaningful understanding of a phenomenon, meaning that collectively, integrating the two models creates more comprehensive insights than either one could alone (Creswell & Plano Clark, 2011; Gray, 2014). A focus on contextualisation and the meaning of experience is a salient strength of qualitative research, whilst examining measurable variables and providing an avenue to establish probable cause and effect is a strength of quantitative research (Creswell et al., 2013). Through an integration of these two traditionally dichotomous methods, the strengths of each are maximised (Creswell et. al, 2013; Gray, 2014). Merging of the qualitative and quantitative data allows comparisons to be drawn and validity of findings gauged within a single study, while providing context around the phenomena being investigated (Creswell et. al, 2013). Furthermore, mixed-methods research is especially useful when addressing multifaceted and complex issues, such as the effects of health-related interventions (Tariq & Woodman, 2010).

The current study uses a basic mixed-methods design in the form of a concurrent (also known as convergent), parallel design, which merges two sources of data to investigate how data converge or diverge (Creswell, 2014). In this approach, qualitative and quantitative data are collected separately and integrated, to compare results (Creswell, 2014). In a basic concurrent mixed methods design, there are three conditions which must be met (Onwuegbuzie & Burke Johnson, 2006):

1. Qualitative and quantitative data are collected separately, but at approximately the same time point(s).
2. Both sets of data are collected and analysed separately and then inferences are drawn, integrating the data sets to the extent possible.
3. Thus, neither data set builds upon the other in terms of data analysis, but rather each is utilised to provide a unique view.

The current study collects both qualitative and quantitative data across several concurrent time-points. In order to analyse the data to address the research aims, key components from the qualitative and quantitative data sets will be analysed as guided by the concurrent parallel mixed-method design. To begin with, the qualitative and quantitative methods are described with regard to the ethical considerations, data collection and data analysis methods, after which greater detail is given on the mixed-method approach.

3.3 Research method

3.3.1 Ethical considerations

To ensure that participants' interests are protected and to minimise the risk of harm, research must abide by appropriate ethical principles and therefore ethics approval was required for this study (see appendix A). The qualitative and quantitative studies had distinct ethical considerations, given their differentiated nature of inquiry.

A key factor regarding participant safety was the appropriateness of the MBSR programme. As a duty of care, and in order to ensure that the MBSR programme and the facilitator were appropriate, and to better understand the programme specifics, beyond the research read, the researcher personally paid for herself to attend and complete the course prior to embarking on the thesis topic. Through personal experience, the researcher was able to better understand the expectations of the programme and any ethical issues that might arise, including the time commitment to attend the programme, the requirement to set aside a day for the silent retreat, and the time commitment of daily practice and homework set. In addition, the researcher was able to assess the experience with the specific psychologist facilitator and the venue. Collectively, the first-hand experience provided a comprehensive understanding of the requirements of participation, which the researcher could then accurately relay to potential participants, as well as being able to answer any participant questions.

In addition, given that the methodology employed was mixed-methods, and the participants were repeatedly assessed, participants needed to be identified by the researcher to match qualitative and quantitative data over time. Thus, anonymity was compromised and, therefore, extra precautions were taken around the ethical compilation of research data. The ethical considerations for the qualitative and quantitative components will be discussed in turn.

3.3.1.1 Ethical considerations for qualitative design

Qualitative research is used when exploring people's experiences of a specific environment, with the purpose of understanding feelings and behaviours in relevant contexts (Orb et al., 2000). As a result, qualitative research is description-based and relies on the willingness of participants to share their experience (Orb et. al., 2000). Given the potential deeper level of involvement of the participant, qualitative research requires an awareness of the ethical issues derived from interactions between the participant and the researcher (Orb et. al., 2000).

The qualitative data collection occurred through multiple semi-structured interviews and an open-ended question on a survey[1], filled out multiple times at different time points (see Appendix B). The process of data collection relied on the development of rapport and trust between the researcher and each veterinarian interviewee, to facilitate the quality of information obtained about veterinarians' experiences. In order to facilitate the establishment of trust, the researcher disclosed the purpose of the study and conveyed their genuine interest in the participants, their wellbeing and the veterinary industry as a whole. As evidence that trust was established, the researcher had requested interviews of approximately 30 minutes, but due to the amount of information the participants volunteered, interviews tended to range between 45 minutes to over 1.5 hours. Some participants revealed that it had been a very long time since they had spoken to anyone about the issues they had faced in their careers, which was also interpreted as evidence of rapport and trust. Interviews commenced with informal small talk and a bit of background about the researcher, to facilitate with rapport building. Small talk was also the way the interviews were concluded, to move away from the deeper issues covered in the interview process and to end in a positive and lighter way.

In addition, participants were informed that in weeks 1, 4, 8 and 20 of the MBSR programme, they would receive a survey, which was primarily made up of two Likert scales (explained in section 3.3.4.1 below), but also had an open-ended question, to understand their experience with the programme and their mindfulness practice between interviews.

A duty of care regarding participation was taken by communicating to participants that they did not have to answer questions if they did not feel comfortable doing so, and that they were able to withdraw their participation in the study at any time. Prior to making the decision to join this study, participants were given an invitation to participate, which was a brief two-page document outlining what the research would entail (see Appendix B). Upon showing interest, a comprehensive information sheet three pages in length was sent, which provided information about the purpose of the research (see Appendix B). Participants were also given a written consent document to review and sign, confirming they understood the information provided, had an opportunity to ask questions and receive answers, and chose to participate. The consent document expressed that involvement was voluntary and that the participants had the ability to withdraw at any time, acknowledging that it would not adversely affect

[1] It is important to note that the answers to the open-ended question on the surveys were similar in context to the answers provided during the interviews and were therefore not used for the purpose of qualitative analysis.

them to do so. If participants wanted further information, they were encouraged to email or call the researcher (see Appendix B).

As an additional duty of care, participants were able to choose the location where interviews took place, to allow them to choose an environment that worked best for them. The majority of participants asked for the interviews to take place in their homes or in their veterinary clinics, at a time they could fit in around their daily schedules. As the participants and researcher worked during the daytime from Monday to Friday, interviews were primarily conducted in the evenings and weekends. To ensure researcher safety, the researcher let a key contact know their whereabouts and contacted them prior to, and upon completion of each interview.

When commencing the interviews, the researcher explained the process of a semi-structured interview and outlined the general process that would take place. Participants were given the task of choosing a pseudonym as a way to identify themselves in the research, as opposed to replacing their names with a number, aiming not to dehumanise their participation. All transcripts were kept on a password protected laptop and were saved using the pseudonym chosen. Only the researcher and their supervisor had access to the legitimate names of participants in relation to their pseudonyms and a record was kept on a password protected laptop. It was also reiterated to participants that they did not have to answer questions they were uncomfortable answering and that even for questions they chose to answer, they could determine how extensive their answers were. Participants were given a complete copy of their transcripts upon completion of transcription, and no feedback was given or adjustments request.

3.3.1.2 Ethical considerations for quantitative design

The quantitative data were collected via paper-based surveys, which were given to the participants at the start of their first session of the MBSR programme. Whilst online surveys are more commonly used when investigating wellbeing (Keyes, 2005), the reasoning for paper-based surveys was to facilitate self-described time-poor participants in their completion and to create a habit of completing the surveys at roughly the same time each week they were due; namely the day of the programme. Participants were instructed to bring the completed surveys with them to the programme, which prompted them to complete the surveys, and they were handed in to the facilitator leading the MBSR programme. The surveys were either collected by the researcher from the facilitator at a suitable time immediately following the night of the programme or, if they did not wish to hand their survey to the facilitator, at their next interview. Regarding the final survey, completed three months after the cessation of the

MBSR programme, the final interview with participants coincided with the final survey and the researcher was able to physically collect a copy directly from each participant at their final interview. Given that the surveys were not anonymous, anonymity was not a consideration which impacted the choice of paper-based completion, but pseudonyms ensured privacy was protected.

A further consideration was information shared during the MBSR programme. The MBSR programme provides a forum where participants share their experiences and reflect on their emotional states. Therefore, a verbal confidentiality agreement was established by the facilitator running the MBSR programme at the start of the course, to establish the boundaries regarding the information shared between participants, both with each other and the facilitator. This also established the facilitator as being a trustworthy source who could physically collect the surveys from the participants.

To protect the identities of participants, pseudonyms were used throughout the data collection process. All hard and electronic copies of the data strictly used pseudonyms and all physical data sets were scanned and then destroyed in a confidential destruction bin. The survey data were entered electronically into a database solely using pseudonyms and all electronic copies of the physical documents, as well as the database, were stored on a password protected laptop. In addition, the data were shared only with the supervisor of this thesis to assist with the data analysis.

In addition, only necessary data was collected from participants. No demographic or otherwise identifiable data were collected, as these were not pertinent to the overall purpose of the thesis.

3.3.2 Participant selection method criteria

A purpose of this study was to better understand whether the MBSR programme influenced veterinarian wellbeing in New Zealand. To investigate veterinarians' lived experience, participants were selected in line with homogenous sampling, which requires the sampling of participants who share similar traits or characteristics (Creswell, 2014). The criteria for selection were very narrow, and included being a registered, practising veterinarian, working with companion animals (e.g., cats, dogs, rabbits), and willing to commit to physical attendance at the 8-week MBSR programme in Auckland, New Zealand, as well as participating in additional self-initiated practice between sessions. The specific requirement for a companion animal veterinarian acknowledges that the veterinary role is complex and that treating animals that serve as companions requires a different skillset to that of large animal veterinarians, who work with production animals, or mixed-practice veterinarians, who work with both. Given the stringent nature of the selection criteria for participation, the

sample was a group of participants who met these narrow criteria and thereby, were a homogenous group. In total, 10 participants were included in this study. Table 1 provides the demographic characteristics of the participants.

Table 1

Demographic characteristics of the participants

Demographics at time of the first interview		**Number of participants**
Age band	30-34	2
	35-39	1
	40-44	3
	45-49	4
Gender	Male	2
	Female	8

The sample size was small ($n = 10$) due to a number of factors. A first factor was cost. An MBSR programme with ten participants was $6,210.00 and payment for this programme was provided by Dr. Stephen Merchant, the previous CEO and Director of Pet Doctors NZ Ltd and a registered veterinarian. Consequently, the cost limited the number of participants that could be involved to ten. In addition, a second factor considered was that research methods involving longitudinal interviewing are time-consuming and the timeframe of completion for this thesis was a consideration made when choosing the maximum number of participants.

Moreover, the small sample size allows exploration of experiences and insight into the research topic and therefore lends itself to qualitative research design (Huberman & Miles, 2002). In addition, a sample size of 10 can often be sufficient to reach saturation of qualitative themes, meaning that the data collected from the sample is likely to be of adequate quality to answer the research objectives (Creswell, 2014; Groenewald, 2004). In effect, this meant that at recruitment, the first 10 participants who wished to participate and who met the criteria were chosen; other interested veterinarians were declined, but advised of the availability of the MBSR programme and offered further information about the programme itself.

3.3.3 Qualitative method

The purpose of the qualitative data collection was to gain an understanding of the lived experiences of companion animal veterinarians. Delving into a person's experience matches with a phenomenological approach to research, which is both a

philosophy and a method. As a philosophy, this approach has conscious experience at the forefront of reality (Creswell, 2014). As a method, it is designed to extrapolate perception and perspective, and craft an understanding of the experience for a particular participant, as well as across a group of participants (Creswell, 2014). In wellbeing research, it is important to gain an understanding of the lived experience of the individual to contextualise the environment from which their wellbeing-related thought patterns and feelings arise, as opposed to solely identifying the existence or change of a state of being (Groenewald, 2004). Below is a description of the qualitative data collection and analysis employed in this research.

3.3.3.1 Qualitative data collection

Data were gathered using semi-structured interviews, which allow an exploration of perceptions and opinions of those participating with regard to more complex and often sensitive topics (Barriball & White, 1994). Semi-structured interview techniques also allow for probing and clarification of answers (Barriball & White, 1994). In contrast to structured interviews, the questions asked are not completely standardised across participants, but rather some structure is provided, and the interview can diverge from this starting point. Whilst the vocabulary used within any particular semi-structured interview has the potential to differ, the validity and reliability of semi-structured interviews lies in the conveyance of meaning (Barriball & White, 1994).

Given that semi-structured interviews rely on active listening and the creation of meaningful dialogue (DeJonckheere & Waughn, 2019), the interviews were recorded so that participants' views could be accurately transcribed. Recording the interviews also allowed the researcher to engage completely with the participants and helped to ensure participants felt heard, which is important for the continuation of participation in the interview (DeJonckheere & Waughn, 2019). In turn, responses by the researcher were able to be in-the-moment, as well as keeping the interview approximately following the overall intended structure in terms of topics covered.

3.3.3.2 Qualitative data analysis

The interview transcripts were analysed via content analysis, enabling the data to be categorised into themes. Themes are the patterns apparent across the interviews that are used to describe a phenomenon (Gray, 2014). In order to identify themes, it is recommended to undertake data analysis in three phases (Gray, 2014). The initial phase of analysis requires the identification of interrelated sections of the interview transcripts, to narrow the scope and guide the creation of themes. In the second phase, the fragmented text is classified into comprehensive themes. Content related to specific ideas are organised under a specific theme. The process of theme generation requires

the researcher to immerse themselves in the data to accurately portray participants' views. However, equally important is to verify the data. In order to do so, the researcher must also distance themselves from the data and apply an outsider's perspective when next observing, to then be capable of sense checking and correcting, which marks the third phase of the analysis. In the third phase, the data is reassessed, and themes are confirmed and verified (Gray, 2014).

To begin with, the interviews were transcribed, and thematic analysis was conducted.

3.3.3.2.1 Transcribing the data

The interviews were conducted, recorded and transcribed by the researcher in order to be exposed to as much of the data as possible and to gain the most in-depth understanding of what was said. The interviews were transcribed verbatim, and actions and inactions were captured in the interview data. For example, if a participant paused, coughed, or walked away to get a drink, this was transcribed into the data. This supports the creation of context surrounding the interview and serves as a prompt for the researcher to remember events as they occurred.

3.3.3.2.2 Thematic analysis

Thematic analysis is a method of data analysis foundational to qualitative research and which transcends research paradigms (Braun & Clarke, 2006). Through the analysis of interview transcripts, themes emerge that are pertinent to the research question; the purpose of coding is to capture these themes across data sets (Braun & Clarke, 2006). Unlike quantitative data analysis, prevalence is not quantifiable and what is deemed a key theme is not necessarily tied to the level of repetition of this theme across the data set. Instead, the focus is on whether what was said is important in terms of the research question, which is a judgement the researcher must make (Braun & Clarke, 2006).

In order to identify themes within the data, an inductive approach was used, whereby the data analysis formulates and informs the relevant themes (Braun & Clarke, 2006). Whilst an inductive process runs the risk of the identified themes bearing little resemblance to the research objectives, it is a process of coding the data which is free from theoretical assumptions of the researcher in relation to the topic being studied (Braun & Clarke, 2006).

In addition, a rich thematic description of the entire data set was chosen to accurately reflect the content as opposed to focusing on a few themes only. This approach is useful for under-researched areas and where participants' viewpoints are

novel (Braun & Clarke, 2006). Furthermore, themes were identified at a semantic level, using explicit meanings tied to what was stated (Braun & Clarke, 2006).

The thematic analysis took place in 6 phases, following an inductive analytic approach, as suggested by Braun and Clarke (2006). To begin with, the researcher familiarised themselves with the data by transcribing each interview verbatim and reading the transcripts prior to commencing data analysis. In the second phase, the researcher identified interesting features of the semantic content of the data. Using NVivo software, the data were organised into meaningful groups and tentative codes were assigned to each extract. In the third phase, the researcher's focus broadened to using codes to build a more meaningful over-arching theme. Less prevalent themes were coded into sub-themes under an overarching category. The researcher reviewed the codes and themes to ensure that the data are verified. In phase four, the researcher refined the codes and found that some initial themes were discarded, as there were not enough data to support the transition to a broader theme. Part of this process involved reflecting on whether the themes accurately demonstrated the meanings evident in the data set. For example, ascertaining whether the themes made sense, given the data set. Once completed, the researcher commenced phase five, which involved the further refinement of themes. Complex themes were deduced to an essential theme, with sub-themes to break down the complexity into manageable, clear characteristics. Finally, in phase six, the researcher reduced the themes to concise and coherent accounts, with sufficient evidence to support them (extracts from the interview data).

A key limitation of thematic analysis is that there is no agreed applied method that is used universally, and therefore there is a perception that researchers have free rein on the process (Braun & Clarke, 2006; Nowell et al., 2017). By adhering to the phases of an inductive thematic analytical approach, there is consistency across the interpretation of varying data sets and themes are less likely to be misinterpreted (Braun & Clarke, 2006).

3.3.4 Quantitative method

The purpose of the quantitative data collection was to have a structured and standardised mechanism capable of repeated measurement that would allow us to understand whether the MBSR programme caused a shift in either positive or negative affect, or self-compassion.

3.3.4.1 Quantitative data collection

Two Likert-type scales, the Positive and Negative Affect Schedule (PANAS) and the Self-Compassion Scale (SCS), were used to explore the association between the MBSR programme and its effect on levels of positive and negative affect and self-compassion. The data for this study were collected between February and July 2019. Each participant completed a first survey prior to commencing their first MBSR session, as a baseline measure. The same survey was then completed in weeks four and eight, reflecting the midpoint and final point in the MBSR programme. The participants completed a final survey in week 20, which was three-months following on from the final session of the MBSR programme and coincided with their final interview.

3.3.4.2 Measures in the survey

An example of the self-report survey is available in Appendix B.

PANAS scale

As mentioned in Chapters One and Two, the MBSR programme has been effective in reducing symptoms of stress and rumination, as well as increasing emotional regulation. The capacity to self-regulate emotion is thought to be an indirect result of the cultivation of mindfulness (Brown et al., 2007). To examine the impact of the MBSR programme on levels of emotion, given the indirect benefits hypothesised, a self-report survey was used to evaluate any such changes. The scale used in the survey was the Positive and Negative Affect Schedule (PANAS) scale, which is a reliable, valid and empirically tested scale for the measurement of the two dimensions of mood known as positive and negative affect (Watson et al., 1988). Positive and negative affect measures are also commonly used to assess wellbeing (Westerhof & Keyes, 2010) and, in particular, are two key wellbeing measures which are associated with suicide ideation. High suicide ideation tendencies have been associated with high levels of both negative affect (Yamokoski et al., 2011) and low levels of positive affect (Hirsch et al., 2007)

The PANAS self-report scale consists of a combination of two 10-item scales developed to measure the perception of both positive and negative affect (Watson et. al., 1988). Respondents rate single-word items which describe positive or negative emotions on a scale that ranges from 1 (very slightly or not at all) to 5 (extremely). Examples of adjectives used are “Interested”, “Strong” and “Enthusiastic”, juxtaposed with “Guilty”, “Irritable”, and “Ashamed”. The PANAS scale allows for temporal variations in assessment and participants can be asked to rate their affectivity “right now”, “over the past few days/week” or “in general”. Responses are coded to either

positive or negative affect and are summed separately, allowing independent calculations of affectivity. The scores range from 10 – 50 with higher scores representing higher levels of positive affectivity and negative affectivity, respectively.

SCS Scale

There is a growing body of evidence which suggests that self-compassion is an important contributor to psychological wellbeing through an inverse association with negative mind states and psychopathology (Barnard & Curry, 2011; MacBeth & Gumley, 2012). Self-compassionate individuals recognise the inherently imperfect nature of basic humanity and are capable of transforming negative affective states into positive affect (Neff, 2003). Learning self-compassion is thought to be especially useful when aiming to counter negative self-attitudes which support a negative self-perception (Neff, 2003). Moreover, the ability to reframe negative to positive affective states gives rise to proactive behaviours aimed at maintaining or promoting wellbeing (Neff, 2003). In addition, as mentioned previously, self-compassion and mindfulness measures are interrelated and strongly correlated (Baer et al., 2012) and self-compassion is more easily self-rated than mindfulness due to greater familiarity with attitudes towards the self as opposed to past conscious states (Van Dam et al., 2011). Therefore, self-compassion will be used as an indicator of the levels of mindfulness.

The majority of research addressing the link between self-compassion and wellbeing uses the Self-Compassion Scale (SCS) (Neff, 2003). The SCS is a reliable and theoretically valid measurement tool for levels of self-compassion comprising 26-self report items, measuring 6 components of self-compassion, namely: self-kindness (e.g. 'When I'm going through a very hard time, I give myself the caring and tenderness I need') , self-judgement (e.g. 'I'm disapproving and judgemental about my own flaws and inadequacies'), common humanity (e.g. 'I try to see my failings as part of the human conditions'), isolation (e.g. 'When I fail at something that's important to me, I tend to feel alone in my failure') and mindfulness (e.g. 'When something upsets me I try to keep my emotions in balance') (Raes et al., 2011). The SCS has shown concurrent validity through significant correlations with positive affect ($r = .41$, $p <.001$) and negative affect ($r = -.48$, $p < .001$) (Watson et. al., 1988). Furthermore, the scale was compared with the Marlowe-Crowne Social Desirability scale and there was no significant correlation ($r = .05$, $p = .34$) identifying that the SCS is robust against social desirability bias (Neff, 2003). In addition, the SCS is a significant predictor of mental health outcomes as shown by its negative correlations with scales measuring depression (e.g. the Beck Depression Inventory; $r = -.51$), anxiety (e.g. the Speilberger Trait Anxiety Inventory; $r = -.65$), and perfectionism (e.g. the Discrepancy subscale; $r =$

-.57) (Neff, 2003). These correlations suggest that self-compassion may facilitate the development of resilience and thereby positively impact wellbeing (Neff, 2003).

Given the length of the full scale at 26-items, the short-form version of the SCS was used, comprising 12-items, with each component measured represented by two questions. These items are rated on a five-point Likert scale, ranging from "almost never" to "almost always". The short-form scale was developed as an alternative measure with the suggested use in instances where the relationship between process and outcome of therapy or counselling was being investigated (Raes et. al., 2011). When tested, the short-form SCS (SCS-SF) scale produced a near-perfect correlation with the full SCS (r =.98) and internal consistency was not compromised for total scores across time (Raes et. al., 2011). It is deemed an effective and efficient alternative to the full SCS (Raes et. al, 2011).

In terms of scoring on the SCS-SF, the scores for negatively-worded items (self-criticism, isolation and over-identification) are reverse coded and the mean scores of the subscales are summed to create a total self-compassion score (Neff, 2003).

3.3.4.3 Quantitative data analysis

The Statistical Package for the Social Sciences (SPSS) Software was used to analyse the survey data. Given that the same participants were measured over a succession of time points, a repeated-measures analysis of variance (ANOVA) was the most appropriate parametric test. A repeated-measures ANOVA explores whether the same set of participants exhibit any change in a dependent, continuous variable across a period of time. This was appropriate in order to assess any impact from the MBSR programme. Specifically, a repeated-measures ANOVA for this research project allowed the researcher to compare the mean scores for each of the scales across the various time points. Therefore, the researcher could ascertain the longitudinal impact of the MBSR programme on the self-reported wellbeing ratings.

To determine the appropriateness of a parametric test, the data were preliminarily tested to understand whether they met the assumption of normality. Given the small sample size (n = 10), the Shapiro-Wilk test of normality was used to test this assumption (Field, 2013). Furthermore, histograms for skewness and kurtosis and Q-Q plots were created to visually inspect the data. These indicated both PANAS and SCS-SF met the assumption of normality. A specific assumption of repeated-measures ANOVA is sphericity. For this, the Mauchly's test of sphericity was used, which assesses whether the variance of the differences between all combinations of related groups are equal. If this test is not met, then the probability of falsely detecting a statistically significant result increases, which is known as Type 1 error. However, the

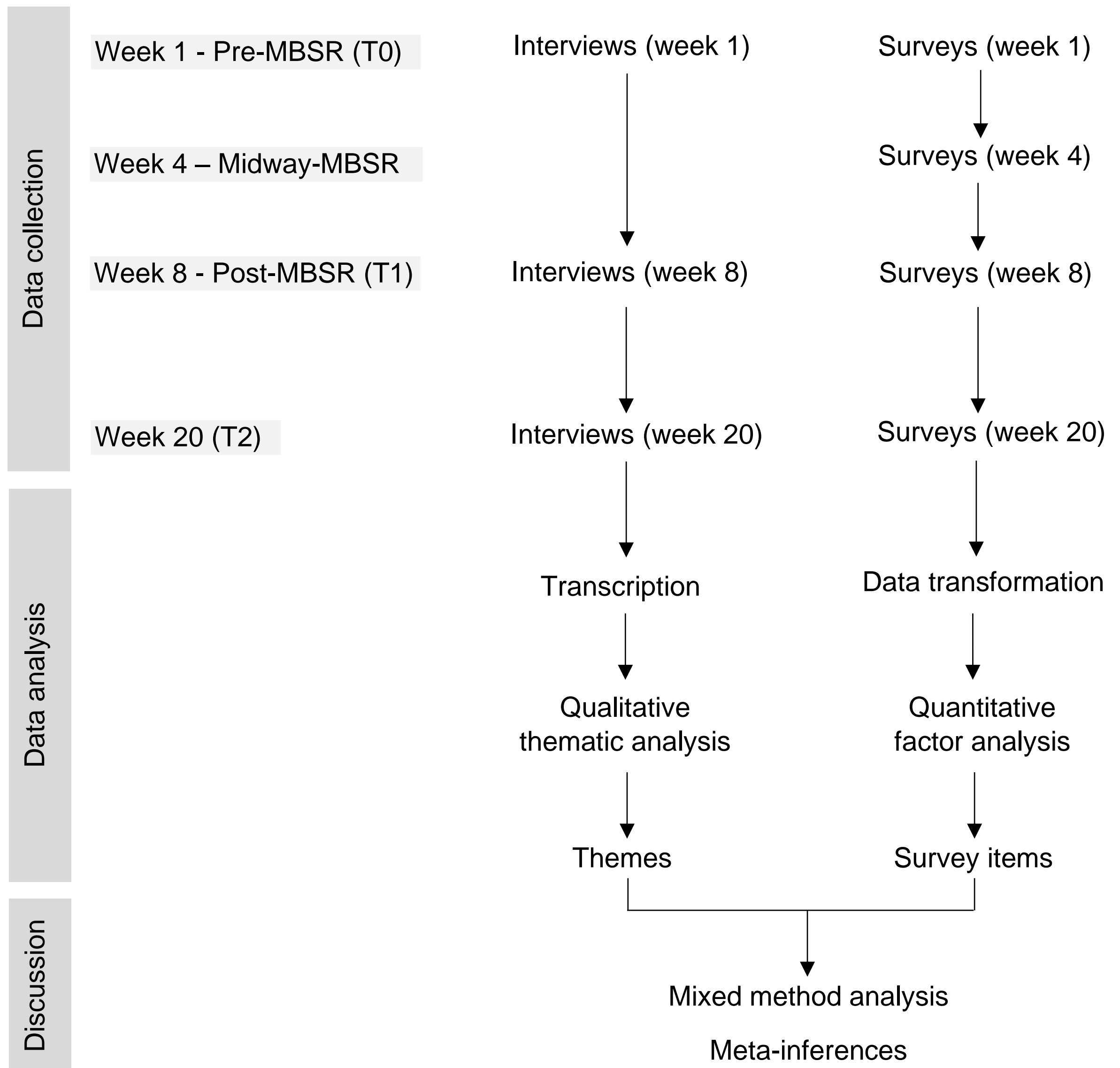
Huynh-Feldt epsilon accounts for non-sphericity and can be used in this case. The full results will be covered in greater detail in the results section.

3.3.5 Mixed-method

As mentioned previously, the purpose of this mixed-methods study was to create a holistic understanding of the veterinary experience of wellbeing. The use of both qualitative and quantitative methods allowed the research to overcome the limitations found in each approach, adding strength to the research (Creswell, 2014). However, in order to attain a holistic view, the data had to be integrated and analysed collectively, as informed by the concurrent mixed-method design (Creswell, 2014). Creamer (2018) recommends a visual representation of the integration of qualitative and quantitative findings through a process-orientated figure for mixed-methods research, to contribute to methodological transparency and credibility. To depict the mixed-method used for this study, Figure 1 is an illustration of the concurrent collection of data and provides clarity around what stage the data were integrated. The figure represents the collection of the quantitative and qualitative components of the data and shows their integration at the discussion phase of the research, where meta-inferences were drawn through the development of a conceptual model.

Figure 1.

Process of mixed-method data collection and analysis



3.3.5.1 Mixed-methods analysis

The themes which emerged from the qualitative thematic analysis were compared and contrasted to the results from the quantitative analysis of the PANAS and SCS-SF scales for the purpose of creating meta-inferences (Creamer, 2018). Collectively, the analysis answered the research questions by creating comprehensive descriptions of the experience of wellbeing for veterinarians in New Zealand, their experience of the MBSR programme, as well as comparing the descriptions to concurrent self-reported levels of positive and negative affect and self-compassion over time. The longitudinal nature of the study allowed integrated results highlighting short-

and medium-term perspectives and experiences of wellbeing. In addition, the collective interpretation was used to inform a conceptual model of veterinarian wellbeing in New Zealand.

The mixed-method analysis will occur in the discussion chapter of this thesis, amalgamating the themes and the survey findings to create meta-inferences, as outlined in Figure 1.

3.4 Research data trustworthiness and rigour

Trustworthiness in qualitative research, rigour in quantitative research, and both respectively for mixed-methods design are important factors for consideration of validity and reliability in the research process. Each of the qualitative, quantitative and mixed-method components are described in terms of these criteria in greater detail below

3.4.1 Qualitative data "trustworthiness"

With regard to the evaluation of qualitative research, there are no universally accepted criteria (Noble & Smith, 2015). However, the strategy described by Guba and Lincoln (1985) is universally perceived as essential in qualitative inquiry. Guba and Lincoln (1985) describe the construct of trustworthiness, where data analysis must be conducted in a consistent, precise, and exhaustive manner. To be accepted as trustworthy, data must fulfil the criteria of dependability, credibility, transferability, and confirmability. To achieve dependability, the research process must be clearly documented and logical, so that readers are able to judge whether the research process can be deemed dependable. Furthermore, research credibility addresses whether the views of participants are accurately depicted by the researcher. One way to determine this is through member checking, where interpretations of the findings are verified by the participants. A further consideration is transferability, which places a responsibility on the researcher to provide thick descriptions of the research and context so that those who seek to transfer findings have the ability to judge the appropriateness. Lastly, confirmability is the result of achieving dependability, credibility and transferability, clearly establishing that the findings are derived from the data. The various criteria are summarised in Table 2.

Table 2.

The descriptions of 'trustworthiness' in qualitative research findings, chronologically ordered

Guba & Lincoln (1985)	Description
Dependability	Whether the findings are consistent in terms of the interpretation of the viewpoints presented by participants, by the researcher. Strategies used to ensure dependability include an audit trail of notes on decisions made during the research process; during meetings; reflective thoughts; as well as the data management and sampling plan, to provide transparency around the research path.
Credibility	Whether the findings provide plausible inferences from the original data provide a correct interpretation of the original viewpoints. Credibility is akin to internal validity in quantitative research. Strategies used to ensure credibility include persistent observation; prolonged engagement; data triangulation; and member checking.
Transferability	Provision of a rich and thick description of the participants, the context, and the research process to enable others to ascertain the transferability of the research to their setting.
Confirmability	Akin to the idea of objectivity, confirmability is concerned with neutrality, with a focus on the process with which the data were analysed.

To analyse the qualitative data and findings from this study, the definition of trustworthiness as per Guba and Lincoln (1985) will be used, focusing on the four strategies and how they relate to this study.

3.4.1.1 Dependability

To begin with, the data collection and management process was approved via the Auckland University of Technology ethics application process prior to the commencement of the research (see Appendix A). In order to proceed, there was a data management and sampling plan which covered issues of confidentiality and the handling of sensitive information. Moreover, the interviews were recorded and transcribed verbatim, as well as identifying emotional reactions and pauses in conversation, to contextualise the transcription. Therefore, the research meets the requirements for dependability.

3.4.1.2 Credibility

In addition, with regard to credibility, verbatim transcriptions ensure originality of the data and assist in the correct interpretation of the participants' original viewpoints. Participants were also given a personal copy of their transcripts, and no subsequent requests were made for changes. Furthermore, given this was a longitudinal study with the same ten participants, the requirement for prolonged engagement was fulfilled.

3.4.1.3 Transferability

Moreover, regarding transferability, the participants who volunteered for this research had to meet a range of criteria to qualify, including being a registered, practising veterinarian working with companion animals in Auckland, New Zealand. In addition, the interviews purposefully contextualised the nature of the work and experiences of the veterinarians to provide the context within which wellbeing was being experienced.

3.4.1.4 Conformability

Finally, with regard to confirmability, the data collection process was confirmed prior to the commencement of the study and adhered to throughout. The data were transcribed by the researcher and read multiple times to ensure accuracy and accurate presentation, especially given the participants were receiving a copy of their personal transcripts. Furthermore, the data were interpreted with the help of NVivo, a software specifically built for qualitative inquiry. Emerging themes were discussed with the researcher's supervisor, who has a background in psychology and thorough understanding of employee behaviour, to address any potential researcher bias. Furthermore, given that the data met the criteria of dependability, credibility and transferability, conformability can be assumed.

3.4.2 Quantitative data "rigour"

Rigour is the term most often used to address the combination of validity – including both internal validity and external validity – and reliability (Morse, 2003). Broadly, validity addresses whether the scales used measure the content they claim to. Here, the focus is on external validity which pertains to how well the findings can be applied and generalised to the wider population; and internal validity, which addresses the minimisation of alternative explanations for the same the conclusions, known as systemic error (Gravetter & Wallnau, 2017). Reliability refers to the ability of the tool used to produce the same results under the same conditions (Roberts & Priest, 2006).

3.4.2.1 External validity

Given the small sample size of this study (*n*=10) and the limitation of investigating companion animal veterinarians in one geographical region (Auckland), the results will have low levels of external validity. In other words, any results produced cannot be generalised to the wider population of veterinarians (e.g., large animal, mixed-practice) in New Zealand. The reason for the small sample size is due to practical considerations, including the cost of the programme, the optimum size of a given group for MBSR, and the breadth and timing of the thesis. However, although the results are not capable of generalisability, the data will provide an objective record of progress for participants with regard to affect and self-compassion.

3.4.2.2 Internal validity

The PANAS and SCS scales both contribute to internal validity given they have been proven as suitable tools to measure affect and self-compassion, respectively (Crawford & Henry, 2004; Neff, 2003). With regard to the PANAS scale, Watson et al. (1988) reinforce that the negative and positive scales are largely uncorrelated and provide independent, stable measures that are reliable over time. The PANAS items were the result of a reduction of 60 items, eliminating those with a factor loading under .40 (Watson et al., 1988). This factor analysis means the items included are closely related to only one subscale. For example, the positive affect scale (but not the negative affect scale) is significantly related to social activity and the negative affect scale (but not the positive affect scale) is significantly related to perceived levels of stress, showing criterion and discriminant validity (Watson et al., 1988).

Neff (2003) identifies that the construct validity of the SCS found significant negative correlations with the Self-Criticism scale ($r=-.65, p<.01$), identifying that those higher in self-compassion were less critical of themselves. In addition, significant positive correlations were found with the Social Connectedness scale ($r=.41$, $p<.01$), identifying that those higher in self-compassion feel a greater level of interpersonal connections (Neff, 2003). These correlations confirm the expected relationships between these similar constructs.

3.4.2.3 Reliability

Furthermore, the PANAS and SCS scale produce consistent results over time and across measured items, supporting reliability (Crawford & Henry, 2004; Neff, 2003; Raes et al., 2011). The PANAS scale shows internal consistency for both positive affect items ($\alpha=.88$) and negative affect items ($\alpha=.87$). The SCS-SF scale also shows suitable internal consistency ($\alpha=.86$) and has a strong correlation with the longer

version of the scale (r=0.98) (Raes et al., 2017, Sutton et al., 2017). In addition, the SCS-SF test-retest reliability over the span of five months was .71 (Raes et. al., 2011). For the PANAS scale, over one year, the test-retest reliabilities were .68 and .71 for positive and negative affect, respectively (Watson et al., 1988),

3.4.3 Trustworthiness and rigour of mixed-methods research

The trustworthiness and rigour of mixed-methods design is dependent on the respective qualitative and quantitative components (Creswell, 2012), as evaluative criteria specific for mixed-methods are under-developed (Tashakkori & Teddlie, 2010). In the health science field, Sale and Brazil (2004) took a step towards the creation of parallel criteria to appraise mixed-methods research. They created a framework which encompassed four elements, each covering both quantitative and qualitative aspects. These are: (1) Truth value, which comprises of internal validity for quantitative and the credibility for qualitative methods. Collectively, the purpose of truth value is to understand if the findings demonstrate a clear link with reality and are not influenced by extraneous variables. (2) Applicability, meaning external validity for quantitative and transferability of qualitative methods. Together, they show there is enough evidence to support generalisability to other groups, situations or contexts. (3) Consistency, which contests the reliability of quantitative and dependability of qualitative methods. The purpose of consistency is to identify errors, carelessness, inappropriate interpretations, and inappropriate application of logic by attempting to repeat the study. (4) Neutrality, which determines the objectivity of quantitative and confirmability of qualitative methods. These criteria are applied to ensure findings are accurate depictions which are not influenced by the biases of the researcher. However, in spite of these criteria developed by Sale and Brazil (2004), they concluded that no criteria for the critical appraisal of mixed-methods were available upon which to compare their model. Since the publication, there have been several further attempts to develop quality criteria and key frameworks (Bryman et al., 2008; O'Cathain et al., 2008; Andrews & Halcomb, 2009). However, as the framework for mixed-methods evaluation have not yet been agreed, this research paper will focus on the establishment of rigour in the quantitative method and trustworthiness in the qualitative method to support the quality of the research presented.

3.5 Chapter summary

This chapter identified the research objectives, which informed the choice of a mixed-method research approach. Consideration was given to the epistemological stance of the researcher, depicting a pragmatist worldview which acknowledges the importance of the influence of social experiences on one's perception of the world.

Pragmatism aligned with a mixed-method approach, providing a more comprehensive understanding of participants' experiences through the concurrent integration of methods.

In addition, this chapter acknowledged the ethical considerations for the qualitative and quantitative research methods, with particular attention paid to the minimisation of risk of harm to participants for each nature of inquiry. Moreover, the data collection and analysis processes for the qualitative and quantitative components of the study were described in detail, including the use of semi-structured interviews, and the PANAS and SCS scales. The trustworthiness and rigour of mixed-methods was addressed through investigation of the trustworthiness of the qualitative method and the rigour of the quantitative method.

The next chapter presents the findings of the qualitative and quantitative analyses and provides the foundations for subsequent integration of findings in the discussion chapter of this thesis.

Chapter 4. Results

This research was conducted using a concurrent, parallel mixed-method design, in which both qualitative and quantitative data were collected concurrently. In keeping with this design, these sources of data will each be examined separately, before integrating the findings to investigate whether the data sets converged or diverged, which will take place in the discussion section. The results will be presented starting with qualitative thematic analysis, followed by quantitative repeated-measures ANOVA and planned comparisons.

4.1 Qualitative results

Qualitative data collection is helpful when seeking to describe a participant's perspective regarding an experience and its meaning. The semi-structured interviews helped to contextualise the experience of participants' wellbeing with regard to their role as companion animal veterinarians. Moreover, the interviews allowed investigation of the participants' perceptions of the MBSR programme and experiences of wellbeing over time, and in particular, mindfulness.

To contextualise the companion animal role and provide greater insight into the workplace and the factors influencing wellbeing, an initial semi-structured interview took place prior to the commencement of the MBSR programme. At this point in time, participants were asked about their experiences in their workplace and the stressors faced, as well as their perceptions of the programme itself, and what they expected would happen. This was deemed Time 0 (T0), as depicted in Figure 1.

Soon after the final MBSR programme session, participants were interviewed to better understand and contextualise their experience of MBSR, as well as whether there was any influence of the programme on their experience with wellbeing in the workplace. This was deemed Time 1 (T1).

To gain insight into the stability and on-going nature of any perceptions, ideas or benefits related to the MBSR programme, and whether there was any impact on their perception of wellbeing at work, participants were again interviewed three-months following cessation of the MBSR programme. This was deemed Time 2 (T2).

4.1.1 Pre-implementation evaluation (T0): Baseline wellbeing and perceptions of mindfulness

The initial semi-structured interview was to better understand the context of the veterinary workplace environment and the wellbeing experiences the participants have had at work.

As mentioned earlier, the interviews took between 30 - 90 minutes in length and participants covered an array of themes addressing various aspects of workplace wellbeing and what it has been like to work as a companion animal veterinarian.

Using thematic analysis, four broad themes were identified regarding the participants' experiences at work: *precipitating individual factors, the nature of the work, the availability of support, and coping mechanisms.* Each of these themes has been broken down further into subthemes, providing greater detail of the common threads.

4.1.1.1 Theme one: Precipitating individual factors – "*We're all perfectionists, but I'm still not good enough"*

The first theme is precipitating factors and within this theme there are two sub-themes. The first sub-theme explores the common personality traits found amongst participants, which likely contributed to their choice of veterinary medicine as a profession. A second sub-theme explores how participants view themselves as veterinarians, emphasising the self-doubt that leads participants' to more negative self-evaluations.

4.1.1.1.1 Personality traits

Multiple participants described a similar type of personality that they believed was common amongst veterinary professionals. They described how this type of personality is naturally attracted to challenges, such as are offered in veterinary medicine, as well as pursuing their desire to care for animals. Key similarities in their descriptions of themselves revolved around the profession attracting high-achievers who found it difficult to ask for help, also resulting in difficulties finding coping mechanisms when in the work environment.

> "You know, starting off through vet school, um, is a super hard process in itself. So, you know, you start the road to becoming a vet and you've got this 5 years, which is incredibly difficult, um, and so, um, you're… you are challenged mentally throughout those 5 years. I think that attracts a, um, a type of personality. You are, um, quite hard on yourself by nature, I think. Um, you are potentially more introverted than most, which… it drives you to perhaps not reach out when you're finding things hard" – [Nancy, T0]
>
> "…we're all perfectionists and we have that type A personality and we are all intelligent and so I think that's all pulled into that." – [Keplar, T0]
>
> "And I think some of that does have to do with the personality types, not just from an intelligence, or driven, or motivated, type A personality – not just that. But, that, and the people who want to work with animals – that kind of heart. I think those two things are probably the majority of why we will all have the same struggles" – [Keplar, T1]

These examples identify that the participants perceive people who are drawn to the profession to exhibit qualities of perfectionism, introversion, and type-A personality

traits. They also see their role as a veterinarian as a vocation and are deeply concerned in maintaining animal welfare.

4.1.1.1.2 Self-conceptualisation

A majority of the participants described a fear of failure and self-doubt regarding their accomplishments, feeling they were not good enough as veterinarians, and were highly self-critical. The fear, doubt, and criticism were described during veterinary school as well as in the workplace, identifying both the precipitative and on-going nature of the thoughts and feelings experienced.

> "…there's definitely more a fear of…the problem is with vets, there's a fear of failure as opposed to, um, celebrating the successes… As a vet, you don't think about all the good things you've done. You think about the things that didn't go right" – [Pablo, T0]

> "I still, now, wake up believing that I have failed my vet course. Probably like 4 – 5 times a year." – [Alexandra, T0].

> "I've got a very vivid experience and I'm actually not a real vet; I'm just a cheat. Because, going through the university, time was already such a pressure. You have to pass all these courses and we are the type of people that want to do it a certain way and extra good. So, it starts at university and it starts with your first job and it starts with your first failure." – [Alexandra, T0]

> "I'm worried that I just don't know enough… I suppose I never feel like I'm doing enough, regardless of what I do" – [Emily, T0]

> "If I don't push myself, I won't be as accurate in my work. And it tends to be when I take time for myself, I get really behind in something. …Invariably, something goes wrong when I take time for myself." – [Pat, T0]

> "I guess there's the…they call "the imposter syndrome". I don't know if you've heard about that? Where you feel like you're…you don't actually know what you're doing or you're you know…and I mean, for some of these dental referrals, I'm charging them like $2000 or something and it's like, you know, quite good if they've got insurance, because you don't feel so bad from a financial perspective. But, there's that financial pressure that is has to, you know, work. And there's the technical pressures of doing the…the feeling if it fails, you've wasted their money" – [Pablo, T0]

These examples were some of the many given expressing a persistent fear of failing and a view of themselves as not being good enough as veterinarians. Their aim for perfection is characterised by fear avoidance and a constant perception of having to prove oneself, whether to their colleagues, the client, or to themselves, as a means of justification of their chosen profession.

4.1.1.2 Theme two: The unique context and nature of the work - *"You haven't got time to feel anything. You've just got to get on with it."*

This theme reflects the common experiences that the participants described regarding the unique nature of veterinary work and its association with the manifestation of a stressful work environment. The time pressure placed on the participants to get through consultations deprived them of an opportunity to process the often emotionally weighted interactions. For many participants, the nature of their role as companion animal veterinarian was a balancing act between traumatic experiences at work, managing client expectations, and the conflicting role of guarding animal welfare.

4.1.1.2.1 Traumatic experiences at work

The traumatic experiences described were a combination of verbal abuse and emotional blackmail, regular emotionally-weighted interactions, including discussions of and actually euthanising animals, and workplace bullying.

4.1.1.2.1.1 Verbal abuse and emotional blackmail

The participants described an array of verbal abuse and emotional blackmail, primarily from clients, but also from colleagues, indicating that the work environment of companion animal veterinarians can be challenging.

> "And, when I put the dog down, he had signed all the consent forms so that there is no error in what we are doing. He looked me in the face and said, 'I don't know how you can do this'."- [Pat,T0]

> "…but sometimes, there's just no talking to some people. It doesn't matter what you say; how you say it, how much time you give them, how much you bend over backwards. They're never happy, never satisfied, always going to complain, and I'm tired of that. I'm tired of really having people like that, you know, in my face, day after day, and um, it uses a lot of energy to cope with people like that, and I'm over that as well. And I think that those would be only the two things that I feel, you know, this many years down the track. I just can't do this anymore" - [Allegra,T0]

> "And they tell you you're lining your pockets with money, and you're a horrible person, and you don't love animals, or else you'd do it for free. Basically, all the abuse under the sun. All guilt trips, to try and make you give them whatever they can. And if you do fall for it, and you do discount it, then you get in trouble from your bosses for discounting. So that's always hard, to get stuck in the middle." - [Pat,T0]

Overall, these interactions with clients have accumulated over time and have created a negative impact on the perception of the workplace.

4.1.1.2.1.2 Emotionally-weighted interactions

A few participants described experiences illustrating the high-level of emotion that can be experienced from a consultation with a client.

> "I had this terrible consult. It was this poor woman, with her son there and her guinea pig had died that night. This guinea pig was obviously going to have to get euthanised, because she had no money. She'd lost another guinea pig a month before. And I could see how upset she was , but she didn't feel like she could cry in front of me and cry in front of her son about it (pause) and that's why I got upset, because she felt like she couldn't get upset. And I'd just thought about how stressful and difficult her life was and she could tell me to the cent how much money was in her bank, and why she couldn't, you know, do any work with this guinea pig. And I was like "Oh my God!" I had to leave the room" - [Allegra,T0]

> "The stress of trying to help people through their emotional burden, when they're…you know it's quite difficult to go from someone who is just besides themselves with grief and then you have to walk in….like, you might be upset yourself. It might be a patient you know too, and you're upset, and then you have to go to a puppy and a client that's super excited. Or, maybe there's a client that's angry, or something, and you have to put all your own emotions aside, within about 2 seconds, and just get on with the job and how you feel is irrelevant" - [Pat,T0]

These illustrations exemplify the unique circumstances the veterinary workplace has, with regard to the emotional weighting of conversations and subsequent procedures. The client and patient are prioritised to the extent that the veterinarian does not have an opportunity to process the conversations and circumstances at the time of the event. They are expected to empathise and console the client, provide treatment to the animal patient, and do so repeatedly throughout a typical work day, without regard to the level of emotional impact and without the space to process such emotionally-weighted situations.

4.1.1.2.1.3 Euthanasia of companion animals

Euthanasia was described as a particularly distressing part of the role. While at times euthanasia presented the best option for an animal in pain with no chance of a good quality of life, sometimes clients chose euthanasia due to affordability or convenience. This was particularly upsetting for veterinarians who wished to put animal welfare first but had to follow the clients' wishes even when euthanasia was not, in their view, the best option for the animal.

> "They've been brought there by someone and sometimes , people won't come back twice, because of costs and they're like, if you can't fix this, you know, sometimes people literally say that in the room that if you can't fix this, then it's euthanasia and it's like "Oh God!"" [Rosy, T0]

"…if you've gone through all of the options with the person; about rehoming, about treatments, you've gone through every option you can think of to save the animal. At the end of the day, it is their property. Legally. And, if you say no, they're either going to go to another vet and do it; or, they're gonna go home and let if off on the side of the road, which is worse, or they're gonna shoot it; or they're gonna try and kill it themselves. Or, they're gonna do something dumb! They're not going to go home and say "Oh, the vet said I shouldn't put it down therefore I'm not going to. Now it's going to live a happy life for the next ten years". [Pat, T0]

"[There are] People who just kill their animals over nothing. Like, I remember one person said to me that their dog needed…it was actually the second nice Sharpe I'd met. He was beautiful. He was only a year old and he had bad eyes and bad ears. He was just the most beautiful dog. And he needed surgery and he couldn't afford it and he wanted to put him down. And I said "No, no, we will rehome him. We can do all this. We will save him and do all this stuff." And they looked at me in the eye and said, "If we can't have him, no one can". And we put him down. And you're just like "What the fuck! What the fuck is wrong with people?" You know, someone would have taken him and paid for the surgery and he could have lived a happy life. You know, he was only twelve months' old. And people are just…dicks! Is the best way to put it." - [Pat, T0]

One participant described the treatment of a euthanasia procedure like any other procedure carried out in clinic:

"I remember my first big euthanasia...it was a really nice Sharpe…it had these big lumps and it was a really advanced tumour that had grown really fast …unbeknown to them, this cancer had already gone into its lymph nodes. Anyway, we tried to save it, but we couldn't, and we had to put it down. The whole family was sobbing, and they were really nice people. I remember putting it down and all I could do is…I went out and I walked around the kennels, like four times and I was like, "Okay. Next client. Go!" You don't actually have time to, like, process anything – if that makes sense?" - [Pat, T0]

Participants also described the regularity of having to perform euthanasia procedures.

"I've done a euthanasia this week; I've reported bad news around the cancer. In which other profession are you ever around so much death and…bad news?" – [Alexandra, T0]

"You euthanise animals, almost daily, in some weeks, and no-one prepares you for that. At all." – [Nancy, T0]

"Cause I've killed so many animals (pause) *crying* that I don't like killing anymore. Like, it affects me more and more. Like, I don't like…you know, you just gotta do it as kind as you can; as nice as you can. For the animals. But I was like: hunters have got nothing on vets. Like, if they think they are killers. Vets kill way more. You know, you have days where you start calling each other Dr. Death. Sometimes you'll have days where you're like 'I don't wanna kill another one today' because it's just like (pause) too many deaths." [Pat, T0]

With regard to euthanasia, participants noted the particular distress of convenience euthanasia, when clients chose to end an animal's life without exploring

other treatment options first. This was usually a result of the affordability of the alternative options in comparison.

In addition, the regularity with which euthanasia was performed meant that participants had euthanised many animals during their career and it was described as a regular part of the job. They described that it was something they did not expect or feel prepared for when they embarked on their veterinary career.

Euthanasia is a standard service offered by veterinary clinics and the process is not distinguished from the other services provided, regardless of the emotional implications of repeated occurrences. Given that animals have the legal status of property, it is the owner's decision as to whether their animal should be euthanised. From the recounts and examples provided, the owners reasons for choosing euthanasia are not always in line with the purpose of euthanasia as perceived by veterinarians, who deem themselves to be the animal welfare guardians. The conflicts that arise regarding the reasons for euthanasia result in traumatic experiences in the workplace, on a regular basis.

4.1.1.2.1.4 Workplace bullying

Several participants described challenging interactions with colleagues in the workplace and described occurrences of workplace bullying. For one veterinarian participant, it was the owner of the practice who behaved badly in general, as illustrated by the first quote, but also particularly bullied the veterinarian interviewed, as illustrated in the second quote below.

> "I remember she wanted to eat her lunch and there were no forks in the draw, and she started screaming and throwing cutlery around the kitchen and she was like "Why are there no fucking forks in this fucking kitchen. Who's in charge of buying fucking forks?" *laughs* and everyone is just cowering as this woman's slamming things around the kitchen" – [Rosy, T0]

> "…she talks to the nurses behind my back; complains about my decisions; undermines me to my clients. You know, she told the receptionist to lie and say she saw me changing my roster that day and the receptionist came to me and said 'Just a heads up, she's been trying to get us to lie against you, but we wouldn't and now she's cross with us as well.'" – [Rosy, T0]

One participant described how they were scrutinised in front of a client by a senior member of staff in their first role as veterinarian.

> "And usually, if your first boss, and most people, including myself, were let down by my first employer – a cat passed away and he made me do all the research about why it happened and I know the location the cat was placed in its cage afterwards was not really good. The cat couldn't breathe. It was rolled up and basically there was no care afterwards that monitored the cat. But that wasn't the bad thing. I kind of got complete about that I've lost an animal's life in a

> routine procedure. But then, he stepped in front of the owner in the evening, when I was ready to apologise and explain, and said "Oh look. Just talk to me because I will from now on look after your animals because my under-practiced staff are certainly not going to make a mistake like this for you ever again". – [Alexandra, T0]

As described, the veterinary workplace is no exception to workplace bullying, regardless of the other unique stressors experienced. Both participants who spoke about their experiences described being undermined and disrespected in front of clients. For both, these experiences happened early on in their careers; their first job in their field.

4.1.1.2.2 Managing the conflict of client expectations and animal welfare

From the descriptions below, client expectations of veterinary services can be unrealistic and demanding. Multiple participants described a conflict between what the client was able to afford and the level of care they expected. Furthermore, veterinarians' perception of their role as animal welfare guardian and their desire to do whatever possible to save the animal's life was at times compromised due to affordability. Although the decision ultimately is made by the client, the decisions are presented to clients by veterinarians as experts, and therefore clients see veterinarians as partly responsible for the choices they have to make as owners. When clients cannot make what they think is the best possible choice for the animal, they may blame this on veterinarians.

> "A lot of it is client interaction that stresses me out, way more than anything in the back." [Emily, T0]

> "…I think the issues, um, that we, as vets, and again, I'm putting broad term on this, struggle the most with is the expectations from clients… it's a constant battle between meeting the expectations of your clients and meeting your own expectations and, you know, you have these animals in front of you which can't help themselves and you've got to figure out what's going on and a lot of the time, you can't. And can't figure out what's going on because they don't have money" – [Nancy, T0]

> "Any in the public health system, they have all these blood tests. They have access to specialists. You know, like, my partner broke his hand. We went and got emergency care, that cost nothing. We then went to the GP. It cost $20 for an x ray, $40 for the visit. …Like to ring a specialist and bang, you have access and you have help! And you think, when medical professions have all of that and they get it wrong. Yet, when a client spends $120 on a blood test, and they're yelling at you, because you say that didn't give you the answer, but I told you it wouldn't give me the answer and we would have to do more tests? Oh, you're just making things up so you can spend more money. It's..it's..it's difficult.- [Pat, T0]

> "I remember working in England and with one lady, I got to the point where I thought she was going to try and hit me… the cat was so sick, basically took it straight away off her and put it on oxygen and got her on fluids and did the basic

first aid to save it and then came through to say like, it's really bad, and we might spend all this money and not save your cat. It's so sick. And I said, but this is how much it would cost. And she just went nuts and just got so angry at the cost. She got so angry…" [Pat, T0]

> "So, I said to this client…I had her and she came and the cat had urinary problems and we did lots of tests to rule this and that out. But, she was very difficult, in a way. She had her own opinion and she would block anything you say, "Because that's not true!" So, I tried to persuade her that this is actually stress related. We did all the tests - $600.00. and I can hear her in the waiting room: "I'm here already 6 times and already, $700.00"." [Rocky, T0]

The role of the veterinarian is a juggling act between providing the best possible care for the animal balanced with managing expectations, both the clients' and their own, with regard to what is genuinely achievable within the context of affordability constraints. With regard to healthcare in New Zealand, veterinary medicine is not subsidised, which one participant noted as contrasting with the heavily subsidised nature of human healthcare. For clients, the comparison of these two healthcare experiences may make the cost of animal healthcare appear inflated, as there are few other comparatives. As a result, expectations can be based on incorrect assumptions about veterinary healthcare, premised by the experience in human health, leading to a lack of understanding of the true costs of veterinary practice. In some cases, these cost constraints meant veterinarians were unable to provide the best possible solution for the client and their pet.

4.1.1.3 Theme three: Minimal support is available - *"Making mistakes and then having people to talk to about it was missing"*

A prominent theme from the participants was the lack of peer support available, regardless of their position within the clinic, whether recent graduate through to owner. Many participants described different depictions of support that was lacking, including a lack of mentorship and guidance, having misguided conceptions regarding the realities of the profession, and a lack of supervision and opportunities for debriefing.

> "Unfortunately, when I went through vet school, you weren't set up well when you left vet school, to deal with this stuff. To deal with people who have no money; who get angry at you when you can't fix their animals; um, who blame you, who tell you that you're not good at your job…And…and then you get through vet school, and you think that's hard, and then you get into the real world, and realise that it wasn't."- [Nancy, T0]

> "They were like "You're the intern! So, you just have to do what we say!" and that means you're going to work overnight as a sole charge emergency vet as a new graduate. And I was like, "Well this just sucks!" – [Rosy, T0]

> "We had nothing about experience in management. And then, you end up, you know, 11-12 years later, as a head vet, trying to manage angry people and, potentially, angry staff and upset staff and everything. And, you do it. And, you

do okay at it. But, you could probably do better if someone actually gave you some guidance.” – [Pat T0]

“They expect everything from you, but you don’t have all the support that you need.” – [Allegra, T2]

“I wish that vet school had prepared me more – or, at least prepared me for this. Because, it didn’t.” – [Nancy,T0]

“I remember a cat turned up and it had had six surgeries on its leg and had a great big hole where it’s back leg should be and it was peeing urine out of its stomach, basically. Or people would ring up and say “My dog’s eye is half out!” And I would be like “Ah! Where’s the textbook?!” I would just be like “I don’t know how to do that. I’ve never done this surgery”. And I would have nightmares about ambulances. When I knew I had an emergency shift, I would have nightmares about ambulances turning up with animals in them and I just found that really stressful.” – [Rosy, T0].

“So, friends of mine that work in government, and one works for CYFS. Very difficult job. Hugely difficult job! They have something called supervision. So, for every four case workers, they get a superior they can discuss what happened, who they had over the week and what happened. They have counsellors on tap, if they want them. They were encouraged within their peers to talk about it; about these stressful things. They had confrontation teaching; like how to deal with confrontation. How to deal with, um, they did workshops all the time about emotional intelligence; about confrontation, all about the things they’re gonna come across. Whereas what happens in the vet world, you get trained to be a vet, and then off you go. You learn…we have half an hour…maybe it was an hour…on euthanasia.” – [Pat, T0]

These examples illustrate that participants felt they were ill-prepared to be successful in their roles, given a lack of direction, guidance, and debriefing opportunities. They described difficult learning curves and no additional support to improve beyond their current capabilities.

4.1.1.4 Theme four: A lack of coping mechanisms – “*Um, and you don’t have the skill set to cope with it.”*

When asked about how they cope, the participants illustrated an array of mechanisms and manifestations. From positive strategies, such as exercise and speaking with others, through to negative strategies such as using alcohol, medication, experiencing eating disorders and, finally, ignoring issues, hoping that not paying attention would help the negative issues or environment disappear.

4.1.1.4.1 Behavioural coping strategies

The majority of the behavioural coping strategies were short-term solutions, whether it was avoidance of the problem, intermittent exercise, or alcohol consumption.

For example, some participants described coping passively, by avoiding addressing the negative environment.

"I mean, you just have to deal with it; get on with it. Carry on." – [Pablo, T0]

" You're flat. So…so…it, ah, enables you to go through the rough time but when you're at home and you want to do something, you just don't desire a drink; you don't desire food; you don't desire anything." – [Rocky, T2]

Some participants described using physical exercise, alcohol, or both as a mechanism of coping.

"So, when I first started working, 4 or 5 nights a week, I had something after work, where I was generally some sort of physical activity, even if it wasn't super intense. Now, I probably do stuff once a week, if that! But, um, I do find that it does help when I'm focused on a different task, that has nothing to do with vetting." – [Emily, T0]

"…you're allowed to do what you wanna do. It you wanna just, like, cry in the afternoon…I had a dog and I did a lot of walking. Like, lots of walking! Maybe 3 or 4 hours a day of walking. Um, so I think I did have those good coping strategies. You know, like, exercise. Giving myself a break and saying if you feel like drinking a whole bottle of wine, just do it *laughs* instead of feeling guilty about that...Drinking. Lots of alcohol." – [Lady Penelope, T0]

"When I was a younger vet, in my 20s and 30s, probably a bit more anxious about my cases. Now, I'm less. But, um…you drink, probably, yeah? A couple of glasses would help you get rid of some of that anxiety." – [Rocky, T0]

4.1.1.4.2 Psychological and medication-related strategies

One participant described the development of an eating disorder in response to the pressures faced at university.

"So, yeah, when I was going through vet school, um, I …in terms of coping mechanisms – you know, you have to cope in some way, and there are healthy ways of coping, and then there's not so healthy ways of coping and my coping mechanism – I developed an eating disorder. And so, I can control what I ate, and could control my weight, and that made me feel better about everything else. And, I probably developed – I wasn't necessarily diagnosed, but perhaps also developed a depression during that degree." – [Nancy, T0]

Some participants described seeking psychological and medical support.

"…my psychologist who I saw through the GP was actually extremely helpful and a lovely man." – [Rosy, T0]

"Um, and you don't have the skill set to cope with it. And it gets really hard. Um, yeah, so I stayed on antidepressants through midway through last year, and then I weaned myself off of them, and that was really hard. Um and I, to be quite honest with you, would really like to get back on them, um, because life is really hard without them." – [Nancy, T0]

The coping mechanisms described have been chosen by participants based on their individual circumstances and experiences, but are not unique to their workplace environment or tailored specifically for the difficulties faced within their roles as veterinarians. A majority of the participants were passively coping, ignoring the situations faced in the workplace and the impact on their wellbeing. Of those who

described coping mechanisms, these were split evenly between those who described regular or intermittent exercise, those who described regular or intermittent drinking, and those who sought psychological help.

4.1.2 The experience of mindfulness

In a bid to understand the experience of mindfulness, information relating to participants' thoughts, perceptions and knowledge about mindfulness were collected at three points in time: prior to the commencement of the MBSR programme (T0), directly following the programme (T1), and three-months after the cessation of the programme (T2). The longitudinal nature of the data gathered was to understand whether there was a shift in meaning and individual perceptions of the concept of mindfulness.

4.1.2.1 Participant perceptions of mindfulness prior to participation (T0) – "*Just dealing with the here and now"*

Inquiry into participant perceptions of the concept of mindfulness and their expectations of the MBSR programme prior to commencement revealed that many of the participants described mindfulness as a tool to learn how to relax and be calm and open their awareness to their surroundings. Many described their view of mindfulness as being about consciousness of their experiences and a freedom from life's constraints.

> "My perception of mindfulness is being aware of the things we aren't consciously aware of. As in, are we aware that we're stressed? Because I think a lot of people aren't even aware that they're stressed." – [Keplar, T0]

> "I suppose mindfulness, more and more, is something that I hear a lot more recently and in my mind, it takes on being aware of yourself; being aware on your impact on the environment and the people around you and trying to be more present in what is occurring now." – [Emily, T0]

> "…able to stop that little voice inside of your head that is constantly distracting you. Talking about this and that; should be doing this or that. Analysing the past. So, mindfulness is just being free from all of that…I…expect it's going to be challenging. I expect it's going to be eye opening. Ahh…and I'm expecting to see things in life from a different perspective." – [Rocky, T0]

> "what I believe it to be is, um, in terms of how you process your thoughts and what you pay attention to and what you don't pay attention to, um, and, um, being more aware of what you're doing in the moment, perhaps? Um, and not constantly projecting forward…being more aware of yourself and being more aware of what you're actually doing at that time" – [Nancy, T0]

Participants described their view of mindfulness to be the development of an awareness of thoughts, actions and behaviours. When asked more about the purpose of the programme, participants identified that they hoped it would equip them with tools to deal with stressors and give them the space to deal with their thoughts and feelings.

> "…tools to hopefully deal with my stress associated with work and just general life, better. So, um, it will hopefully reduce stress levels and yeah, give me techniques. Hopefully." [Nancy, T0]

> "…creating some space, I guess, just to think which, you know, a lot of vets have definitely been missing, in life, is just time to ah…stop and reflect and, um, ah… bring some more thought to actions." [Rosy, T0]

> "…just kind of hoping maybe to be calmer and less anxious, or something." [Allegra, T0]

Many of the participants had a general grasp of the concept of mindfulness and anticipated that the programme would equip them with tools to alleviate symptoms of stress. Through a comparison over time, as participants learn mindfulness techniques and practice over the duration of the programme and after, their perceptions of the practice and programme may change. The changes over time will help to understand the experience of mindfulness and wellbeing and will create an openness to positive change.

4.1.2.2 Participant perceptions of mindfulness immediately after the MBSR programme (T1) - *"How you process your thoughts and what you pay attention to"*

Immediately after completing the MBSR programme, participants' experiences and perceptions varied. Some participants were hoping that the eight-week programme would be a solution to the issues of workplace stress, but had been disappointed mid-way through the programme when MBSR turned out to not be the complete panacea they had hoped for. However, by T2, after time had passed following completion of the programme, their perceptions shifted towards a more balanced view that accepted personal responsibility for using the mindfulness tools taught during the programme. Below are recounts of participants' reactions to MBSR immediately following completion, at T1.

> "The very first night, I was really hopeful. Like, I was like, oh yeah, this is gonna be…this is the magic bullet to my veterinary career woes, um, and that's why by about week 4, I was feeling frustrated because I had started identifying areas of my life that were a problem, particularly at work, and I couldn't work out how to rectify those areas because they are areas that are beyond your control. You know, because you're the worker, you're not the boss? You know, when I'm at the vet clinic. And so I was like 'Ugh…' It was like being made more aware of something you can't do anything about? So…whereas before, it was behind a closed door and you hadn't looked inside to see what the problem was, you just knew you were unhappy. Whereas, now you figure out exactly what's going on and you know you're not living within your values, or whatever, or you're stressed out and you're not getting breaks and you know the harm it's doing to you, but you're still in this environment that dictates you need to do that? And so that's when I was like 'Oh, this isn't helping!' So, that's why I was frustrated at that point because I was like "ugh! Now I know the problem, and I can't do

> anything about it, so I was like 'Ahhhh!'" But, then as time went on, I worked out… I have to re-prioritise things. So, that's a good thing to do"– [Pat, T1]

> "Probably at about week 6, I was like 'Ohhhhh'. The penny dropped. This isn't about changing our work environment and it's not the silver bullet; it's changing your perspective and giving you coping mechanisms of life in general, and then in general, if your stress is reduced, then in your workplace, you can be reduced stress too" – [Pat, T1]

> "I didn't really know what to think. In the beginning, I was like: 'Oh my God. This is just another thing that you need to do.' It becomes another thing where you need to be somewhere. You have to be at work. You have to do this, you have to do this, and you have to do this. So, even you being so excited about it and even speaking to (MBSR psychologist facilitator) and she being so nice, I had a little bit like thoughts about like 'Oh my God, that's 8 weeks committing to something.' Whereas in our lives it's all about doing things better that are for others, but not for yourself, if that makes sense? At the end of it, you're so exhausted that you just don't get any energy for yourself. Um…and this is just not like that at all. It was really, really good. It just turned around to the point where I was actually looking forward to it." – [Rocky, T1]

> "It is a course that perhaps changes your perspective on how to manage day to day stressors. Gives you techniques which have potential to be very beneficial. Um, is not necessarily for everyone, but it does, ah, certainly expand your…you know, your approach to dealing with stress" – [Nancy, T1]

> "…creating a bit of space, um, between what's happening and your reaction to it." [Rosy, T1]

The participants each had a unique experience and described their perception of the benefits of the programme in a variety of ways. The programme provides a number of tools a person can use, and it was evident that participants varied in what they found most helpful.

> "I mean I can't do that gratitude-based mindfulness. That thing doesn't work for me, for whatever reason. But, you know, I'm picking up I'm getting stressed a bit easier. Taking, you know, centring yourself with those breaths – you know, that three breath thing? Probably helpful. You know, thinking 'Oh, maybe this is winding me up a bit' and picking those up early" [Pablo, T1]

> "I really tried to find some time each day to do something. And, you know, during the day, we had those little green dots, and I had one on my steering wheel and every time I got in my car, at the beginning of the day, I would adjust my posture, breathing, be aware of that, and I would drive out of the driveway like that, on my drive to work." [Alexandra, T1]

> "I enjoyed, from as soon as we tried it, the three-step body…the three-step breathing. Um, I found it really easy to include in my day and, maybe the way I was doing it was right or maybe wrong, but the way I was using it helped me calm down and take a breath and I found that just that in itself would make a difference to my stress levels at that moment". [Emily, T1]

Participant experiences of the MBSR programme and the fulfilment of their expectations was unique to each individual, with a variety of perspectives, including differences in the perceived helpfulness of the learned tools.

4.1.2.2.1 The benefit of a group approach

One aspect of the programme which most participants felt strongly towards was the benefit of a group of like-minded people. After completing the programme, participants described that a key aspect of the perceived benefit of participation was being part of a wider group from the same profession. Being part of a group allowed participants to gain insight into others' experiences; share their experiences and get feedback; and feel heard by people working in a similar professional environment.

> "…you then heard that other people that you would look at and think "They'll so have everything sorted. They'll so be sweet. They'll know exactly what they're doing". You know? And then they start talking and it's like "Oh! They've got pretty similar problems to me!" So, it was quite nice and to have that…people in the veterinary profession agreeing – like, we need to slow down, we need to look after ourselves." [Pat, T1]

> "Um…you know, what this programme actually taught me is that we are very isolated in our profession, as surgeons. And, we can rarely share this with our partners; with our families; and with our friends, because they don't understand. Being in a group with vets, being able to talk to them, where they understand you, made a huge difference. And this is what I said there when (psychologist facilitator) asked us about the experience of the programme, and that's what I said to her. I said, yes, this was in a very controlled manner and very kind of focused on things. It was directed by (psychologist facilitator). And, in that way, we were not really forced to talk about vet work, you know what I mean? We could open up easily. Which people do when they're friends for a long time; they can talk about certain things and feelings. As a vet, even if they came around, they would never do that. It would take such a long time, you know, to discuss our personal experience and stress and everything we have at work…actually, at the end of the course, people were very sad the course has ended but I think that they were actually sad that the group, that group support, was ending." [Rocky, T1]

> "the main thing I got out of it was the collegiality and the discussion and the talking and everyone just kind of like…you realising you weren't alone and the stressors and the sort of things that wind you up – you weren't the only one. And yeah, you work with vets, I have colleagues, I'm not in a clinic, working by myself. But you don't have time to chat about how you're feeling today and what stressors are you dealing with this week. You're on the go! You've got stuff to do. So, yes, you've got a team. I'm very lucky I have a great team! But you're not having that sort of conversation. So, to go along to…it was sort of like group therapy to be honest…you go along, and you just talk about stuff. You listen to other people. You get to share a bit. But it was also guided, with [the facilitator]…out of everything, was probably the bit that benefited me the most, um, was the collegiality; the conversation; the discussion. Just the sharing. Um, but it was guided. Rather than non-guided and therefore didn't have the potential for bringing everyone down. So that's the main reason I kept going." [Nancy, T1].

> "You wouldn't put us together normally for it to work, but it worked! No one was judgy. No one was saying inappropriate things. Everyone was really respectful of each other, but it somehow worked. It was just so random that it worked! 'Cause you could have had a group where you just felt really uncomfortable and didn't want to volunteer anything, because you would think somebody was going to judge you for it. But I can't comment for everyone, of course, but I had never

felt that. I thought that was very, very fortunate. Um, but yeah, the collegiality was really good." [Nancy, T1].

"…it was really lovely to hear everyone's collective experience and it's made me realise that a lot of vets are really similar in the way that we approach our job and then I think that a lot of us are quite different to other profession that are…and it was actually quite nice to be like "Oh! This is normal!" *laughs* like, to be a bit of a workaholic and to have a job that you feel defines you and um, that it's, um, that you put a lot of emotion into and a lot of work into, sometimes to the point of like your friends and family saying it was too much. That was quite a common sort of thread. So, it's made me, um, feel a lot more connection, I guess, with other vets." [Rosy, T1]

"The calibre of people that were there and seeing that everyone, I'm sure that you've heard, that everyone has issues and we – Ah! *started to cry* - we all think the same thing. It doesn't matter if you're a specialist or a brand-new vet, it doesn't matter. We all think the same things". [Keplar, T1]

"To have ten other people who are in the similar profession as you are, I think was equally as important as the course itself. If I would have done that course with lawyers and accountants and whatever, you would have shared your story and they would have listened and said "Yeah, that's interesting". But to have one of us say one thing and everyone else is like "Uh huh" you know, it's just made that emphasis that there's something that we need to do in the profession." [Alexandra, T1]

The descriptions illustrate the benefits from being part of a group of people from the same industry with regard to the normalisation of thoughts and feelings and the ability to provide advice and guidance with a background from the same industry. It highlights the power of facilitated conversations, with objectives and a plan, when compared to an informal, unfacilitated meeting of colleagues. It also demonstrates that the group component was perceived to be one of the most powerful aspects of the MBSR programme.

4.1.3 Participant perceptions of mindfulness three months after the MBSR programme (T2) - *"This isn't about changing our work environment and it's not the silver bullet; it's changing your perspective"*

The interviews conducted three-months following completion of the MBSR programme (T2) were helpful in providing insight around the techniques learned during the programme to combat workplace stressors. Overall, there was a large amount of variation, from using multiple learned techniques; sticking to one favoured technique; having techniques as a resource that might occasionally be used; or not using the learned techniques whatsoever.

"…when you wake in the night and you feel a little stressed and overwhelmed, just to go back to my breathing and, you know, focus on my breathing and empty my mind. Like, I actually can think of nothing!... I feel invincible." [Allegra, T2]

> "…five out of seven days, I do some sort of meditation or mindfulness. And it works…" [Alexandra, T2]

> "I noticed myself wondering. I brought myself back, doing procedures. I haven't really used it for, you know, stress things. I've only used it more for when my mind was wondering off and not where it was supposed to be." [Pablo, T2]

> "Everyone I've spoken to has found it useful, but they're not actually practising. So, I don't quite know what that means." [Pablo, T2]

> "I don't kind of sit down and practice, but the concepts kind of come back to me, you know, at points during the day and ah…and so, I still think it's having some sort of effect, but I'm not doing any formal practice." [Rosy, T2]

> "The problem with this practice is that a lot of it is reliant on you and your self-discipline. And the problem is that …we don't have that discipline... Despite being in the programme, joining the programme, having all those tools, I ended up burning [out]" [Rocky, T2]

> "…it crosses my mind, but I'm super busy, as per usual, so no, it doesn't happen. Um…But it's kind of good, because I know I've got it in the background. It's still good to have it, if that makes sense? Because I know if I need to, I know how to, and I have the resource." [Pat, T2]

> "I failed in trying to do it daily… on a day to day basis, as part of my routine, I still aspire to doing that. I don't know if I'll ever be successful doing that." [Emily, T2]

While participants varied in how much they used the techniques of the programme, some participants had made dramatic changes in their lives following the MBSR programme, suggesting that the programme had produced strong impacts. Thus, following the completion of the MBSR programme, at the three-month interview, three of the participants had resigned from their place of work and had attributed their decision to participation in the MBSR programme. In addition, one of these participants had also left her husband and another had left their long-term partner. Quotes from two of these participants are included below.

> "I think this course made me aware of how stressed I was and I wanted support and I wanted a work/life balance and I felt like one of the [other] two jobs was going to give me more happiness in my life" [Emily, T2]

> "I quit my job! I'm also leaving my husband!... You just take stock, re-evaluate, and it's like…you know, this isn't working. And, I haven't just decided just to do it out of the blue. Like, he knows there's been a problem for a couple of years and has not been willing to engage. But now…just this…I don't know. It's opened the lid off me! So, whatever has to be, will be! And, it will be fine, you know?" [Allegra, T2]

The interviews at the three-month follow up mark have identified that whilst there was value in participation in the programme, using the learned resources in the longer term varied from person to person, with multiple participants stating they had not kept up with the practice. Many of the participants suggested that refresher courses and check-ins would have been beneficial in motivating them to continue with their

practice. More marked evidence for the effect of participation is those who resigned from their work, noting that the programme had provided the opportunity for them to gain some perspective and decide that the way they were working was not sustainable for them, and their wellbeing would improve with a job change.

4.1.4 Summary of qualitative results

The qualitative interview process and analysis has identified key contributing factors affecting the wellbeing of veterinarians in New Zealand. From individual characteristics, the unique nature of their work, and the insufficient support, as well as nonspecific coping strategies, the participants illustrated a range of contributors affecting their wellbeing as companion animal veterinarians. With regard to the MBSR programme, the participants described their initial thoughts on the concept of mindfulness, which were broadly in line with the mindfulness literature, and their experiences with the programme itself. They described those mindfulness resources they found useful from the programme and how they implemented their use, but also described the difficulty in having the discipline to continue practising frequently. Beyond the learned resources, participants identified that a key positive impact of the MBSR programme was the support of a group of professionals from the same industry. The effect of the programme being delivered in a group format was helpful in normalising thoughts and experiences, and gaining alternative perspectives, especially with a group who have a common profession and understanding of the occupational environment. Regardless of the long-term ability to continue in the practice of mindfulness, the process of completing the programme was deemed helpful and led to significant life changes for some participants, with three of the ten participants leaving their place of employment, and two of the ten participants discontinuing their long-term relationships following the programme.

However, beyond seeking to understand the veterinary workplace environment and its impact on veterinarian wellbeing, and the experience of the MBSR programme overall, this research sought to evaluate quantitative data on the impact of the MBSR programme on wellbeing. Using two reliable and valid scales, participant levels of positive affect, negative affect and self-compassion were measured to give an object measure on variables of wellbeing over time, as described further in the quantitative results below.

4.2 Quantitative results

To provide an objective measure of wellbeing and understand the impact of the MBSR programme on affect and self-compassion, participants completed the PANAS and SCS-SF scales in a survey provided over four points in time (a total of 40 surveys

upon completion). The data were analysed using a one-way repeated-measures ANOVA for each of the three variables, which is an appropriate statistical test when the same group of participants are measured over multiple points in time (Field, 2003). A repeated-measures ANOVA tests whether there were any differences between population means (the averages at each time point), thereby identifying whether or not there has been a change in the dependent variable over time.

The dependent variables observed were:

1. Positive affect
2. Negative affect
3. Self-compassion

The independent variable was time, with four measurement points:

1. Week 1 (commencement of the MBSR programme)
2. Week 4 (mid-way through the MBSR programme)
3. Week 8 (cessation of the MBSR programme)
4. Week 20 (three months following on from cessation).

4.2.1 Testing assumptions

In order to run a repeated-measures ANOVA analysis, three assumptions must be met: (1) Independence of the observations; (2) normality of the dependent variable at each level of the independent variable; and (3) sphericity. The data fulfilled the assumption of independence, as the scores between individuals were not related given the sample of participants was randomly selected from the veterinary industry (Field, 2003). In addition, the data fulfilled the assumption of normality, evidenced by the Shapiro-Wilks test results (provided below). However, the data varied in the fulfilment of the assumptions of sphericity. Where the data did not meet these assumptions, corrections were made where possible, and this is explained in greater detail through the examination of each dependent variable below.

4.2.2 Rationale for planned comparisons

In conjunction with a statistically significant F-statistic from a repeated-measures ANOVA, a more detailed statistical test is often conducted to understand where the significant differences of the dependent variable across time are. With regard to the research objectives, part of the purpose of this thesis was to investigate the effect of the MBSR programme on positive and negative affect and self-compassion. Given the small sample size, to increase the power of the statistical test, the planned comparisons

focused on comparing the baseline (week 1) to the subsequent levels of the independent variable (weeks 4, 8 and 20).

A benefit of planned comparisons is that, because the comparisons are determined a priori, a non-significant omnibus F-test can still be followed up by more detailed analysis (Gonzalez, 2008). However, the F-test is still reported in the results for completeness, noting that planned comparisons were conducted whether or not the F-test was significant (Gonzalez, 2008).

Therefore, planned comparisons were conducted to ascertain whether there was a change in the dependent variables in comparison to the first time point, prior to the intervention. The hypotheses being tested were:

The null hypothesis:

The null hypothesis for the planned comparison for positive affect, negative affect and self-compassion is that there is no difference in the average score over time, when compared to the baseline average in week 1.

$H_0: \mu_1 = \mu_2 = \ldots = \mu_k$

The alternative hypothesis:

The alternative hypothesis is that there are differences between the baseline average score for positive affect, negative affect, and self-compassion compared with each of the subsequent three measurements.

$H_1: \mu_1 \neq \mu_k$

It was anticipated that, reflecting the success of the MBSR programme, there would be an increase in positive affect and self-compassion and a decrease in negative affect from the initial survey measurements.

4.2.3 Descriptive statistics

To summarise the data, Table 3 and Figure 2 provide an overview and illustration of the central tendency and variability for all levels of the dependent variable.

Table 3.

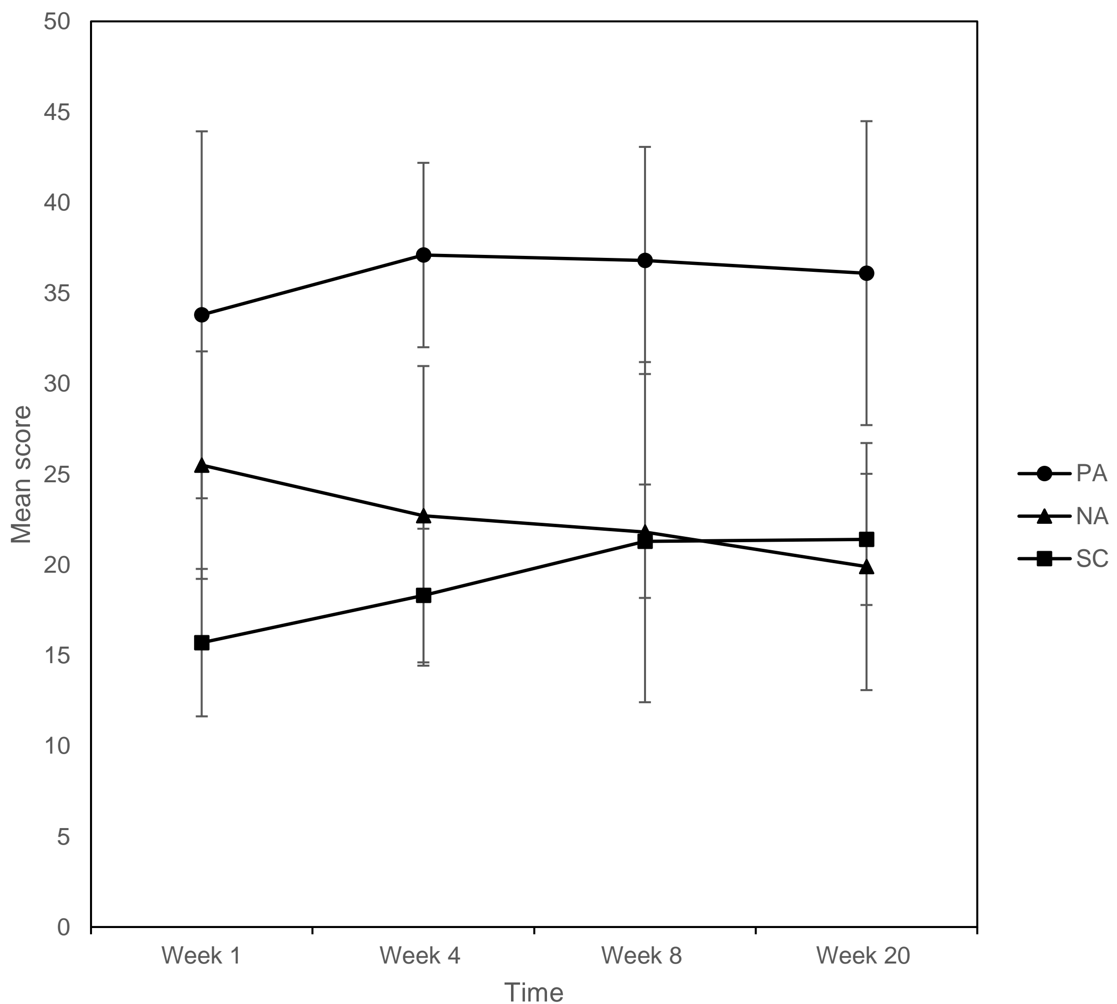
The mean and standard deviations for the three dependent variables, positive affect (PA), negative affect (NA), and self-compassion (SC), across four points in time in relation to the Mindfulness-Based Stress Reduction programme.

Dependent variable	Week 1	Week 4	Week 8	Week 20
PA – *M (SD)*	33.8 (10.13)	37.1 (4.09)	36.8 (6.27)	36.1 (8.39)
NA – *M (SD)*	24.5 (6.28)	22.7 (8.27)	21.8 (9.39)	19.9 (6.82)
SC – *M (SD)*	14.7 (4.07)	18.3 (3.69)	21.3 (3.13)	21.4 (3.62)

Note. PA = Positive affect; NA = Negative affect; SC = Self-compassion.

Figure 2.

Line graph showing the mean and standard deviations for the three dependent variables, positive affect (PA), negative affect (NA), and self-compassion (SC), across four measurements.



The descriptive statistics show that over time, the mean score for all three dependent variables shifted, especially when compared to week 1. To understand whether these differences in means were statistically significant, the researcher conducted a one-way repeated-measures ANOVA. Prior to conducting the ANOVA, the data were assessed in terms of suitability regarding the assumptions required to be met. The assumptions for each level of the dependent variable are described below, along with the omnibus F-statistic indicating the main effect, and results of the planned comparisons.

4.2.4 Positive affect

4.2.4.1 Assumption: Normality

The Shapiro-Wilks test is used to ascertain whether data come from a normally distributed population. The null hypothesis is that the sample data come from a normally distributed population: $H_0: x_1 = x_2 = \ldots = x_n$. The alternative hypothesis is that the data do not come from a normally distributed population: $H_1: x_1 \neq x_n$.

The Shapiro-Wilks test was run on positive affect scores across the four points in time and the results are summarised in Table 4 below.

Table 4.

The results of the Shapiro-Wilks test of normality for positive affect (PA) across four points in time.

Dependent variable	Shapiro-Wilks statistic	Degrees of freedom	Significance value (*p*)
PA – Week 1	.928	10	.429
PA – Week 4	.940	10	.557
PA – Week 8	.925	10	.404
PA – Week 20	.923	10	.383

Note. PA = Positive affect.

The Shapiro-Wilks test resulted in statistically non-significant values across all four levels of positive affect (p>0.05), supporting the null hypothesis. This means that the data at each timepoint can be assumed to have come from a normally distributed population.

4.2.4.2 Assumption: Sphericity

Mauchly's test was conducted to understand if the assumption of sphericity had been met for positive affect. Mauchly's test indicated that the assumption of sphericity

had been violated ($X^2(5) = 13.6$, $p < 0.05$). Therefore, degrees of freedom were corrected using the Huynh-Feldt estimate of sphericity ($\varepsilon = 0.72$). This correction is a less conservative correction than the Greenhouse-Geisser, but is more likely to identify an effect which exists (Field, 2003).

4.2.4.3 Main effect for positive affect

Given the assumptions have been met and violations have been adjusted, using the Huynh-Feldt interpretation, the results show that PA did not significantly change over time $F(2.2, 30.87) = 0.52$, $p > 0.05$, $\eta_p^2 = 0.06$). Overall, there was no significant main effect of the MBSR programme over time on positive affect.

4.2.4.4 Planned comparisons – Positive affect

Planned comparisons were conducted for positive affect scores, comparing the average scores of weeks 4, 8 and 20 to the baseline score determined prior to the intervention in week 1. The comparisons revealed that there was no statistically significant increase in positive affect when compared to the baseline in week 4 ($F(1,9)=1.57$, $p=.242$); week 8 ($F(1,9)=.68$, $p=.432$) or week 20 ($F(1,9)=.32$, $p=.587$). Therefore, positive affect did not increase over time, and the hypothesis regarding an increase in positive affect was not supported.

4.2.5 Negative affect

4.2.5.1 Assumption: Normality

The Shapiro-Wilks test was run on all four levels of negative affect scores across the four points in time and the results are summarised in Table 5.

The Shapiro-Wilks test resulted in statistically non-significant values across all four levels of negative affect ($p>0.05$), in favour of the null hypothesis. This means that the data can be assumed to have come from a normally distributed population.

4.2.5.2 Assumption: Sphericity

The final assumption to be met for a one-way repeated-measures ANOVA is sphericity, using Mauchly's test. For negative affect, Mauchly's test indicated that the assumption of sphericity had been violated ($X^2(5) = 11.7$, $p < 0.05$). Therefore, degrees of freedom were corrected using the Huynh-Feldt estimate of sphericity ($\varepsilon = 0.83$).

Table 5.

The results of the Shapiro-Wilk test of normality for negative affect (NA) across four points in time.

Dependent variable	Shapiro-Wilk statistic	Degrees of freedom	Significance value (*p*)
NA – Week 1	.961	10	.796
NA – Week 4	.957	10	.752
NA – Week 8	.898	10	.209
NA – Week 20	.880	10	.103

Note. NA = Negative affect.

4.2.5.3 Main effect for negative affect

Given the assumptions have been met and parameters for violations have been adjusted, using the Huynh-Feldt correction, an ANOVA was conducted. The results show that, overall, NA significantly decreased across time where the significance value is taken at .05 or less, that is including .05 ($F(2.5, 22.3) = 3.22$, $p = 0.05$, $\eta_p^2 = 0.26$).

4.2.5.4 Planned comparisons – Negative affect

Planned comparisons were conducted comparing average NA scores of weeks 4, 8 and 20 to the baseline NA score prior to the intervention in week 1. Comparisons against week 1 as the baseline showed decreases in NA to week 4 ($F(1,9)=10.14$, $p=0.011$) and week 20 ($F(1,9)=16.76$, $p=0.003$), but not compared with week 8 ($F(1,9)=3.50$, $p=.094$). The latter non-significant finding is likely due to the wide variation in NA scores at week 8 (see Table 5). Thus, on average, participants' NA decreased early on and at the three-month follow up compared with the baseline, but with no difference immediately after the MBSR programme finished. Overall, in spite of this non-significant result at week 8, the results mostly support a decrease in negative affect over time.

4.2.6 Self-compassion

4.2.6.1 Assumption: Normality

The Shapiro-Wilks test was run on SC at all four points in time and the results are summarised in Table 6 below.

Table 6.

The results of the Shapiro-Wilks test of normality for self-compassion (SC) across four points in time.

Dependent variable	Shapiro-Wilks statistic	Degrees of freedom	Significance value (*p*)
SC – Week 1	.195	10	.435
SC – Week 4	.229	10	.141
SC – Week 8	.217	10	.146
SC – Week 20	.171	10	.390

Note. SC = Self-compassion.

The Shapiro-Wilks test resulted in statistically insignificant values across all four levels of SC (p>0.05), in favour of the null hypothesis. This means that the data can be assumed to have come from a normally distributed population.

4.2.6.2 Assumption: Sphericity

Mauchly's test indicated that the assumption of sphericity was not violated for self-compassion scores across the four time periods ($X^2(5) = 7.2$, $p > 0.05$).

4.2.6.3 Main effect for self-compassion

Given the assumptions have been met and sphericity can be assumed, the ANOVA was conducted. The results show that SC significantly increased over time F(3, 74.8) = 12.3, $p < 0.05$, $\eta_p^2 = 0.58$).

4.2.6.4 Planned comparisons – Self-compassion

Planed comparisons were conducted for SC, comparing the average scores of weeks 4, 8 and 20 to the baseline score prior to the intervention in week 1. The comparisons revealed that there were statistically significant increases in self-compassion across all three comparisons. Thus, there was a significant increase from baseline at week 1 to week 4 (F(1,9)=7.04; p<0.026), to week 8 (F(1,9)=13.95; p=0.005), and also to week 20 (F(1,9)=17.39; p=0.002).

In overview, for the 10 participants, the MBSR programme was associated with a statistically significant reduction in negative affect and a statistically significant increase in self-compassion compared with the baseline measurements, yet no increase in positive affect. In other words, participants had fewer experiences of negative emotions and more feelings of self-kindness.

4.3 Chapter summary

In conclusion, the interviews delved into the personal experiences of veterinarians to contextualise the current environment of the veterinary industry and the unique nature of the workplace. The themes identified that participants felt there were common personality traits amongst veterinarians, describing a natural affinity for challenges and a common goal of high achievement. Consequently, a difficulty to ask for help and a persistent fear of failure and self-doubt has led to a highly self-critical group of participants who do not tend to seek support. In addition, the unique context and nature of veterinary work was a theme which revealed the complexities of the role, including the traumatic experiences faced at work such as verbal abuse, emotional blackmail, and workplace bullying. Furthermore, the veterinarian role is the only job which allows euthanasia as a treatment option, and the pressures of convenience euthanasia in particular were outlined as key influencers on wellbeing. Moreover, managing the discrepancies between client expectations and the protection of animal welfare presented a wrath of examples unique to the veterinary field with regard to workplace stressors on wellbeing.

In addition, participants described that the support available to them to help with the pressures faced at work were minimal. Their own coping mechanisms largely involved intermittent behaviours, including alcohol consumption or exercising, with some longer-term strategies such as psychological intervention and medication, but also the manifestation of an eating disorder.

The interviews gave insight into perceptions of the MBSR programme and clarified what participants deemed to be the key benefits of participation. The experience of mindfulness evolved over time, with participants initially describing the idea of being present, which then progressed to the ability to notice thoughts and thought processes. The initial expectations of the MBSR programme to change the work environment were replaced with the understanding that MBSR supports a change in a person's perspective as opposed to the environment itself. In addition, the ability to share experiences with those from the same professional background proved to make a powerful contribution to the overall success of the programme. The described positive effect of a like-minded group of people from the same industry was an unexpected yet significant contributor to the overall success of the MBSR programme as an intervention for wellbeing.

Furthermore, for the ten participants, the MBSR programme was associated with a statistically significant reduction in negative affect and a statistically positive shift in self-compassion that was present even at 20 weeks, quite some time after the

programme had finished. This supports lasting effects of the programme, in spite of the considerable variability in mindfulness practice reported in the final interviews. Positive affect did not show the anticipated statistically significant increases.

In order to understand the impact of the MBSR programme on veterinarian wellbeing, it is important to integrate the conclusions of the qualitative and quantitative data in an explanatory way (Creamer, 2018). The results will be reconciled in a conceptual model of wellbeing, which will be presented in the next chapter, and will lead the discussion.

Chapter 5. Discussion

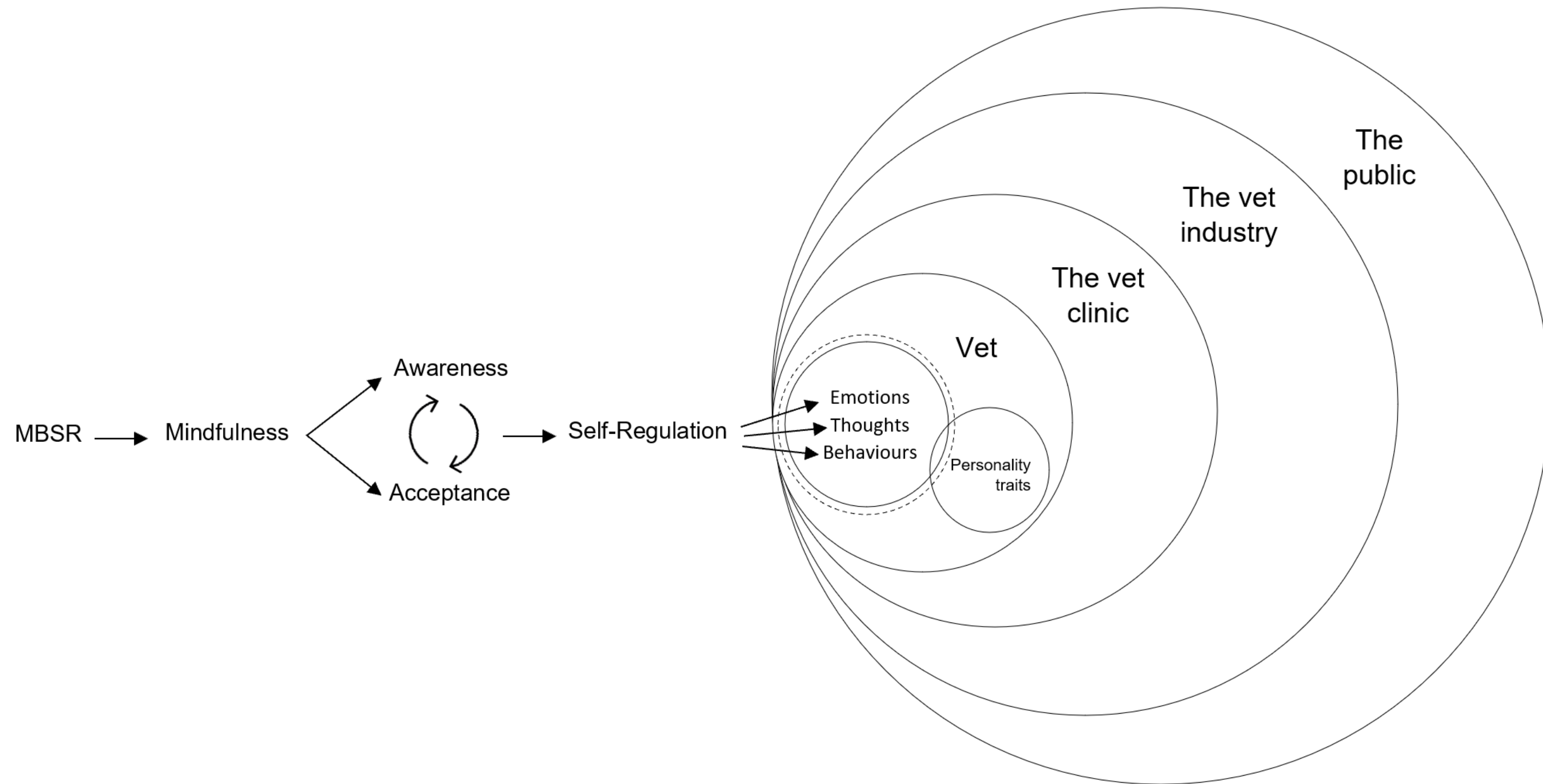
The purpose of this thesis was to (1) understand the context of veterinary work and veterinarians' experience of wellbeing in New Zealand, and (2) examine the effects of an MBSR programme on aspects of veterinarian wellbeing, including affect and self-compassion. Collectively, the results inform the suitability of an MBSR programme as an intervention to promote wellbeing in the veterinary profession. Accordingly, this discussion will amalgamate the results from the survey data with the four themes derived from the interview data to synthesise an overall understanding of factors influencing wellbeing in the veterinary profession and how wellbeing can be improved. To represent the intersection between the qualitative and quantitative findings and guide the discussion of influential factors on veterinarian wellbeing, this chapter will begin with a conceptual model derived from the qualitative and quantitative results. The conceptual model will be examined with regard to existing literature of the key concepts depicted. To conclude, strengths and limitations of the research, future research opportunities and practical implications will be discussed.

5.1 A conceptual model of companion animal veterinarian wellbeing

The conceptual model of veterinarian wellbeing (Figure 3) depicts the various influential forces which impact individual veterinarians. These forces range from the individual veterinarian themselves (i.e., thoughts, emotions, behaviours, and personality characteristics), to veterinarians' interactions within the vet clinic as their place of work, the industry as a whole, and the collective impact of the companion animal owning public, who, as a primary and key consumers of veterinary services, have the largest influence on all other factors. Moreover, the model portrays how the MBSR programme creates a buffer between the individual and the workplace factors negatively impacting their wellbeing through acceptance, awareness and, ultimately, the self-regulation of thoughts, emotions, and behaviours. Each aspect of the model will be examined in greater detail below.

Figure 3.

A conceptual model of companion animal veterinarian wellbeing



5.1.1 The veterinarian

The veterinarians who participated in this thesis chose the field of veterinary medicine as a result of their genuine care for animals and their motivation to protect and promote animal welfare. However, beyond this, their success in gaining entrance into the veterinary programme is in part attributable to their ambition, intelligence, and strong desire to succeed. The university entry requirements and limited numbers administered to the veterinary programme demonstrate the necessary drive, level of intelligence, and work-ethic required to become a veterinarian. Competitive vocations such as veterinary medicine typically attract high performing students to meet the high-performance standards (Killinger et al., 2017). High-achieving, ambitious and competitive behaviours are more prevalent in Type A personality types (Hisam et al., 2014), and what resonated profoundly from the interviews with participants was their description of their personality traits. Participants associated themselves with having a drive for perfection, motivated by their care for the animals they work with, which they felt was part of their vocational choice to pursue veterinary medicine. Many of them described themselves as having Type A personalities and being perfectionists and felt that these traits were helpful in meeting the challenge posed by veterinary medicine.

While participants felt that their drive for perfection was useful in meeting the high demands of veterinary work, the same drive was described to have potential downsides for wellbeing. Thus, participants described themselves as being highly strung, highly self-critical, and described an on-going fear of failure. Any sense of achievement was overshadowed by a focus on mistakes and a persistent feeling that they were not meeting expectations, including experiencing the phenomenon of imposter syndrome.

Consistently negative conceptualisations of the self are deemed personality traits (Ritchie et. al., 2011). Participants described these negative thoughts as on-going and ever present, no matter their level of seniority or experience. Personality is a major determinant of wellbeing (DeNeve & Cooper, 1998) and the aforementioned characteristics by participants, such as perfectionism, self-criticism and an on-going fear of failure, align with research that has been conducted on common personalities in the veterinary profession (Dawson & Thompson, 2017; Platt et al., 2012). Platt et al. (2012) identified that of the 21 veterinarians they interviewed, 48% (10) felt that their personality predisposed them to difficulties. Furthermore, Dawson and Thompson (2017) found that, for junior veterinarians, personality was a better predictor of workplace stress than the work environment. Beyond these studies, general research examining the association between the experience of veterinarian wellbeing and

personality traits is scarce (Dawson & Thompson, 2017). Studies of personality traits of populations outside of the veterinary realm have described a link between greater levels of perfectionism and increased levels of psychological distress, anxiety, and depression (Suh et al., 2017). In addition, Type A behaviours, such as competitiveness, time-urgency, and hostility, are linked to higher levels of stress and greater risk of cardiovascular problems (Heilbrun & Friedberg, 1988). Moreover, individuals who experience excessive worry, have ongoing anxiety, and who often exhibit regular feelings of guilt, fear, or loneliness are described as demonstrating higher levels of neuroticism, which is a personality trait that has been linked to poorer wellbeing through an association with greater levels of depression (Friedman & Kern, 2014).

However, although personality traits largely remain stable throughout life (Kanten et al, 2017), any associated maladaptive emotions, thoughts and behaviours can be improved (Cake et al, 2015). In order to support a break in habitual ways of being, it is important to increase levels of self-awareness and reflective practice to make apparent any unconscious habits (Cake et al, 2015, Lea et al., 2015). Developing an awareness of thoughts, emotions and behaviours can support planned changes in these, and ameliorating interactions with others. Through a process of self-regulation, people can change the way they interact, shaping new patterns of thought and behaviour, propagating more positive – and helping to extinguish negative – emotions (Kirschenbaum et al., 1985).

The ability to self-regulate thoughts, emotions and behaviour is influenced by contextual factors (Kirschenbaum et al., 1985). For example, an inability to reconcile clients' demands against affordability constraints and animal needs can create a sense of failure and increase negative affect, which interferes with self-regulation (Kirschenbaum et al., 1985). The veterinary participants in this thesis described scenarios of limited control over their workplace environment, which constrained their ability to perform to the standards they thought they should. Their workplace, the constraints experienced, and the impact on their wellbeing are described in greater detail below.

5.1.2 The workplace (the vet clinic)

A primary reason people are drawn to working in the veterinary profession is to help both animals and their owners (Cake et al, 2015). However, the complexity and realities of the day-to-day operations of veterinary work can impede these intentions (Mitchener & Ogilvie, 2002). The findings of this thesis reflect the various challenges faced at the clinic resulting from interactions with clients, including verbal abuse, emotional blackmail, and a constant stream of emotionally weighted topics of

conversation. Participants described difficulties balancing what is best for the animal with what is affordable for the client, and the misconceptions clients have of the high cost of veterinary services. The verbal abuse and emotional blackmail described typically resulted from the perception that the veterinarian was attempting to profit disproportionately from provision of the service. Previous publications have noted that the need to balance affordability of veterinary treatment with providing quality care can result in substantial strain for the veterinarian (Mitchener & Ogilive, 2002; Gardner & Hini, 2006). Participants described clients forgoing more comprehensive but expensive treatment options due to the cost involved, and placing the guilt of their decision onto the veterinarian through emotional blackmail. For example, a client opting for a life ending treatment and commenting to the veterinarian "I don't know how you can do this" [Pat, T0] and expecting an exceptional level of service without the associated costs: "And they tell you you're lining your pockets with money, and you're a horrible person, and you don't love animals, or else you'd do it for free" [Pat, T0].

Participants described a common stressor as the requirement to deal with a constant stream of emotional interactions during client consultations, whether negative or positive. For example, having back-to-back consultations without the ability to process one before proceeding to the next, whilst having to uphold a good level of customer service. Dealing with ongoing complex emotions has the potential to cause emotional exhaustion. One veterinarian participant recounted a powerful example of this, having to go from a client who was overwhelmed with grief due to the euthanasia of their pet, to having to see a client who was excited and enthusiastic, bringing their new pet in for their first consult. These fluctuations of emotions between consultations were described as typical daily occurrences and illustrate the high level of emotional interactions inherent in the veterinary role.

An added complexity to the veterinary workplace is the performance of euthanasia, which in New Zealand is wholly unique to the veterinary profession. The euthanasia of humans is currently illegal as outlined by s179 of the Crimes Act 1961 (Appendix E). Thus, veterinarians are the only profession which can legally provide the service of euthanasia for animals. Participants described the euthanasia of animals as a distressing part of the role, often chosen by owners due to the convenience, certainty and low cost of the procedure in comparison to alternative treatment options. A differentiation was made between euthanasia out of necessity, for example palliative care needs, versus convenience, which ends the life of an otherwise healthy animal.

Whilst veterinarians are not obliged to provide any requested service, including the service of euthanasia, as per section 4 of the Code of Professional Conduct for

Veterinarians 2020 (Appendix F), they must use their professional judgement to ensure animal welfare is not compromised. A compelling example was given by one of the participants describing some of their fears of what would happen to the animal if they themselves did not provide the service of euthanasia:

> "…if you've gone through all of the options with the person; about rehoming, about treatments, you've gone through every option you can think of to save the animal. At the end of the day, it is their property. Legally. And, if you say no, they're either going to go to another vet and do it; or, they're gonna go home and let if off on the side of the road, which is worse, or they're gonna shoot it; or they're gonna try and kill it themselves… They're not going to go home and say "Oh, the vet said I shouldn't put it down therefore I'm not going to. Now it's going to live a happy life for the next ten years". [Pat, T0].

The feeling of obligation to perform euthanasia procedures due to a fear of the alternative measures clients may take, and the potential harm to an animal, is a known psychological stressor of the veterinary profession (Tran et al, 2014). In addition, the frequency of euthanasia is deemed a key contributor to workplace stress (Tran et al, 2014). Participants described the regularity of euthanasia, noting it was sometimes performed daily, for example: "you have days where you start calling each other Dr. Death. Sometimes you'll have days where you're like 'I don't wanna kill another one today' because it's just like (pause) too many deaths." [Pat, T0]. The participants described the negative cumulative effect of the regularity on their wellbeing as a result of a constant association with death.

High frequency of performing euthanasia has also been associated with greater levels of depression and psychological distress in veterinarians (Tran et al., 2014). Moreover, the normalisation of death through the provision of euthanasia, the ease of access to medications and knowledge on how to use them are a lethal combination for veterinarians, who have one of the highest proportionate suicide rates of any profession (Platt et al., 2012). As described in the literature review, opportunities for action and the completion of a suicidal thought are a key component in successful completions of suicides (Seiden, 1978) and overdosing on the lethal drug used for animal euthanasia is veterinarians most common suicide method (Witte et al., 2019).

The aforementioned challenging interactions with clients and the provision of euthanasia are commonly cited workplace factors that deplete veterinarian wellbeing, in particular due to the ethical conflict and moral distress they cause (Bartram et al., 2009; Gardner & Hini, 2006; Platt et. al., 2012). Furthermore, owners used manipulation tactics to justify their choice of euthanasia and minimise their guilt, adding another layer of complexity to the ethical and moral conflicts for veterinarians, stating for example, "…if you can't fix this, then it's euthanasia…" [Rosy, T0].

In addition to these distinctive challenges, veterinarian wellbeing is also affected by a more common psychological stressor in the workplace, namely, bullying. A New Zealand study demonstrated that 16.2% of veterinarians were bullied at work (Gardner & Rasmussen, 2018) and participants in this thesis also identified having been bullied at work. The bullying described by participants was primarily associated with colleagues devaluing the veterinarians' opinions and undermining their work in front of their team and/or clients. One participant described a situation as a graduate, where they had lost an animal's life during a routine procedure and were preparing to explain the situation to the owners and own up to their error, only to have their supervisor interject and describe them as under-practiced, removing the opportunity to interact with the clients.

The types and frequencies of workplace pressures faced by veterinarians combined with a challenging and complex working environment can place substantial stress on their personal resources and ability to cope. The support available from the industry to overcome these challenges and promote veterinarian wellbeing is limited and depends on the individual to proactively seek help. Participant descriptions of the veterinary industry and the support mechanisms and services they use will be expanded upon below and will provide further insight into the external forces influencing both the workplace environment and veterinarians (as depicted in Figure 3).

5.1.3 The veterinary industry

In human healthcare settings, students and practitioners are often reluctant to seek help for psychological wellbeing (Knipe et al., 2018) and similarly, veterinarians try to manage alone (Moir & Van den Brink, 2020). The most frequent forms of support utilised by veterinarians in New Zealand are informal networks, such as family, friends, and colleagues (Gardner & Hini, 2006). More formal lines of support, such as employer assistance programmes, funded telephone helpline services (such as Vitae) or privately funded counselling, are primarily used only by veterinarians who have a clinical diagnosis of depression (Gardner & Hini, 2006). The coping mechanisms of participants in this study confirmed a reluctance to seek help and were primarily maladaptive, ranging from eating disorders, alcohol consumption, or thought avoidance, offering a temporary reduction of stress to the detriment of their health. Wellbeing support offered by the NZVA and VCNZ were not considered by the participants when asked about wellbeing and coping, suggesting that any support available is not front of mind or utilised. In addition, many of the participants described a lack of peer support, mentorship, and guidance, which has, in part, led to the development of their own – often maladaptive – self-management strategies. The

ineffectiveness of these personal coping mechanisms is a problem faced by the veterinary industry at large, demonstrated by the globally high proportionate suicide rates of veterinarians comparative to other occupations (Kinsella, 2006; Platt et al., 2012; Schultz, 2008).

In order to provide adaptive coping strategies and facilitate veterinarian wellbeing, efforts must go beyond the individual and address responsibilities of the industry (Moir & Van den Brink, 2020). An individual attempting to better their own wellbeing in a non-conducive environment decreases their chance of success compared to a parallel focus on both individual and environment (Moir & Van den Brink, 2020). Participants described that partaking in the MBSR programme was far easier than practising the same learned mindfulness techniques on their own, noting that outside of the group "Everyone I've spoken to has found it [the programme] useful, but… the practice…is reliant on you and your self-discipline" [Rocky, T2]. The programme environment supported the successful cultivation of mindfulness, which was difficult to do alone, demonstrating how environment plays a pivotal role in fostering wellbeing. This reinforces the need to direct attention to environmental influencers of wellbeing.

In a recent article on the psychological wellbeing of veterinarians in New Zealand, Moir and Van den Brink (2020) urge the regulating and professional bodies of the veterinary industry to prioritise veterinarian wellbeing and suggest three tiers of focus: Tier 1 – the provision of wellbeing-focused training for all veterinarians, regardless of psychological status, in order to encourage normalisation of attending to wellbeing; Tier 2 – tailored programmes and targeted interventions for more at risk groups; and Tier 3 – access to professional support for veterinarians who are psychologically unwell. This concurrent focus on wellbeing and mental health supports wellbeing promotion and the aim of flourishing, aligning with the two-continua model of wellbeing (Keyes, 2002).

Furthermore, a focus on the promotion of wellbeing is an important consideration for veterinary industry bodies due to the potential negative consequences of poor psychological health on veterinary practice. For example, three of the 10 participants made the choice to resign from their place of work during the programme, with one of the three leaving clinical practice altogether, after realising that much of their psychological distress was linked to their workplace. One of the participants who resigned stated that: "I think this course made me aware of how stressed I was and I wanted support… and I felt like one of the [other] two jobs was going to give me more happiness in my life" [Emily, T2] . In similar professional services, such as in human

medicine, the quality of care provided by practitioners is compromised by higher levels of anxiety and stress, which are shown to reduce concentration and attention, diminish communication, and contribute to higher levels of depression, all leading to greater errors at work (Firth-Cozens, 2003; Raab et al., 2015). In order to facilitate the protection of animal welfare and guardianship, to meet client demands, and circumvent maladaptive coping mechanisms, the promotion of veterinarian wellbeing is imperative for the prevention of similar consequences.

Moreover, industry bodies should include a focus on realigning client perceptions of the veterinary role and recalibrating expectations of what is feasible to achieve with regard to affordability. Hendrix et al. (2006) identify that the success of the future of veterinary medicine involves the alteration of public perception of the veterinary role. The role of the public as an influential force on veterinarian wellbeing is expanded upon in the next section.

5.1.4 The companion animal owning public

A recurrent influential factor amongst the themes identified from the participant interviews was the impact of clients on veterinarian wellbeing. Participants described a constant battle between meeting the expectations of the client, meeting their own standards of care as a veterinarian, and being the guardian of animal welfare. Affordability of the treatments required for veterinarians to perform to their highest standards was the greatest point of contention. One participant compared veterinary practice to human healthcare in New Zealand, with the latter heavily subsidised by the Government, allowing access to the best possible treatment options, such that practitioners can provide the necessary level of care. In this participant's view, the low or non-existent costs of human healthcare removed the necessity for clients to consider cost alongside the effectiveness of treatment options and eliminated the requirement for practitioners to make choices which could compromise welfare. However, the contrast of human versus animal healthcare costs creates a confronting situation when a client faces veterinary healthcare bills, which are not subsidised by the Government and align with the true cost of treatment. Comparatively, clients would be required to spend more on healthcare for their pet than they would on healthcare for themselves, which contributes to the negative interactions veterinarians have with clients. One participant described a scenario where, in order to better understand the health of the animal and the subsequent required treatment, they had to start with a blood test, which is common practice in human health as much as it is in veterinary medicine. Whilst often a free service in human healthcare, veterinarians have to charge the true cost of drawing a sample and testing it. In the example provided, the client was angry

that the blood test was inconclusive and immediately perceived the procedure as a way of making a profit. Furthermore, the requirement to justify each cost and battle with client expectations was described by one participant as being more difficult than the actual provision of veterinary care to animals.

It is evident that client expectations pose a significant risk to veterinarian wellbeing. Addressing public misconceptions about veterinary care is a potential mechanism to support the veterinary industry thrive (Hendrix et al., 2006). One such mechanism to alter public perceptions is to create greater awareness of how veterinary care supports human health, for example, the management of food safety, zoonotic disease prevention and control, and the protection of environmental health (Hendrix et al., 2006). A topical example of application would be to describe the association of animals with regard to the COVID-19 pandemic we are currently experiencing, and to illustrate how veterinary involvement can mitigate transmission risk. This is elaborated upon further in the practical implications section of this chapter.

While the alteration of public perceptions is an important step towards creating a better work environment for veterinarians, the ultimate result of this endeavour is dependent on factors outside of the direct control of the veterinarian themselves. As mentioned, a parallel approach is best, focusing on both the environment and the individual. Enhancing personal wellbeing will enable veterinarians to deal with challenges, foster strengths, and make decisions which support flourishing (Venning et al., 2012) in the shorter, more immediate term; whilst improving the work environment will allow further perpetuation of enhanced wellbeing.

Having examined veterinarian wellbeing in context, and through presenting and explaining a model of this, a second issue represented in the model was examining the effectiveness of the MBSR programme. The programme was assessed in terms of its suitability as an intervention for the enhancement of wellbeing for veterinarians, as they navigate their current work environment. The MBSR programme and participant experiences thereof are reviewed in greater detail in the next section.

5.1.5 The MBSR programme, mindfulness and veterinarian wellbeing

The effectiveness of the MBSR programme as a suitable intervention for the promotion of veterinarian wellbeing was assessed by examining the impact on positive and negative affect and levels of self-compassion over a five-month period. Participants' experiences with mindfulness and the programme were explored through interviews at the same time points as survey data were gathered, to develop and

deepen the level of understanding. For the survey data, information was collected using two scales: the PANAS and SCS-SF.

The MBSR component of the conceptual model (Figure 3) represents the pathways described by participants and reflects the quantitative analysis of the results and will guide the discussion below.

5.1.5.1 MBSR and the cultivation of mindfulness for veterinary participants

To understand participants' experiences of mindfulness, they were interviewed prior to the commencement of the MBSR programme, immediately following the MBSR programme and again three months' later. Over that time, perceptions of mindfulness developed, as initial preconceptions and misconceptions were informed by first-hand practical experience.

Initially, prior to participating in the MBSR programme, participants viewed mindfulness as a way to redirect consciousness to present thoughts in order to develop an awareness of the people and objects in their environment. One participant described mindfulness as supressing the constant stream of thoughts that distract them from seeing things from a different and more positive perspective. Other participants did not know exactly what to expect but were hopeful that the programme would provide the necessary tools to create calm and to reduce stress and anxiety. Overall, participants generally described the concept of mindfulness to be about paying attention to the present moment.

Upon completion of the programme, participants had conceptualised mindfulness in a variety of ways, and experiences with the 8-week MBSR programme varied widely. Some participants took a few weeks or the entirety of the programme to overcome the frustrations of the mindfulness practices and the time commitment required. For some of those participants, they came to realise that they originally held unrealistic expectations that the programme would provide practical solutions to their problems, coming to a realisation towards completion of the programme that mindfulness was about managing their perspectives. The unmet expectations caused one participant to describe that the programme is "not necessarily for everyone…" [Nancy, T1],

However, the perseverance of participants resulted in all of them completing the entire programme, with no dropouts, and subsequently, participants described how in moments of stress, they would implement their learnings from the programme, such as taking a moment to pause and focus on the present moment. Their learnings supported them to redirect their attention from a wandering mind to their breath, or to the task at

hand. One participant described feeling invincible by regaining control of their thoughts through an acknowledgement of the stress they felt and exercising their ability to focus on the present moment through breath. Furthermore, another participant described greater self-awareness, noticing that their mind had started to wander during a surgical procedure, and they were able to refocus back on the task at hand through utilising their breath.

Overall, participants described that they felt calm and more positive after attending the MBSR programme each week and described understanding how to cultivate mindfulness. However, a large majority found difficulties implementing daily practice in their lives, describing that it relied too heavily on self-discipline and that their time constraints did not allow for them to succeed. Cultivating mindfulness requires regular practice and the time commitment has been described as a barrier in other qualitative literature examining the MBSR programme (Martinez et. al., 2015; Cohen-Katz et al., 2004).

Following completion of the 8-week programme, participants noted they were not practising mindfulness techniques to the level that they had practiced during the programme, if at all. However, they were able to articulate the benefits of practice experienced during the 8-week programme. Participants viewed facilitation of the MBSR programme by a psychologist as a key contributing factor to its success. The facilitator's ability to guide participants and provide a range of resources, such as meditation and breathing techniques, helped to create an environment in which participants could achieve a state of mindfulness. As mentioned previously, participants found practice in isolation harder than attending and practising as a group. When participants had set aside time specifically to attend the group, facilitation and guidance through the processes removed the need for self-directed practice and supported the successful cultivation of mindfulness.

Furthermore, beyond the resources provided by the psychologist, being surrounded by others who were practising and the overall group structure of the MBSR programme provided unexpected benefits to wellbeing. Participants described that sharing workplace experiences amongst colleagues supported the development of an awareness of what others were going through, facilitating normalisation and acceptance of their own circumstances. The impact of the group structure on increased awareness and acceptance is discussed in greater detail below.

5.1.5.2 MBSR and self-compassion

For those following the Kabat-Zinn MBSR programme, this is always taught in a group setting, yet little research has examined the impact of the group on the overall success of the programme (Imel et al., 2008). As a result, the positive influence of the group was an unexpected finding not previously mentioned in the MBSR literature. Furthermore, the group was unique through their shared occupation and exposure to similar workplace environments, a combination which may have added greater value to the group component of the programme. Participants described that sharing their experiences in a group of people from the same profession, who have a common understanding of the unique stressors faced, was a beneficial part of the programme. This is exemplified by a participant who felt that the group was a crucial component to the success of the programme: “To have ten other people who are in the similar profession as you are, I think was equally as important as the course itself.” [Alexandra, T1].

Participants described that the MBSR programme provided a structured method of communication, and that facilitation was a key component to the successful sharing of insights, controlling the path conversations took and supporting people to share their experiences with one another. The group dynamic enabled a sense of collegiality and drew attention to the similarities in participants’ difficulties at work. When thoughts or behaviours are deemed as common and not unusual, this is known as a process of normalisation, which is a powerful tool in the recalibration of perception (Svinhufvud et al., 2017). Hearing the experiences of other participants supported normalisation and reduced the extent to which participants questioned their own capabilities and contributions. For example, sharing stories about negative interactions with clients enabled participants to realise it was a common experience, whilst also acknowledging the shared negative emotional tone of these experiences. The similarities in thoughts and feelings transformed the judgement of their experience from being unusual to becoming shared. The alleviation of judgement through a change in perception supports the acceptance of thoughts and feelings (Winslade, 2012), which may aid the mindfulness process as illustrated in Figure 3.

In order to cultivate mindfulness, an awareness of thoughts and the application of a non-judgemental attitude is necessary to be able to redirect focus to the present moment (Birnie et al., 2010, Raab et al., 2015). Given that the MBSR programme is a combination of mindfulness practice and group sharing, the collective process created both an awareness and acceptance of thoughts and feelings. Seeing one’s experience as shared, as opposed to separating and isolating, supports a non-judgemental attitude

toward one's own thoughts, which is a key component of self-compassion (Birnie et al., 2010). It was hypothesised that the MBSR programme would result in increased levels of self-compassion when compared to the baseline measurement. The findings identified a statistically significant increase in self-compassion when compared to the baseline measurement part-way through the programme (in week 4), upon completion of the programme (in week 8), and a maintained increase three-months after the programme (in week 20). These findings support the hypothesis that participation in the MBSR programme would increase levels of self-compassion over time. Moreover, these survey findings echo the qualitative findings, and participants described finding value through their shared experiences. One participant stated that "…it was really lovely to hear everyone's collective experience and it's made me realise that a lot of vets are really similar… and it was actually quite nice to be like "Oh! This is normal!" [Rosy, T1].

While the interview data indicate that participants did continue to use some elements from the MBSR programme when facing difficult situations, following completion of the programme, the majority of participants described not practising mindfulness techniques in an on-going way, in the manner outlined in the programme. Although the participants may not have explicitly felt that the techniques were helpful enough to incorporate into their daily lives, both the qualitative and quantitative data suggest that they were thinking and behaving with greater mindfulness both during the programme and following completion.

These findings echo a recent study by Monk (2019), which was published after the inception of this thesis in mid-2018 (two years part-time enrolment). Monk (2019) found that mindfulness-based interventions created long-term effects on self-compassion as a result of changing the ways in which the person relates to others and the world. The ongoing interaction between mindful awareness, reflection, acceptance, normalisation, permission, and choice leads to a change in perspective, which supports the creation of greater levels of compassion for the self (Monk, 2019). Furthermore, Monk (2019) identified that the development of self-compassion from mindfulness-based interventions is often an unexpected journey, and one which requires engagement and persistence. The duration and intensity of the MBSR programme that was a part of this research may have therefore been long enough for a more permanent change to levels of self-compassion, supporting longer term maintenance in the absence of practice.

As mentioned, the pathway which leads to increased self-compassion is by way of a change in perspective of the world and the self (Monk, 2019). This same change in

perspective supports increased levels of positive emotions and results in the better management of negative emotions (Monk, 2019). To explore the effect of the MBSR programme on levels of emotion, the next section describes the experiences of shifts in emotion and the results of measuring levels of positive and negative affect.

5.1.5.3 MBSR and the self-regulation of emotions

Mindfulness creates a distance between a person's thoughts and feelings by encouraging the observation of emotions as separate to the person experiencing them, viewing them through an objective lens (Shapiro et al, 2005). Applying a mindful attitude implies that emotions are temporary events which can be observed, rather than identified with (Iani et al., 2018). This detachment allows for re-evaluating perceptions and can help override habitual and automatic maladaptive habits and afford the choice of a response as opposed to an automatic emotional reaction (Shapiro et al, 2005). As a result, mindfulness enables a person to regulate their feelings and adapt to change (Shapiro et al, 2005).

The MBSR programme created a shift in levels of emotion for participants, as shown by changes for both positive affect and negative affect (see Figure 2 in Chapter 4). However, the increase in positive affect over time was not statistically significant, contrasting with previous research using larger samples showing a statistically significant improvement in positive affect due to the MBSR programme (Shapiro et al, 2008; Jain et al, 2007). With a sample size of 10, there was low power to find any effect; with a larger sample size, the mean differences in positive affect may have been significant.

In addition, a few participants described using mindfulness techniques to get their mind ready in anticipation of their day ahead at work. For example, one participant described using a prop given to them by the facilitator for the purpose of prompting mindful behaviour:

> "…we had those little green dots, and I had one on my steering wheel and every time I got in my car, at the beginning of the day, I would adjust my posture, breathing, be aware of that... on my drive to work" [Alexandra, T1].

However, from the interviews, participants primarily described using mindfulness-techniques when they were experiencing distress or a negative state of emotion more so than for the general promotion of positive affect.

Regarding negative affect, the survey findings largely supported the hypothesis that the MBSR programme resulted in decreased negative affect. The mean scores showed a significant decrease when compared to the baseline measurement part way

through the programme (in week 4) and three months following on from the programme (in week 20). Contrasting with these two significant decreases, the decrease from baseline to week 8, after the programme was completed, approached significance, but it was not statistically significant, with a wide range of self-reported scores evident for that week. A potential reason for the increase in the range of scores which came about from interviews with participants at this same time was regarding what was going on in participants' lives during the MBSR programme. For example, during the programme and immediately after, three of the 10 participants had resigned from their place of employment, and of those three, one had decided to leave clinical practice. In addition, one participant described the MBSR programme supporting them in their decision to separate from their husband and another participant described the programme supporting them in their decision to leave their long-term partner. The wider variation in scores at week 8 may have in-part reflected some of the emotional processing occurring from these major life events. By week 20, two of the three participants who had resigned had found alternative employment and the third opted for a contracting role to be able to regulate where and when they worked. This may have alleviated some of the negative emotions associated with the previous major events described.

5.1.5.4 MBSR and sustained change

The shift in self-compassion and negative affect over the duration of the MBSR programme, and the continuation of a change in both of these following programme completion, reflect a sustained change in subjective perceptions and emotions. Participants described the MBSR programme as providing techniques which supported their development of an awareness of their thoughts and emotions in response to triggers in their environment. This awareness created the space to allow an understanding of these negative thoughts and emotions. Moreover, participants described the group dynamic assisting in their acceptance of their thoughts and emotions. Part of the success of acceptance was through a process of normalisation, which created a non-judgemental environment. However, non-judgemental acceptance was not wholly dependent on the group support. The increase in self-compassion indicates, in part, an increase in mindfulness, since self-compassion and mindfulness are viewed as somewhat equivalent (Van Dam et al., 2011). Thus, whilst participants saw the group nature of the programme as a key factor contributing to the value gained, the fact that levels of self-compassion increased beyond completion of the programme, and therefore without the group support, indicates that individuals were capable in achieving improved mindfulness independent of the group.

The combination of awareness of present thoughts and feelings and the non-judgemental acceptance supported participants to change habitual patterns of thought and emotion. Following the programme, both immediately after (week 8) and in the longer term (week 20), participants described more easily noticing they were starting to feel stressed or overwhelmed, both at work and in their general day, and described using their preferred MBSR techniques to focus on the present moment and alleviate the stress felt in that moment. This matches with research showing that, through sustained awareness and acceptance of thoughts and emotions, reactivity to the external environment is decreased and a person can choose how they behave (Witkiewitz, et al., 2014). Reducing reactivity reduces the risks associated with immediate, deleterious reactions to a stressor in favour of an adaptive response as a result of improved cognitive control and executive functioning (Witkiewitz, et al., 2014). Therefore, consistent with past research, participants here showed how mindfulness aids in the ability to self-regulate thoughts, feelings and behaviours through awareness of the present moment and non-judgemental acceptance (as depicted in Figure 3).

5.1.5.5 MBSR – A buffer against negative events

The conceptual model (Figure 3) identifies the key external and internal influencers of veterinarian wellbeing. The MBSR programme is an intervention which has supported veterinarian wellbeing through the augmentation of internal factors, namely, thoughts, emotions and behaviours, through a combination of mindfulness, acceptance and awareness, and self-regulation. In general, the MBSR programme creates a suitable environment for the cultivation of mindfulness through learned techniques which redirect attention to the present moment. Employing these techniques, thoughts and emotions are held in awareness and taught to be accepted. Each time a new or recurrent thought or emotion is held in attention, the MBSR programme prescribes the application of an attitude of acceptance. Acknowledging and accepting thoughts and feelings and redirecting the mind to the present moment over time creates a learned method of control and leads to self-regulation. The process of mindfulness modulates behaviour through the recognition and regulation of emotions and thoughts, and allows the removal of an automatic reactive state in favour of a chosen and considered behavioural outcome. The result is that for the participants, the MBSR programme provides a coping strategy in response to the external forces influencing veterinarians, supporting veterinarians to navigate their unique environment.

The ability to cope is illustrated in Figure 3 by a dashed line encompassing the thoughts, emotions, and behaviours of a veterinarian (as depicted by a circle labelled

'vet'). The dashed line represents a permeable buffer, illustrating that there is variability in the strength of the ability to cope. This is because the ability to cope is ultimately dependant on the ability to self-regulate emotions, thoughts, and behaviours. Self-regulation is enhanced by the presence of mindfulness, which strengthens the buffer, making it less permeable and increasing the ability to cope. However, as described, participants felt that cultivating mindfulness was difficult on their own, without attending the programme and without the group support. Although the quantitative findings show longer term improvements to affect and self-compassion beyond participation in the programme itself, it is unknown how long the benefits of the programme will last for without continued mindfulness practice.

Furthermore, the buffer will likely be influenced by the workplace environment, eroding effectiveness over time given the pressures faced may influence the ability to cultivate mindfulness when compared to the supportive and accepting environment of the MBSR programme. Therefore, in order to mitigate the potential weakening of the buffer over time and to strengthen mindfulness-based coping strategies of individuals, support is necessary from both the workplace and the industry overall. Potential mechanisms for the provision of support are elaborated upon in the practical implications section below.

5.2 Practical implications

The researcher has previously worked within the veterinary industry in a Human Resources role and, based on this experience, was motivated to conduct this research in order to understand why veterinarians tend to have poor wellbeing, and see whether it was possible to use a wellbeing intervention to improve outcomes for veterinarians. Following on from this research, which started in 2018 (part-time), practical steps have already been taken towards applying the outcomes of this research to support the wellbeing of veterinarians. These steps are focused on the individual, the clinic they work in, the wider industry bodies, and public perception, reflecting the layers represented in Figure 3.

5.2.1 Practical implications for veterinarians

The MBSR programme positively promoted wellbeing as illustrated by the participants' strengthened abilities to self-regulate, the benefits described relating to the group approach, and the statistically significant increase in self-compassion and decrease in negative affect over time. Collectively, the findings have strengthened the suitability of the MBSR programme as an intervention for the promotion of veterinarian wellbeing. This research has highlighted the potential to create positive change through

participation in a wellbeing-focused programme, with benefits lasting several months beyond programme completion.

Participation in the MBSR programme has led to the formation of a cohesive group of veterinarians. Utilising the bond, comradery, and shared experience of a change to their wellbeing, the researcher brought a majority of the group back together following on from the final interview. The group was re-formed by asking for voluntary participation for the purpose of brainstorming ideas on how to improve wellbeing overall in the veterinary community. Over the past 6 months, the group have met on several occasions to discuss and develop ideas. These meeting have led to concrete ideas, including the provision of wellbeing units of learning as a separate part of the veterinary continuous professional development requirements. Together with compulsory learning regarding clinical standards and keeping up to date with new research, the group have come up with a plan for veterinarians to be offered opportunities to participate in intervention programmes, such as MBSR, as well as other scientifically-based interventions for the purpose of enhancing their wellbeing. The group have discussed their ideas with the VCNZ, who have taken the suggestions on board and are currently working on changes to the continuous professional development programme.

5.2.2 Practical implications for veterinary clinics

The benefits of direct participation for the research participants is the immersive experience and the ability to understand the exact requirements and objectives of the MBSR programme. Veterinarians' participation in the MBSR programme created an awareness of the positive change a focus on wellbeing can bring. As a result, many of the participants, who were consequentially leaders of veterinary teams within clinics or owners of clinics, have offered the MBSR programme to their own staff members, as a result of their personal experiences, paid for by the clinic. In addition, as an introduction into the benefits a focus on wellbeing can create, many have been transparent about their own experiences and have shared some of the mindfulness techniques learned with their teams.

Furthermore, several of the workplace stressors identified by the participants could be addressed at the clinic level. For example, addressing communication between employees through external training platforms to support positive, constructive feedback and the minimisation of bullying. In addition, providing peer supervision training and resources and formal debriefing systems, further supporting effective communication, and providing the space to address the emotionally weighted interactions inherent in the role. Also, creating policies which support the routine

scheduling of breaks to support and encourage an improvement in wellbeing and signal that employee wellbeing is a priority.

Although, in theory, each individual clinic could offer employees their own support system for wellbeing, it would be most beneficial if there was equal opportunity afforded to all veterinarians. To create these opportunities, it is important to get the governing industry bodies on board and work as a collective towards the goal of greater wellbeing, which will ultimately benefit the individual, the clinic, and the overall profession.

5.2.3 Practical implications for the veterinary industry

In order to support veterinarian wellbeing, it is paramount that the industry bodies agree with, and support the promotion of wellbeing initiatives put forth and that they align with their plans for the foreseeable future. Therefore, through many conversations, the researcher brought together key leaders and prominent figures in the veterinary industry, and facilitated a meeting held on the 17th of February 2020. With representation from the industry bodies, including the CEO and the President of the NZVA, the President of NZVA (Dairy Cattle & Member Advisory Group), the President of the NZVA (Companion Animal), the CEO and the Professional Advisor of Veterinary Council, as well as the Academic Dean of Veterinary Sciences, together with the leaders from the SPCA, Zoetis, MyRover, participants from the MBSR programme, other key influential veterinary industry members, and several wellbeing researchers and practitioners including Dr. Moir, Dr. van den Brink, and Dr. Cooper Thomas (thesis supervisor), the collective group (including the researcher) brainstormed how to work together to change and promote veterinarian wellbeing. It was the first time in history that industry body leaders, key members of the veterinary community, and specialists in human behaviour and wellbeing had come together to meet, discuss options, support each other and agree to plan a way forward. Whilst COVID-19 has delayed progression somewhat, recent conversations with the NZVA and VCNZ have confirmed a positive trajectory in place for new initiatives to address veterinarian wellbeing.

During this meeting, a key focus was directed towards supporting the promotion of veterinarians' wellbeing through creating a greater understanding of what the veterinary role entails for the public. Given that a major negative impact on veterinarians' wellbeing comes from animal owners, improving owners' understanding of the veterinarians' role could ameliorate interactions. Equally, importance was placed on communicating how vital the veterinary role is to society, leveraging this value in order to shift public perception more broadly. To support this endeavour, the One

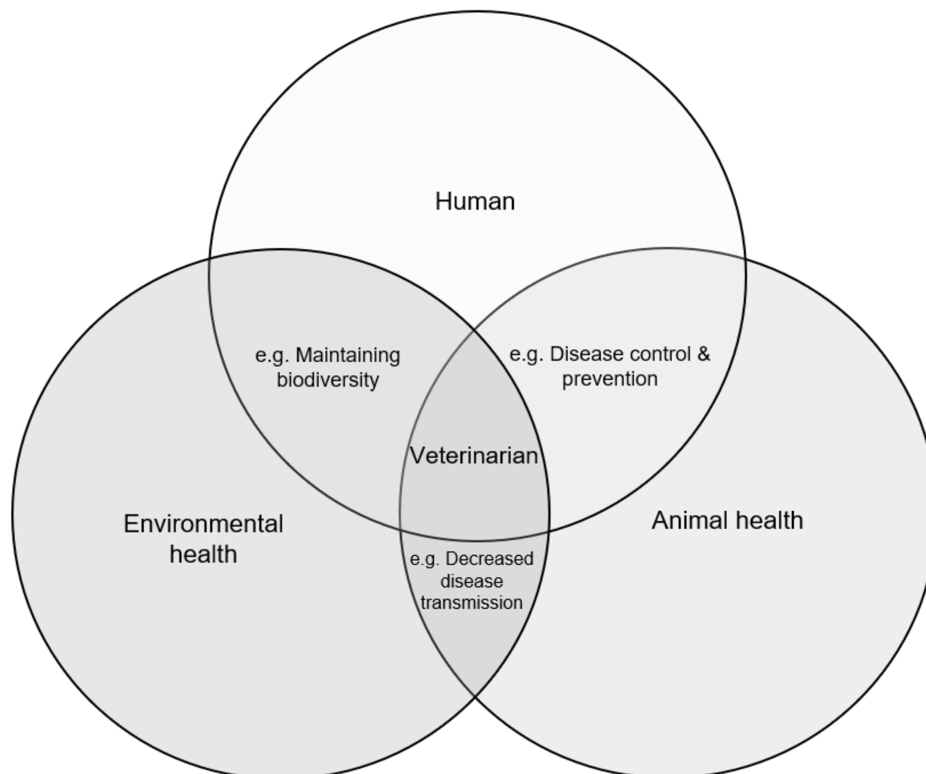
Health model (Figure 4) was used as a guide, and this is covered in greater detail below.

5.2.4 Practical implications for the public

With regard to tackling public perception, discussions had by the aforementioned group of industry representatives have revolved around using an adaptation of the World Health Organisation One Health model which conceptualises the critical links between the health of the people, animals and environment (Gibbs & Gibbs, 2012). The model acknowledges the crucial role of environmental health and ecosystem integrity for the maintenance of human and animal health (Gibss & Gibbs, 2012). It also illustrates that there is no barrier between animal and human health, as evidenced by the countless global pandemics, including SARS, Avian Influenza, and most recently, COVID-19. An adaptation of the One Health model (Figure 4) places veterinarians in the centre, as their role spans across all three facets. For example, veterinarians support the conservation of biodiversity through breeding programmes and reintroduction to the wild (Mainka, 2001). In addition, veterinarians prevent the transmission of infectious diseases from the environment to animals, which is important for a country such as New Zealand, which is the world's top dairy exporter (MPI, 2019). Furthermore, companion animal veterinarians focus on prevention and cure of disease in domestic animals to allow the public to keep pets without compromise to personal safety. Given that pet ownership is associated with physiological and psychological benefits (Cake et al., 2015), there is motivation to continue owning domestic animals and therefore a clear and direct link between clients, their pets, and the One Health model.

Identifying the contributions of veterinarians to maintaining human, animal and environmental health via the One Health model is an approach which can be used to demonstrate the value of the profession in a way which aligns more closely with the direct experience of the public (Gibbs & Gibbs, 2012). The aim of communicating the wider value of veterinary services is to improve public perception of the veterinary profession and mitigate the misconceptions the industry currently faces. Key industry leaders from the NZVA and VCNZ support this idea of providing clearer messages about veterinarians' role in society to the public and the NZVA are currently working to facilitate wider communication and identify impactful opportunities (see Appendix G).

Figure 4.
Representation of the One Health model and the impact of veterinary services.



Note: Adapted from "Operational framework for strengthening human, animal, and environmental public health systems at their interface". Retrieved from http://documents.worldbank.org/curated/en/961101524657708673/pdf/122980-REVISED-PUBLIC-World-Bank-One-Health-Framework-2018.pdf. Reprinted with permission.

5.3 Strengths and limitations

5.3.1 Strengths

A strength of this thesis was the use of a concurrent and longitudinal mixed-methods design. It was beneficial to collect both quantitative and qualitative data simultaneously, as the interviews provided context to interpret the survey results. For example, the wide spread scores for negative affect in the final week of the MBSR programme (week 8) could have been due to the unforeseen life events occurring for some participants at this time, including resignations, a career change, a marital separation, and ending a long-term relationship. In addition, participants described primarily only using mindfulness techniques in moments of stress, which may be explain the lack of statistically significant increases in positive affect, alongside statistically significant decreases in negative affect. In addition, the survey results provided insight into the thoughts and emotions the participants were unaware of. For example, many participants had described infrequent practice of mindfulness

techniques in their own time, and were unsure if they were practising enough to create a mindfulness state, both during and following the completion of the programme. However, self-compassion levels significantly increased over the duration of the programme and following completion when compared to the initial baseline. Given that self-compassion is strongly associated with levels of cultivated mindfulness (Baer et al., 2012), the survey data detected that participants were acting with greater self-compassion, suggesting a greater cultivation of mindfulness over time.

Notably, the measurement of self-compassion was chosen over the measurement of mindfulness directly, as self-compassion is viewed as easier for non-expert participants to understand and rate in a self-report scale (Van Dam et al., 2011). While this may be seen as a limitation, it is in line with previous research (Van Dam et al., 2011) and ensured greater accuracy in self-reporting. Therefore, although the level of mindfulness was not formally measured, given the increase in self-compassion over all three levels of time, it can be asserted that mindfulness was cultivated across time in a similar way.

In addition, health promotion literature has identified the importance of the engagement of the researched community when seeking to support sustainable adoption of evidenced-based practices (Hacker et al., 2012). The commitment shown by the researcher through continued engagement with participants following on from the MBSR programme demonstrated her genuine care and concern, and she is continuing to work on ideas and solutions for the problems faced. Through on-going engagement, the researcher-researched relationship transformed into a partnership with a common objective. This engagement allowed the researcher to support the work completed towards practical implications before the completion of the thesis and continuing beyond also.

A final strength of this thesis was the originality of the knowledge generated which has made a positive contribution towards furthering an understanding of veterinarian wellbeing in New Zealand and gauging the suitability of the MBSR programme as an intervention. Understanding the contextual factors and the positive impacts on wellbeing will help to guide the choice of other suitable interventions in the future.

5.3.2 Limitations

One limitation of this study was the small sample size, which was due to the number of participants that can undertake the MBSR programme concurrently, and the cost and duration of the MBSR programme, along with the time restrictions of the

thesis (two years part-time). The implication of a small sample size for quantitative research is a reduction in the power to detect an effect if one exists, as well as the risk of finding random effects. In addition, a small sample size may not be representative of the wider population. Participation was voluntary, on a first-come first-served basis for those meeting the criteria. Some veterinarians may have considered addressing a topic such as personal wellbeing in a therapeutic setting too daunting to embark on. In addition, participation required a large time commitment for both the MBSR programme and several interviews which ranged from 30 to 90 minutes each, and multiple surveys over a period of five months. Overall, each participant gave approximately 40 hours of their time to the MBSR programme and this research, which may have skewed the sample of participants who chose to participate.

While participants reported positive gains from the MBSR intervention, and the survey results were statistically significant for increased self-compassion and decreased negative affect, other threats to internal validity and sources of potential bias cannot be ruled out. The PANAS and SCS-SF scales are self-report measures that can be manipulated to produce desirable outcomes. For example, participants may have been too embarrassed to note an accurate depiction out of concern for judgement by the researcher, or sought to portray themselves in a more positive light, given that the surveys were not anonymous to the researcher.

Furthermore, the surveys assessed general affect and general self-compassion as opposed to being specifically linked to experiences in the workplace. While this appropriately represents the whole of veterinarians' lives, it is possible that participants derived meaning from other parts of their life when answering the questions, and that veterinary aspects of their life were not affected by the intervention.

In addition, investigation into the effectiveness of the MBSR programme used a repeated-measures design, without a control group. Whilst the results showed statistical significance, we cannot unreservedly state a causal relationship between the findings and the MBSR programme. This is because we are unable to compare results against a control group and therefore we are unable to demonstrate that other variables present in participants' lives were not impacting on their levels of self-compassion and affect.

Finally, many participants described that the initial interview completed was the first time they had ever articulated how they were feeling in relation to their work. The length of the first of the three interviews was at least 60 minutes for most participants, with some reaching 90 minutes in length. The structure of the interviews was such that participants were able to tell their stories from their own perspectives and in relation to

their own context, which provided a deep understanding of their experiences. Their heart-felt accounts and the emotions expressed, including several participants crying, reinforced the genuine need for wellbeing support. However, it also raises the possibility that the interview process itself may have contributed to part of the benefit of the overall experience. In addition, two further follow up interviews were in relation to participants' experience with the programme, amongst other aspects of their working lives. This ongoing deep and sincere interest in participants' opinions and emotions may have felt empowering. Therefore, there is a chance that the overall participation in the research contributed to improvements in veterinarian wellbeing, beyond or apart from any effect of the MBSR programme.

5.4 Areas for future research

For future research delving into the topic of veterinarian wellbeing, it may be beneficial to structure a mixed-methods design in a sequential explorative way. The sequential explorative approach first involves conducting interviews to understand the issues at hand and give greater insight into the participants' experiences, followed by these findings informing a suitable measure for the subsequent collection of quantitative data. Due to its sequential nature, such a design may take more time to implement. With regard to the current study, a sequential method, starting with qualitative data collection, would have been helpful for the researcher to better understand the context and may have led to using different quantitative measures. For example, the PANAS and SCS-SF scales were chosen to provide insight into core affect and self-compassion over time. However, given veterinarians' perceived influence of personality on their wellbeing, which was established during the first interview and is found in other research (Dawson & Thompson, 2017; Platt et al., 2012), future research may wish to investigate the effect of mindfulness, or self-compassion which can be more accurately measured, as a moderator of personality traits. Moreover, specifically measuring mindfulness may be helpful in ascertaining its cultivation; however, given concerns about participants' ability to accurately report mindfulness, it may require supplementary information as the concept is not easily understood (van Dam et al., 2011).

Furthermore, future research may wish to examine explicit measures of hedonic and eudaimonic wellbeing, to better understand the impact of mindfulness in direct relation to wellbeing theories. For example, a focus on psychological and social wellbeing measures would provide a greater indication of an association between mindfulness and the two-continua wellbeing model described by Keyes (2002). This

would provide an indication on the success of the MBSR programme at promoting wellbeing in relation to current theories of wellbeing promotion.

In relation to the MBSR programme, the intervention requires a large time commitment from participants, the ability to travel and put time aside to meet with the group once per week, and the ability to travel and partake in a full-day retreat, plus the homework practice expected. Therefore, future research may wish to investigate alternative versions of the programme that are less time intensive and therefore easier for time-poor participants to implement. For example, a shortened four-week MBSR programme has shown some success in the promotion of wellbeing, particularly in the veterinary industry, and may benefit from further investigation (Correia et al, 2017). In addition, research regarding online versions of the programme would benefit an understanding of the potential for greater scalability of MBSR, not limiting the programme to where the facilitator is based and to those who are able to travel.

Furthermore, regarding collection of the qualitative data, future research may wish to use focus groups instead of one on one interviews, due to the time commitment required by both the participants and the researcher, who also transcribed all of the interviews. The focus groups may benefit from unstructured questions, which create an open environment where participants can ask questions of each other, alongside the researcher. However, the role of the interviewer in a focus group setting is more as a mediator of conversation, which implies more risks if the group goes off topic; these are skills that the researcher would have needed to develop. In addition, focus groups can influence participants to answer in a socially desirable way to protect themselves, or participants may have been reluctant to open up at all. Indeed, participants in this thesis described that they had not previously spoken to veterinary colleagues about some of the topics they were speaking about during the interviews, suggesting that these are difficult topics to discuss with professional colleagues. Therefore, the focus group setting may influence the answers received and opinions offered, and more sensitive topics may not be able to be covered. As a result, future research may wish to consider a combination of interviews and focus groups; for example, with interviews focused on personal experiences and focus groups addressing the experience of the programme.

In addition, the current research findings show a shift in wellbeing resulting from an intervention which was completed outside of the participants' place of work, that focuses on learning techniques to cultivate mindfulness. Future research may benefit from examining interventions in terms of their impact on workplace stress, as opposed to more general wellbeing. For example, the Job-Demand-Control-Support (JDCS)

model is a popular model of occupational stress, looking at demands placed on employees, the strain experienced, and the impact of support (Fila, 2016; Karasek, 1979). The JDCS model has validated self-report measures which focus on occupational stressors as opposed to general mood and levels of compassion. Given the thesis findings, future research may wish to examine specifically how perceived demands of the veterinary role and perceived levels of control over processes influence psychological wellbeing at work. In addition, future research may wish to examine one or more social support mechanisms to understand which support system creates the greatest buffer for veterinarians' perceived stress. A more narrow focus on the current demands and control over workload and an examination of the influence of support mechanisms at work will provide a greater understanding of what support is most influential at reducing stress and improving wellbeing specifically related to the workplace. The results can be compared with the findings of this research to understand whether there is benefit to more tailored, workplace specific support mechanisms.

A final proposition for future research would be to examine the wellbeing of veterinarians in mixed-practice or large animal practices, who have greater exposure to a more transactional nature of animal ownership. For example, large animal veterinarians in New Zealand support production industries through focusing on the wellbeing of livestock. The animals they treat are primarily used for business purposes, for example, to yield milk or meat products, or sports racing, which may influence the relationship of the veterinarians with both the owners and the animals they treat. Future research may wish to examine wellbeing in these strands of the veterinary profession and compare the results to companion animal research. Furthermore, future research may wish to expand the participants to those who work alongside veterinarians, such as veterinary nurses, who are involved in the medical procedures and share the workplace environment.

5.5 Conclusion

Veterinarians are at increased risk of poor wellbeing resulting from a variety of factors, related both to the individual and the environment. This thesis sought to understand the context and experience of veterinarian wellbeing in New Zealand and explore whether an MBSR programme was a suitable intervention to support veterinarian wellbeing. The researcher took a pragmatist approach, using mixed-methods research to understand the range of factors affecting companion animal veterinarian wellbeing alongside an examination of the effectiveness of an intervention proven to have supported wellbeing in other contexts. The qualitative semi-structured

interviews were conducted concurrently with the collection of quantitative survey measures examining effectiveness of the MBSR programme. Both methods were employed over the programme of five months, with information gathered prior to the commencement of the 8-week programme (T0, week 1), during the programme (at week 4), upon cessation (T1, week 8), and three-months following the final session (T2, week 20). The rich descriptions from the interviews alongside data investigating levels of positive and negative affect and self-compassion provided profound insight into the experience of being a veterinarian, the experience of the programme, and levels of emotion and self-compassion over time.

The findings revealed the unique pressures veterinarians face from the start of their veterinary journey at university and throughout their career. Individual characteristics typically found in vocations such as veterinary medicine include personality traits of perfectionism and type-A behaviours, driving self-imposed high standards that are arguably useful in the competitive admissions programme for veterinary medicine in New Zealand but have downsides also. In the workforce, the desire for the provision of top quality and successful treatment is met with the realities of affordability of treatment, where veterinarians face a discrepancy between their aim for the highest standard of care, their responsibilities towards animal welfare, and the expectations of the client. In addition, offering the service of euthanasia out of convenience was reported to be a key stressor faced. Participants described that euthanasia as a service was helpful for the treatment of severe cases, but when chosen by clients as the result of affordability of alternative treatments, this choice creates pressure to perform a service which does not align with the high performing nature and animal welfare focus of the veterinarians. Moreover, the described client behaviour and interactions with the veterinarians in relation to the affordability of treatment were negative, with the use of emotional blackmail and verbal abuse, leaving the participants feeling emotionally depleted. Over time, these repeated experiences which maintain the discrepancy between ideal and actual outcomes eroded veterinarians' wellbeing, and most participants described maladaptive coping mechanisms, including eating disorders and alcohol use. Whilst the NZVA and VCNZ both provide the employee assistance programme known as Vitae for veterinarians, this service was not described by participants as a mechanisms of support from their workplace or the industry bodies, suggesting a lack of awareness or use. In addition, the first interview with participants revealed many had not previously vocalised their experiences as a veterinarian, describing the interview as one of the first times they had articulated what they had been through.

The workplace environment for veterinarians poses unique challenges that are not found in other industries, especially as euthanasia is a service only provided by veterinarians for the treatment of animals in New Zealand. The wellbeing of veterinarians evidentially needs to be addressed and there is no current research identifying the effectiveness of any wellbeing intervention for veterinarians in New Zealand.

The MBSR programme has effectively improved the wellbeing of individuals in similar industries, such as physicians and nurses. The ten veterinarian participants who embarked on this journey are the first in New Zealand to participate in an MBSR programme attended solely by veterinarians and examined for the purpose of understanding the effect on wellbeing in an industry with unique pressures. The veterinarians described that the programme taught them mindfulness techniques which they practiced during the programme, but later described the self-discipline to prioritise practice over other commitments resulted in less and less practice overtime. However, an unexpected benefit described by majority of the participants was their appreciation of the normalisation of their thoughts and feelings through sharing their experiences in a group setting with people who come from the same unique industry. Much like their first interviews with the researcher, some participants described that it was the first time they had shared their experiences and heard the experiences of others from the same occupation, in a facilitated setting.

The positive impact of the MBSR programme was also demonstrated through the changes in affect and self-compassion overtime. Progressively over the 20-week period, negative affect improved relative to the baseline. This demonstrated a lessening of negative emotions and an improvement in self-concept. This improvement in self-concept was reinforced by a statistically significant increase in levels of self-compassion over the 20-week period relative to the baseline. Increases in self compassion reflect a combination of being kinder to the self, understanding the commonality of humanity, and cultivating mindfulness. Self-compassion is correlated with mindfulness and therefore, the increase in self-compassion suggests that the MBSR programme was successful in cultivating increased levels of mindfulness over time.

The conceptual model built to summarise the findings and guide the discussion depicts how the MBSR programme supports the cultivation of mindfulness, increasing attention and awareness of thoughts, emotions and behaviours. As mindfulness levels increase, so too does the ability to self-regulate one’s thoughts, emotions and behaviours. As a result, the MBSR programme facilitates the creation of a buffer

between the individual and the pressures found in the clinic, the industry as a whole, and the expectations and behaviour of the public, including owners. The strength of the buffer is dependent on the cultivation and presence of mindfulness, and the MBSR programme is one way to learn mindfulness techniques.

The conceptual model focuses on the individual and their ability to control what they have greatest power to influence, which is themselves and their reactions to events. The practical implications draw attention to the external forces influencing veterinarian wellbeing, which will require a unified approach from all depicted levels. For example, through a commitment by the veterinary industry bodies to work towards suitable wellbeing interventions and accessibility of these supports for clinics, as well as a focus on ways to augment public perceptions of the veterinary industry, the external factors can be positively influenced. A combined approach, focusing on the individual and the environment, will support greater success of promoting veterinarian wellbeing than a sole focus on either factor in seclusion.

This research contributes towards a more positive future for veterinarian wellbeing through the assessment of an intervention programme at the individual level. MBSR is an example of one intervention which has positively influenced veterinarian wellbeing and, in the researcher’s view, has demonstrated that access to suitable wellbeing interventions should be a first priority for the industry. The momentum gained as a result of participation in the MBSR programme and this research project has stimulated a wider industry approach, resulting in a collective effort to support the ongoing promotion of veterinarian wellbeing beyond this research.

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Appendix A: Ethics Approval

Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

7 December 2018

Helena Cooper-Thomas
Faculty of Business Economics and Law

Dear Helena

Ethics Application: 18/385 **Veterinarian Wellbeing in New Zealand - Examining the effects of a Mindfulness-Based Stress Reduction (MBSR) intervention**

I wish to advise you that the Auckland University of Technology Ethics Committee (AUTEC) has **approved** your ethics application at its meeting of 3 December 2018.

This approval is for three years, expiring 3 December 2021.

Non-Standard Conditions of Approval

1. Update the Information Sheet in relation to the Primary Researcher no longer being employed at Pet Doctors.

Non-standard conditions must be completed before commencing your study. Non-standard conditions do not need to be submitted to or reviewed by AUTEC before commencing your study.

Standard Conditions of Approval

1. A progress report is due annually on the anniversary of the approval date, using form EA2, which is available online through http://www.aut.ac.nz/research/researchethics.
2. A final report is due at the expiration of the approval period, or, upon completion of project, using form EA3, which is available online through http://www.aut.ac.nz/research/researchethics.
3. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form: http://www.aut.ac.nz/research/researchethics.
4. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
5. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.

Please quote the application number and title on all future correspondence related to this project.

AUTEC grants ethical approval only. If you require management approval for access for your research from another institution or organisation then you are responsible for obtaining it. You are reminded that it is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard.

For any enquiries please contact ethics@aut.ac.nz

Yours sincerely,

Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Cc: ana.djokovic08@gmail.com

Appendix B: Tools Used

- **Appendix B1:** Participant information sheet
- **Appendix B2:** Consent form
- **Appendix B3**: Invitation to participate
- **Appendix B4:** Interview guide
- **Appendix B5:** PANAS & SC-SF Scales

Appendix B1: Participant information sheet

AUT
TE WĀNANGA ARONUI O TĀMAKI MAKAU RAU

Participant Information Sheet

Date Information Sheet Produced:

Tuesday, 14th of August 2018

Project Title

Working title: Veterinarian Wellbeing in New Zealand – Examining the effects of a Mindfulness Based Stress Reduction (MBSR) intervention.

Research question: Is a MBSR programme effective in reducing workplace stress and increasing wellbeing for practising veterinarians in the New Zealand veterinary industry?

What is the purpose of this research?

This research will examine the effects of a MBSR programme aiming to improve the wellbeing of veterinarians actively engaged in clinical practice in New Zealand. This will have two benefits. Firstly, it will expand on the current literature available on the effects of MBSR on promoting wellbeing. Secondly, it will show whether a MBSR programme is effective for promoting wellbeing among New Zealand veterinarians. This will add insight into potential avenues that can address the issues of wellbeing that are being faced by the veterinary industry worldwide and support the development and use of appropriate interventions.

How was I identified and why am I being invited to participate in this research?

For the purpose of this research, the criteria for selecting participants are:

- Current, practising veterinarian
- Small/Companion animal veterinarian
- Has been practising in New Zealand for at least the past year
- Is a member of the NZVA

How do I agree to participate in this research?

Once you have reviewed the information in this document, if you would like to participate, please email your interest to MBSRThesis@gmail.com and I will send you a Consent Form. Following that, if I haven't heard from you, I will follow up at one week and then two weeks to see if you are interested in the research or have questions. After that, if you do not express a wish to be involved in the research, I will not contact you further.

What will happen in this research?

As a participant of this research, you will attend a Mindfulness-Based Stress Reduction (MBSR) group (total of 10 veterinarians), which will be facilitated by the Director of Mindfulness Auckland (www.mindfulnessauckland.co.nz) – Ms. Sue Dykes – who is a registered clinical psychologist and has run the programme for over 10 years.

The MBSR programme is an 8-week programme and consists of:

- attending one group session each week, which will be set on a specific weekday (the same each week) and will run for 2.5 hours each session.
- attending one Saturday retreat, which will last 7 hours and will occur in the 6th week of the programme.

The researcher (myself) will not be present at any of the sessions.

For the purposes of data collection, as a participant, you will participate in 3 face-to-face interviews of approximately 20-30 minutes duration each and these interviews will occur:

(1) Prior to the commencement of the initial group session

(2) Following the completion of the final group session

(3) Three (3) months after the completion of the final group session

In addition, you will be asked to complete a 10 minute survey each week. You can opt to complete this either by 'phone, which will be scheduled in advance with you a a time that suits you each week. If you prefer, you are welcome to instead complete these surveys on paper and email them to me each week.

What are the discomforts and risks?

The discomfort that may occur is participating in a group with the aim of addressing wellbeing issues through a specific MBSR programme. The risks are that this may bring up personal issues for you. However, Sue Dykes is a registered clinical psychologist and professional and can assess the impact of the programme and come up with a solution together with you, including the use of Vitae services.

What are the benefits?

By being a part of this project, you will participate in a programme that has scientific evidence for successfully reducing levels of anxiety and depression and for promoting self compassion and mindfulness. You will be part of an industry first project that has the potential to shape the way that veterinarinas learn to cope with the various and sometimes conflicting challenges faced in their role. You will also have a shared experience with 9 other colleagues and can build a network together through the sharing of experiences, problems, and solutions.

How will my privacy be protected?

For the purposes of this research, all names and organisations will have name suppression. In the research, pseudonyms will be used and you will be in no way identifiable. In addition, as part of the group, a key initial discussion will take place addressing the confidentiality inherent in such a group and all members will be asked to keep all group discussions private.

Furthermore, you will have access to your own transcripts of the interviews and have the opportunity to amend these if you wish, prior to their use.

What are the costs of participating in this research?

There is no associated cost, except driving to the location (expected to be in Epsom, Auckland) for the 8 sessions, and giving your time to participate. Otherwise, the programme will be free for you, as a participant of this research.

The programme will require a commitment of 2.5 hours per week, for 8 weeks, and a 1 x 7 hour day. In addition, you will be requested to practice the mindfulness techniques in your own time, at home, for approximately 30-60 minutes per day, for 6 days.

What opportunity do I have to consider this invitation?

You have 7 days to consider whether you would like to be a part of this research, and you are welcome to contact me during this time period for further information. If I haven't heard from you, I will follow up at one week and then two weeks to see if you are interested in the research or have questions. After that, if you do not express a wish to be involved in the research, I will not contact you further.

Will I receive feedback on the results of this research?

You will have two weeks to review and comment on the interview transcripts (3). Also, you can receive a summary of the findings of this study, if you wish. You can do so by ticking the appropriate box on the Consent Form.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr. Helena Cooper-Thomas – email: helena.cooper.thomas@aut.ac.nz; phone number: 09 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Ana Djokovic

021 177 4714

ana.djokovic08@gmail.com

Project Supervisor Contact Details:

Dr. Helena Cooper-Thomas

helena.cooper.thomas@aut.ac.nz

09 921 9999 ext 7664 / 021 077 6696

Approved by the Auckland University of Technology Ethics Committee on 7th of December 2018, AUTEC Reference number: 18/385.

Appendix B2: Consent form

Consent Form

Project title: ***Veterinarian Wellbeing in New Zealand – Examining the effects of a Mindfulness-Based Stress Reduction (MBSR) intervention.***

Project Supervisor: ***Dr. Helena Cooper-Thomas***

Researcher: ***Ana Djokovic***

○ I have read and understood the information provided about this research project in the Information Sheet dated XX.

○ I have had an opportunity to ask questions and to have them answered.

○ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.

○ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.

○ I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.

○ I agree to take part in this research.

○ I wish to receive a summary of the research findings (please tick one): Yes ○ No ○

Participant's signature: ....

Participant's name: ....

Participant's Contact Details (if appropriate):

....

....

....

....

Date:

Approved by the Auckland University of Technology Ethics Committee on *7 December 2018* ***AUTEC Reference number*** *18/385*

Note: The Participant should retain a copy of this form.

Appendix B3: Invitation to participate

Monday, 7th of January 2019

RE: Invitation to participate in an industry specific research project, aiming to investigate the effectiveness of a proven intervention programme on veterinary wellbeing.

Thank you for taking the time to read this letter and considering the invitation to participate in an industry first research project. It is well-known in the veterinary industry that the wellbeing of veterinarians is a pertinent topic and the aim of this project is to assess whether an intervention that has helped alleviate anxiety and depression levels in the human health field can provide benefits in the veterinary industry.

Mindfulness-Based Stress Reduction (MBSR)

This research will examine the effects of a MBSR programme on the wellbeing of veterinarians actively engaged in clinical practice in New Zealand. Mindfulness-Based Stress Reduction is a program originally developed by Jon Kabat-Zinn (1979) to support human health patients who saw no added benefits from medical treatments for the management of pain, for the enhancement of health, or for a reduction in levels of stress. There is an increasing body of evidence for clinically significant improvements in mental health and positive physical benefits attributable to participation in a MBSR program. In terms of the psychological benefits, people with higher levels of mindfulness generally have lower levels of anxiety and depression, and lower levels of neuroticism and rumination. In addition, they are more compassionate, are more accepting of others, and show greater empathy towards themselves and others; experience less interpersonal distress and are more effective at communicating.

My invitation to you:

I would like to invite you to participate in an 8-week MBSR programme, which will be run by Sue Dykes (Registered Psychologist and Director of Mindfulness Auckland). The programme is run in the following way:

- 1 x day per week at 2.5 hours
- 1 x day retreat, for 7 hours (on a Saturday)
- Daily practice at home at 30 minutes – 60 minutes per day, 6 days per week (at maximum).

Pet Doctors have sponsored the psychologist to conduct this research project and have paid the cost of the intervention programme to allow for participants to part-take and allow further research into a way forward for veterinary wellbeing. *It is important to note that Pet Doctors will not have access to the data and all participant information will remain strictly confidential. Their sponsorship is a one-off payment towards the programme as a goodwill gesture.*

Additional requirements for the research project:

The research project will consist of:

- One face-to face interview for approximately 30 mins prior to the programme commencement
- One face-to-face interview for approximately 30 mins after the completion of the programme
- One face-to-face interview for approximately 30 mins three (3) months following on from completion of the programme

- One 10 minute telephone call survey each week, for the duration of the 8 weeks or the option to complete the same survey via a hard copy and scan and send it the same time each week to MBSRThesis@gmail.com

You will find a participant information sheet attached, where you can find more information about this research. Please contact me by telephone or by email in case you have any questions

Telephone: 021 177 4714
Email: MBSRThesis@gmail.com

Your participation in this research project would be extremely valuable. It would help to investigate whether there is a programme that could help promote wellbeing in a proactive manner and lead to an overall improvement in mental health in the industry. It will be an industry first and you could be a part of it!

Please let me know by Wednesday the 16th of January 2019 if you would like to participate in this research programme.

Thank you again for your consideration and I look forward to hearing from you.

Kindest regards,
Ana Djokovic

Appendix B4: Interview guide

<u>T0 – Prior to participation in the MBSR programme</u>

(1) What is your perception of mindfulness and what do you expect from this programme?
(2) Do you see any barriers you may face when participating in this programme?
    a. If yes, how can we facilitate you to overcome those barriers?
(3) Do you feel that you have experienced any psychological issues as a result of your work as a veterinarian?
    a. If so, what sort of psychological issues did you experience?
    b. Did you seek any help to deal with these psychological issues you faced?
        i. If yes, what sort of help did you seek and was it effective at helping you deal with the issues you faced?
(4) As a veterinarian, what aspects of your role do you find cause you the most stress?
(5) At the moment, do you have any strategies/techniques you use to help you with the demands of being a veterinarian?
(6) The research about psychological issues faced by veterinarians in the industry points to a variety of factors, one of which is self-compassion. What is your understanding of self-compassion?
    a. Do you feel that you judge and criticise yourself in your role as veterinarian?
        i. If so, how frequently?

<u>T1 – Immediately following the participation of the programme</u>

(1) If I asked you to describe the MBSR programme to a friend, what would you say?
(2) How has participation in the MBSR programme influenced your practice as a veterinarian?
(3) Have you noticed a shift in any emotional states following this programme? If so, please elaborate.
(4) How did you overcome any barriers you faced to practising mindfulness during the 8 week programme?
(5) How have your interactions with others changed as a result of your practice?

<u>T2 – in 3 months' time following from the participation of the programme</u>

(1) Are you still practicing mindfulness techniques?
    a. If yes, how are you finding the practice?
    b. If not, why?
(2) Have you used mindfulness in the past 3 months, to deal with work related stressors?
    a. If yes, how?
(3) Would you recommend the MBSR programme as a useful tool to aid with the stressors of veterinary work?

Appendix B5: PANAS & SC-SF Scales

Your name: ____

Thank you for taking the time to complete the survey questions below and helping me with my Master's research. All answers will be kept strictly confidential There are no right or wrong answers and I encourage you to answer honestly. If you are completing a physical hard copy of this survey, please send a scanned copy to the email address provided on the form following completion.

This survey will not take longer than 10 minutes and will begin with a series of words that I will ask you to answer in terms of the extent to which you have felt this way in the past week.

I would like you to give me a rating for each item, ranging from 1 to 5.

1 means this "Very slightly or Not at all"

2 means "A little"

3 means "Moderately"

4 means "Quite a bit" and

5 means "Extremely"

Please remember that I'm asking you about **your past week.** At the end, you will also be asked an open-ended question about your experience with the programme so far. You can choose not to answer any questions if you do not wish to. Remember, there are no right or wrong answers, and you should give the first response that feels right for you.

So, thinking about the past week, please indicate the extent to which you felt:

PANAS Questionnaire

1 Interested 1 2 3 4 5

2 Disinterested 1 2 3 4 5

3 Excited 1 2 3 4 5

4 Upset 1 2 3 4 5

5 Strong 1 2 3 4 5

6 Guilty 1 2 3 4 5

7 Scared 1 2 3 4 5

8 Hostile 1 2 3 4 5

9 Enthusiastic 1 2 3 4 5

10 Proud 1 2 3 4 5

11 Irritable 1 2 3 4 5

12 Alert 1 2 3 4 5

13 Ashamed 1 2 3 4 5

14 Inspired 1 2 3 4 5

15 Nervous 1 2 3 4 5

16 Determined 1 2 3 4 5

17 Attentive 1 2 3 4 5

18 Jittery 1 2 3 4 5

19 Active 1 2 3 4 5

20 Afraid 1 2 3 4 5

The following questions relate to difficult times you have faced in the past week. The scale is shifting from the questions you have just answered.

The scale is now

1 “Almost never”

2 “Rarely”

3 “Sometimes”

4 “Usually” to

5 “Almost always”.

Again, I reiterate, all answers are kept confidential and there are no right or wrong answers.

Self-compassion scale (Short form) (SCC-SF)

1	When I fail at something important to me, I become consumed by feelings of inadequacy	1 2 3 4 5
2	I try to be understanding and patient towards those aspects of my personality I don’t like	1 2 3 4 5
3	When something painful happens, I try to take a balanced view of the situation	1 2 3 4 5
4	When I’m feeling down, I tend to feel like most other people are probably happier than I am	1 2 3 4 5
5	I try to see my failings as a part of the human condition	1 2 3 4 5
6	When I’m going through a very hard time, I give myself the caring tenderness I need	1 2 3 4 5
7	When something upsets me, I try to keep my emotions in balance	1 2 3 4 5
8	When I fail at something that’s important to me, I tend to feel alone in my failure	1 2 3 4 5
9	When I’m feeling down, I tend to obsess and fixate on everything that’s wrong	1 2 3 4 5
10	When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people	1 2 3 4 5
11	I’m disapproving and judgemental about my own flaws and inadequacies	1 2 3 4 5
12	I’m intolerant and impatient towards those aspects of my personality I don’t like	1 2 3 4 5

I appreciate that these questions are quite personal but this is important to understand how participants are feeling across the different weeks of the course. I would like to re-iterate that your data are confidential.

Finally, I’d like to ask you a broad question about the programme to date.

So far, how would you describe your personal experience with the MBSR programme (including the sessions, the practice, and anything else you feel is relevant and you’d like to share)?

Appendix C: Acknowledgement of payment for the MBSR programme

- **Appendix C1:** Letter from Dr. Stephen Merchant, agreeing to payment
- **Appendix C2:** Email from Sue Dykes, registered psychologist and facilitator of the MBSR programme from Mindfulness Auckland

Appendix C1: Letter from Dr. Stephen Merchant, agreeing to payment

Pet Doctors NZ Ltd - Support Office
Physical Address
Level 2, 300 Great South Road
Greenlane
Auckland 1051

Postal Address
PO BOX 17516
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Auckland 1546

P: 09 624 2813 F: 09 522 1673 E: support@nzpetdoctors.co.nz

Pet Doctors NZ Ltd

Monday, 18th of June 2018

Postgraduate Research Approval Committee
Auckland University of Technology (AUT)
55 Wellesley St East
Auckland 1010

To whom it may concern,

RE: Postgraduate funding – Student: Ana Djokovic (16951917)

This letter is to acknowledge that Pet Doctors NZ Ltd agrees to provide funding, up to a total of **$6,210.00 (incl. GST)**, to enable the administration of MBSR programme (via registered psychologist Dr. Sue Dykes) for 10 participants as a part of the master's thesis that Ana Djokovic (student ID: 16951917) will embark on.

If you have any further questions, you are welcome to contact me on the details below.

Kind regards,

Steve Merchant (BVSc dist.)
CEO/DIRECTOR
Office +64 9 624 2813
steve@nzpetdoctors.co.nz

Appendix C2: Email from Sue Dykes, registered psychologist and facilitator of the MBSR programme from Mindfulness Auckland

Ana Djokovic <ana.djokovic08@gmail.com>

Re: A quick email request!
1 message

Sue Dykes <suzed42@hotmail.com>
To: Ana Djokovic <ana.djokovic08@gmail.com>

Mon, Jun 18, 2018 at 5:16 PM

Hi Ana

My apologies for this delay. I was away for the weekend.

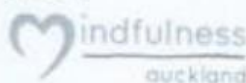
I am in full agreement with the details set out below, and look forward to working with you on this highly worthwhile project.

I cant see anything that needs to be added.

Kind regards

Sue

Sue Dykes
Director



From: Ana Djokovic <ana.djokovic08@gmail.com>
Sent: Sunday, 17 June 2018 9:14 AM
To: Sue Dykes
Subject: A quick email request!

Good evening Sue!

I hope you are well :)

Whilst I draft up an "official" agreement for us, I was wondering whether I could please just get a reply from you to this email for me to include it in my submission to the committee for my thesis approval?

Please acknowledge that as per our face to face conversation and subsequent emails, you agree to work with me on my thesis by providing an MBSR intervention programme (8 weeks at 2.5 hours per week and a 1 day retreat of 7 hours) to 10 participants, for the agreed rate of $6,210.00 (incl. GST).

Please let me know if there's anything I've missed or anything else I need to include that you think would be wise? *The "official" one I invisage being this email, but with agreed dates and times so that I can fit around your schedule!*

Thank you!

Appendix D: Permission to reprint Figure 4

Page 3

http://documents.worldbank.org/curated/en/961101524657708673/pdf/122980-REVISED-PUBLIC-World-Bank-One-Health-Framework-2018.pdf

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Available online at: http://documents.worldbank.org/curated/en/703711517234402168/Operational-framework-for-strengthening-human-animal-and-environmental-public-health-systems-at-their-interface

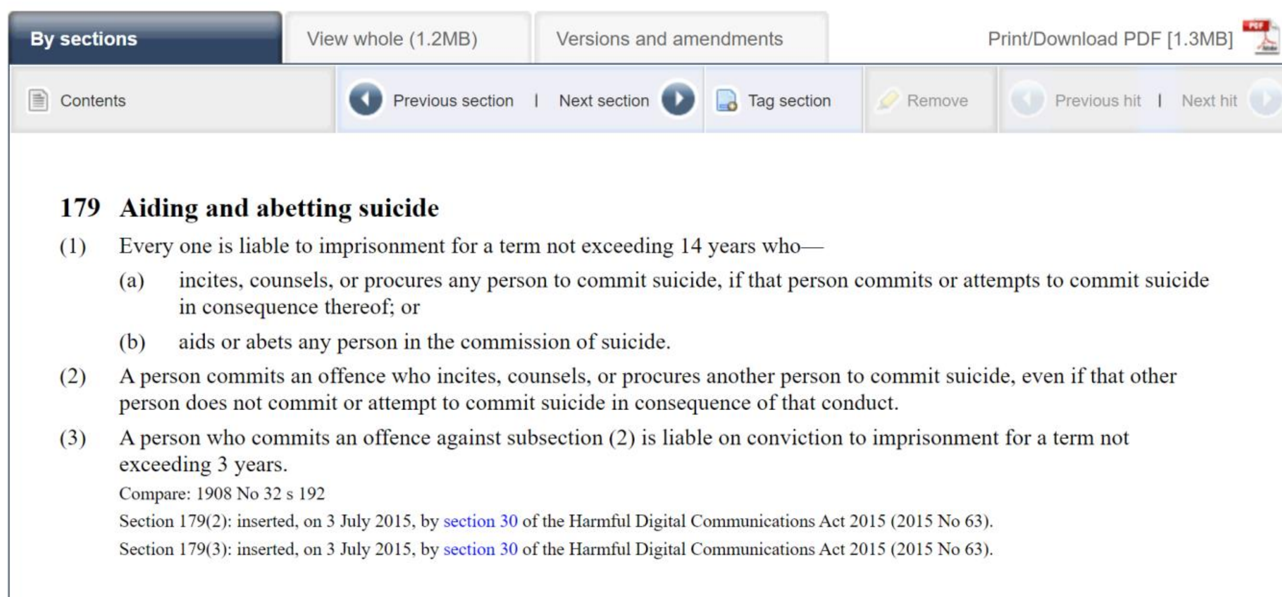
Appendix E: s179 Crimes Act 1961

http://www.legislation.govt.nz/act/public/1961/0043/latest/DLM329347.html

Crimes Act 1961

- Warning: Some amendments have not yet been incorporated

Search within this Act 179 SEARCH



179 Aiding and abetting suicide

(1) Every one is liable to imprisonment for a term not exceeding 14 years who—

(a) incites, counsels, or procures any person to commit suicide, if that person commits or attempts to commit suicide in consequence thereof; or

(b) aids or abets any person in the commission of suicide.

(2) A person commits an offence who incites, counsels, or procures another person to commit suicide, even if that other person does not commit or attempt to commit suicide in consequence of that conduct.

(3) A person who commits an offence against subsection (2) is liable on conviction to imprisonment for a term not exceeding 3 years.

Compare: 1908 No 32 s 192

Section 179(2): inserted, on 3 July 2015, by section 30 of the Harmful Digital Communications Act 2015 (2015 No 63).

Section 179(3): inserted, on 3 July 2015, by section 30 of the Harmful Digital Communications Act 2015 (2015 No 63).

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New Zealand Government

Appendix F: Code of Professional Conduct

- **Appendix F1:** Email from Seton Butler, Professional Advisor for the New Zealand Veterinary Council, regarding section 4 of the Code of Professional Conduct
- **Appendix F2:** s4 Code of Professional Conduct

Appendix F1: Email from Seton Butler, Professional Advisor for the New Zealand Veterinary Council, regarding section 4 of the Code of Professional Conduct

Re: Brief question convenience euthanasia
1 message

Seton Butler <seton@vetcouncil.org.nz>
To: Ana Djokovic <ana.djokovic08@gmail.com>
Tue, Jun 2, 2020 at 9:08 AM

Hi Ana

Yes - we are doing ok and yes it's been a very interesting time!

In answer to your question i have reveiwed my email and suggest that the following is a better way to answer your question:

Your question:

It is my understanding vet's are able to refuse to complete a convenience euthanasia if they are sure the animal's welfare won't be compromised.
>
> (1) I can't find this in legislation - is it in any legislation?
> (2) If not, is it a policy that I can find with VCNZ? I don't think it's in the code of conduct - I may have missed it.
> (3) Are the guidelines for vets with regard to ascertaining if the animals welfare will be ok if they don't complete it?

Answer:

1. The Client relationships Segment of the Code (Attached) outlines the opportunity for veterinarians to refuse to treat a patient. Section 4 is copied below:

Section 4:
Veterinarians are not obliged to accept new clients, continue to provide services to existing clients, or provide a requested treatment, providing animal welfare and professional standards are met.

Understanding section 4
a. As long as animal welfare isn't compromised, veterinarians should use their professional judgement, and take into account all relevant circumstances, when considering whether to:
i. provide a particular requested veterinary treatment (surgical or medical)
ii. undertake any requested diagnostic investigation.
b. Veterinarians can end their relationship with a client as long as this decision doesn't conflict with any animal welfare responsibilities under a current treatment plan. Veterinarians should notify the client in writing of this decision.

This section describes a veterinarians obligations if, as they are entitled to do, they elect to decline to offer a request for treatment by a client with particular reference to the veterinarian's responsibilities regarding the animal's welfare.

I feel this now answers all 3 parts of your question.

Hope that works

Thanks

Kind regards

Seton

Seton Butler BVSc
Professional Advisor

Veterinary Council of New Zealand

Appendix F2: s4 Code of Professional Conduct

https://www.vetcouncil.org.nz/Web/Code_of_Professional_Conduct/Code_Of_Conduct.aspx

Section 4

When euthanasia is necessary it must be carried out humanely. In situations where an animal's owner is not known or cannot be contacted, veterinarians must exercise their duty under section 138 of the Animal Welfare Act 1999 to euthanise severely sick or injured animals responsibly.

Understanding section 4

a. Veterinarians have a professional and legal duty to take steps to relieve unreasonable or unnecessary pain or distress in animals under their care. This includes the need to administer first

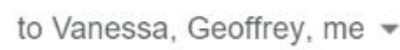
aid and adequate pain relief (and even euthanasia) whether or not payment can be made at the time of the treatment. They are expected to exercise sound professional judgement when making decisions on treatment, recognising the need in some cases to balance what treatment might be necessary or appropriate against commercial considerations and the wishes of the owner. The over-riding priority is to ensure that animal welfare is not compromised. There is further discussion on this topic as it relates to providing emergency services to clients who have economic restraints in the Veterinary Services explanatory notes section 7, l and m.

Appendix G: Recent update from the NZVA

- **Appendix G1:** Email from Veronica Challies, newly hired Communications Manager at the NZVA, confirming public promotion campaign (29 June 2020)
- **Appendix G2:** NZVA confirmation of public campaign (29 June 2020)

Appendix G1: Email from Veronica Challies, newly hired Communications Manager at the NZVA, confirming public promotion campaign (29 June 2020)

Veronica Challies



Good morning Vanessa, Geoffrey and Ana,

I hope you had a good weekend and managed to stay warm and dry !

Thanks again for your email on Friday Vanessa. It was great timing as I had planned to get in touch this week.

I've attached a brief outline of our approach to the campaign for your information.

Currently we are talking to members about it, planning some market research with the public and talking to potential partners who might be interested in partnering with us to help fund it or being involved in developing a particular aspect.

I wondered if this might be something that Zoetis might be interested in contributing to and whether this was worthy of a fuller conversation. NZVA is giving its current partners the first option to be involved at this stage.
I am anticipating that we may end up with a range of partners we will work with to make the campaign a reality.

Thank you for considering this and I look forward to hearing from you shortly.

Kind regards

Veronica

Veronica Challies | Communications Manager
New Zealand Veterinary Association
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PO Box 11212, Wellington 6142 | L2, 44 Victoria St, Wellington 6011
Follow us on Twitter | Like us on Facebook | Register online for VetLearn events and courses.

Appendix G2: NZVA confirmation of public campaign (29 June 2020)

National campaign to promote veterinarians

The New Zealand Veterinarian Association (NZVA) is planning a national advertising campaign.

The purpose of the campaign will be to reinforce in consumers minds the value that veterinarians deliver both from the perspective of animal health and welfare expertise and also fair recompense for an expert job done.

The public are largely unaware of the complexity of a veterinary practice which in essence is a one stop shop animal hospital.

A particular- focus will be to help overcome the persistent challenge that veterinarians encounter as often consumers first experience of unsubsidised health care.

While veterinarians work in a range of settings the focus for this initial campaign will be veterinarians working in clinics.

While this will be a national campaign we want to ensure that local clinics can benefit from this work and can leverage off it for their own promotions.

We plan to provide them with a range of resources and promotional ideas to help them do this effectively.

While this will be an externally focused campaign it will also support veterinarians well being by being aspirational and enabling them to see themselves portrayed in a positive way.

NZVA believes that we have a great story to tell and are seeking partners to help make a national advertising campaign a reality.

Contributions could be monetary or a particular aspect of the campaign which could be co-branded such as;

- A television advertisement
- A print or magazine campaign
- Collateral to be used in veterinary clinics
- A digital campaign

We are however open to all suggestions which help us achieve our objectives while effectively partnering with you.

Our objective is to the make the campaign a reality in November this year.