

Pleasure and Resilience: Keys to Unlocking Veterinary Well-Being

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Please see Appendix A for Submission Guidelines.

Declaration

This report contains no material which has been accepted for the award of any other degree or diploma in any University, and, to the best of my knowledge, this report contains no materials previously published except where due reference is made.



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Is Veterinary Work More Than Satisfying? A Critical Review of the Literature

Madeleine Clise

Abstract

Despite the rise of positive psychology in recent times, research continues to emphasise the risks and negative outcomes associated with veterinary work. Less is known about the factors associated with resilience and happiness for veterinarians in practice. This review critically analyses the literature on veterinary well-being, job satisfaction and the role of positive emotions at work. Recommendations are presented for exploratory research into the positive aspects of veterinary work, which may facilitate the development of workplace interventions to counter the known risks in the profession.

Introduction

The principles of organisational psychology are particularly beneficial in understanding the work-related factors which foster psychological well-being. Paid work plays a central role in healthy adult functioning, often providing purpose, fulfilment, challenge and the opportunity for social contact (Diener & Seligman, 2004). These outcomes align with the rise of positive psychology, investigating how humans can increase their happiness and “flourish” (Seligman & Csikszentmihalyi, 2000). There is increasing focus within organisational psychology on the positive concepts of employee wellbeing, leadership development and work-life balance, in contrast to previous emphases on stress, ergonomics and recruitment testing (Brough, 2009). The most commonly researched topic in this field continues to be job satisfaction (Robbins, 2016). However, there is a lack of consensus on its definition, and as it is generally thought to be an attitude, it therefore neglects the important role of positive emotions on one’s experience at work. This review provides a critical analysis of the current literature on happiness, pleasure and job satisfaction within the field of veterinary medicine, which until very recently, has been inundated with studies examining the risks to mental health and well-being. In addition, this review discusses theoretical frameworks on resilience as important for the understanding of happiness and well-being, and the Job Demands-Resources Model as a theory to categorise the positive and negative aspects of one’s work. It concludes with a recommendation for future research on the factors that foster positive emotions, beyond job satisfaction for veterinarians. Gaining insight into the factors that motivate and engage this population will support the development of training and workplace interventions targeted to enhance their motivation, job performance and well-being (Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009).

The risks and negative outcomes associated with working in helping professions are heavily documented in the literature (Hall, Johnson, Watt, Tsipa, & O'Connor, 2016; West,

Dyrbye, Erwin, & Shanafelt, 2016; Zhang, Zhang, Han, Li, & Wang, 2018). Veterinary medicine is one helping profession that has been the subject of extensive research and critique in this area. In the research literature there are well-established risks and negative outcomes that veterinary practitioners and students are exposed to, such as stress and depression (Gardner & Hini, 2006; Hatch, Winefield, Christie, & Lievaart, 2011).

Compassion fatigue (McArthur, Andrews, Brand, & Hazel, 2017), the cost of caring, can also occur, resulting in burnout or secondary traumatic stress (Stamm, 2010). Perhaps most commonly cited are the suicide rates of veterinarians, which have been found to be up to four times higher than the general population and twice that of other healthcare professions, such as dentistry and human medicine (Bartram & Baldwin, 2010; Jones-Fairnie, Ferroni, Silburn, & Lawrence, 2008; Kersebohm, Lorenz, Becher, & Doherr, 2017; Platt, Hawton, Simkin, & Mellanby, 2012).

Key stressors for veterinarians cited in the literature include difficult client relationships and ethical dilemmas associated with the care of animals, in addition to other stressors common to helping professions, such as long working hours and work-life balance issues (Bartram & Baldwin, 2010; Heath, 2007; Nett et al., 2015; Reijula et al., 2003; Smith, Leggat, Speare, & Townley-Jones, 2009). This emphasis on risks and mental ill-health is consistent with the traditional focus of research in psychology on reducing mental illness rather than increasing well-being (Seligman & Csikszentmihalyi, 2000), with one study finding the ratio of negative to positive studies at a ratio of 14:1 (Schaufeli & Bakker, 2004). Cake, McArthur, Matthew, and Mansfield (2017) provide evidence that this imbalance also exists in the veterinary literature in their qualitative review of the last two decades, with problem-oriented mental health terms, such as suicide and depression appearing in the veterinary literature twice as frequently as well-being-oriented terms, such as resilience or well-being. The heightened emphasis on veterinarian suicide was also highlighted in the Vet

Futures Action Plan 2016-2020 (Veterinary Futures Action Group, 2016). Cake, Bell, Bickley, & Bartram (2015) note that the current focus on mental-health risks may be “demonising” the veterinary profession, rather than promoting the positive aspects, particularly for graduates entering the workforce. However, despite the negative research, the number of registered veterinarians in Australia is rising (Australian Veterinary Association, 2017), warranting an investigation into the positives of veterinary work, which may explain why this profession remains popular.

A Positive View

Although the majority of studies present a negative view of veterinary work, some positive research is beginning to emerge. The opposing side of compassion fatigue, known as compassion satisfaction, refers to the pleasure or joy that care providers receive from helping others (Stamm, 2010). This concept has begun to be investigated within animal care workers; one study found the positive aspects of the job were helping animals and building relationships with patients or clients (Polachek & Wallace, 2018). Additionally, the researchers found that no factors were predictive of reduced compassion fatigue, and instead encouraged research on the positive factors of veterinary work, related to compassion satisfaction. Another key piece of research is the model of veterinary work well-being by Cake et al. (2015), who suggest that the veterinary profession can be a rich source of fulfilment. Their model proposes that the positive aspects of veterinary work, such as helping animals, people and contributing to society, align to key mediating psychological variables such as personal growth and work engagement, which, along with enabling resources such as self-awareness and autonomy, result in eudaimonic well-being.

Well-being at work includes factors such as competence, autonomy, positive self-regard and integrated functioning (Warr, 2003). The ancient Greeks broadly conceptualised well-being as either hedonic or eudaimonic (Turban & Yan, 2016; Wright, Cropanzano, &

Bonett, 2007). Hedonia refers to experiencing pleasure and avoiding pain, while eudaimonia refers to experiencing personal growth and meaningful purpose. Cakic et al. (2015) propose that eudaimonia, defined broadly as happiness, is a viable reason to pursue a veterinary career. On the other hand, hedonia has been found to be a significant part of life (Wrzesniewski, Rozin, & Bennett, 2003), and a worthwhile state to strive for at work (Biswas-Diener et al., 2015). Other research suggests that the two concepts overlap conceptually and statistically and may operate together rather than in isolation (Kashdan, Biswas-Diener, & King, 2008). This suggests that both aspects of well-being are important.

New research on the positives of veterinary work align with the shift towards the complete state model of health (Keyes, 2014), arguing that mental health is not solely the absence of mental illness, and advocating for the promotion of positive mental health. This is embodied by the World Health Organisation's (2008) definition of good mental health, "a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (p. 12). A key premise of mental health promotion and protection is the Dual Continuum Model (Keyes, 2002), which proposes that mental health and mental illness are separate but related dimensions of psychological well-being.

Individuals can be categorised according to their mental health status: languishing, moderate or flourishing. Importantly, this model suggests that the presence of mental ill-health does not necessarily indicate the absence of good mental health; Keyes found that 70% of adults with mental illness were classified as moderate or flourishing in their mental health (Keyes, 2007). Keyes further recommended that organisations focus their efforts on supporting employees to enhance their well-being, rather than investing solely in treating mental illness. Future research, he suggested, should focus on how more people can flourish and remain in this state. This recommendation is aligned with the field of Positive Organisational Behaviour

(POB), urging research, theory and application of the positive aspects of employee traits, states and behaviours in the workplace (Luthans, 2002). Future research may investigate the complete state model of health with veterinarians.

Job Satisfaction

Despite the widespread research on job satisfaction since the 1930s, there remains a lack of consensus on its definition and whether it is categorised as “an attitude based on an appraisal of the work environment” (Wright & Cropanzano, 2007, p. 1008), “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, 1976, p. 1300), or both e.g., “an internal state that is expressed by affectively and/or cognitively evaluating an experienced job with some degree of favour or disfavour” (Brief, 1998, p. 86). In addition, Brough (2009) highlights key measurement issues with the construct, finding poor psychometric qualities in 22 out of 29 commonly-used instruments. Furthermore, focusing on job satisfaction is likely to be inadequate in understanding the wide array of emotions felt at work, and the job factors contributing to them. As highlighted by Wright & Cropanzano (2007), most job satisfaction measures are not an appropriate gauge of hedonic or eudaimonic well-being.

In the Two-Dimensional View of Well-being (Figure 1), levels of pleasure and arousal describe an individual’s overall well-being (Thayer, 1989). In this model, feelings of satisfaction and contentment sit below pleasure and happiness with respect to arousal. If applied to the work context, it can be argued that job satisfaction is associated with lower arousal than the arousal associated with positive feelings such as happiness and pleasure. Furthermore, Seligman states that humans should strive beyond the state of mere satisfaction to the point of flourishing (Seligman, 2011), akin to self-actualisation (Maslow, 1943). Similarly, Warr (1990) poses that work well-being is more than job satisfaction alone. Nonetheless, the concept of job satisfaction continues to dominate organisational psychology

literature and accordingly, factors contributing to veterinarian job satisfaction have begun to receive attention over the last decade.

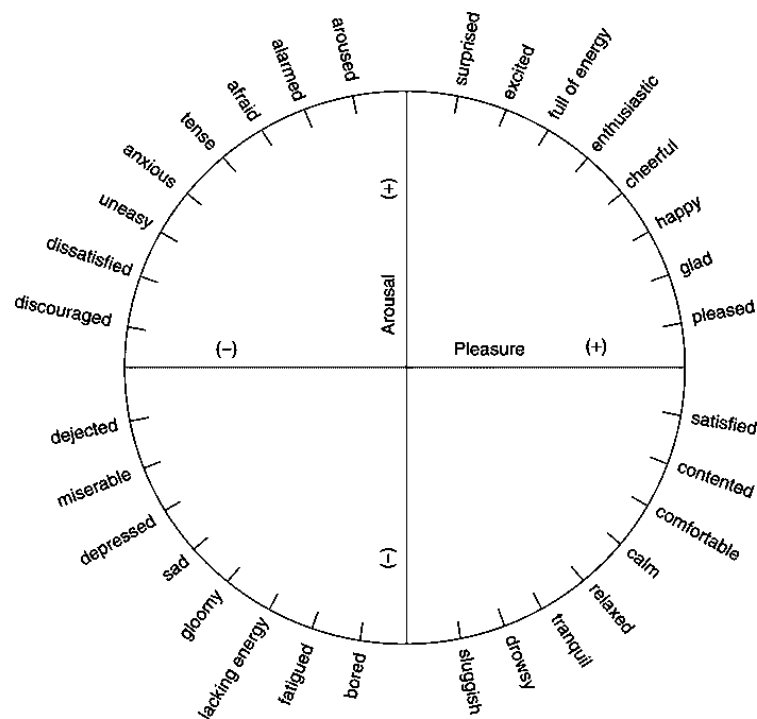


Figure 1. The Two-Dimensional Model of Well-being (Thayer, 1989)

In general, studies find veterinarians to be relatively satisfied with their work, although the results depend on the research methodology. Typically, either Likert-scales or open-ended questions are utilised. One commonly-used measure is the single item, “taking everything into account, how do you feel about your job as a whole”, requiring participants to answer on a 7-point Likert scale (1 = extremely dissatisfied to 7 = extremely satisfied). Dolbier, Webster, McCalister, Mallon, and Steinhardt (2005) found the single-item measure to have acceptable reliability ($\alpha = .73$) using the correction for attenuation formula, good construct and convergent validity by investigating correlations with multiple-item measures of job satisfaction, and a logistic regression analysis, found it was a significant predictor of turnover intention. However, the one-item measure does not allow for investigation into the particular aspects of work contributing to job satisfaction. Other studies ask participants to rate a series of job characteristics on several Likert-scales: a study of 2549 German

veterinarians found a good working atmosphere, a reasonable salary and holidays, were the most important job characteristics (Kersebohm, Lorenz, Becher, & Doherr, 2017). However, the list of job characteristics was developed by the researchers, with little information on how they were created and validated. A large-scale study of 26 occupation groups, including teachers, accountants and prison officers, found veterinarians ($n = 272$) ranked 13th on job satisfaction (Johnson et al., 2005). Given the overwhelming focus on the mental ill-health in the profession, this result appears better than expected. Yet, this study utilised the ASSET Stress Questionnaire, which measures sources of work stressors and stress levels rather than job satisfaction. Thus, the findings are skewed towards the negative aspects of the job and may not accurately reflect veterinarian perspectives on the positive job characteristics which influence their job satisfaction.

Open-ended, free-form measures of employee perspectives are arguably less restrictive than those consisting of Likert-scales with pre-determined job characteristics. A UK study asked 1793 veterinarians to identify three main sources of satisfaction and/or pleasure in practice, and found that positive clinical outcomes, team relationships and intellectual challenge were the top three sources (Bartram, Yadegarfar, & Baldwin, 2009). These researchers extended the research on job satisfaction by also including the characteristics that contribute to pleasure at work, although this may have confounded the results, as the constructs differ. Additional qualitative exploratory research is therefore recommended to delve deeper and to better understand unique veterinarian perspectives, rather than utilising generic measures with a restricted range of sources of job satisfaction, applicable to most jobs.

Happiness and Subjective Well-being

While many authors use the terms happiness and satisfaction synonymously, some argue that they are different; happiness is a broad, positive feeling (Diener, 2000) and

satisfaction an attitude reflective of contentment (Warr, 2003). Happiness is a construct that has gained significant momentum in the literature since the introduction of positive psychology, initiating an increase in well-being models and theories (Seligman & Csikszentmihalyi, 2000). The goal of positive psychology is to increase the amount of happiness in one's life in order to "flourish". Happiness in the literature tends to be measured as Subjective Well-being (SWB), a concept created by Diener (2000) in an attempt to answer the question, "What is the good life?". Diener's SWB model refers to the affective and cognitive evaluations one has over one's life. Happiness is operationalised here as SWB. It could be argued that this conceptualisation of happiness aligns with the general definition of well-being, often used as a broad umbrella term, encompassing both physical and emotional health. However, results from a recent qualitative study of stakeholders in a public health programme ($n = 142$) indicated that participants felt that well-being was more about flourishing than only health and happiness (Dooris, Farrier, & Froggett, 2018), which is aligned with the concept of eudaimonia.

Experiencing positive emotions has been linked to a broad range of positive outcomes for the individual, including longer life-span (Danner, Snowdon, & Friesen, 2001; Levy, Slade, Kunkel, & Kasl, 2002; Xu & Roberts, 2010) and prevention of illness (Cohen, Doyle, Turner, Alper, & Skoner, 2003). Within the workplace, experiencing happiness has been found to be related to increases in supervisor ratings, energy levels, confidence and salary (Diener & Biswas-Diener, 2009). The Happy/Productive Worker Hypothesis proposes that happy workers tend to also display higher job performance in terms of their productivity (Kornhauser & Sharp, 1931). Since its formation in the 1930s, the theory has been tested many times but with mixed results. Multiple studies have found weak or non-significant relationships between the variables (Brayfield & Crockett, 1955; Judge, Thoresen, Bono, & Patton, 2001; Vroom, 1964), and an influential meta-analysis on the topic by Iaffaldano and

Muchinsky (1985) found no substantial relationships. However, “happy workers” were typically operationalised using self-rated job satisfaction, and productivity was measured by supervisor ratings, thus the Satisfied/Productive Worker may be a more appropriate title as happiness is not captured in job satisfaction. More recent meta-analyses, after correcting errors in the review, (including performance criteria, which were confounded by other variables such as organisational citizenship behaviours), indicate that the relationship between job satisfaction and performance does in fact exist, across job complexity and occupation (Harrison, Newman, & Roth, 2006; Judge et al., 2001; Ricketta, 2008). In addition, even small correlations were found to amount to large productivity differences at the organisational level. Furthermore, Lyubomirsky (2010) suggests that while 50% of one’s happiness is genetically determined and 10% is circumstantial (e.g. living conditions), up to 40% is within one’s control. Therefore, investigating and enhancing the factors that foster happiness in veterinarians may result in substantial improvements in their productivity, job performance and overall well-being.

Pleasure

The positive emotion of pleasure is a key contributing factor to happiness, yet a review of the relevant literature shows a lack of research in determining the pleasurable factors that contribute beyond job satisfaction, to the *happiness* of veterinarians in their work. The construct of pleasure can be defined as “a positive state that we seek and try to maintain or enhance” (Wrzesniewski, Rozin, & Bennett, 2003, p. 112). Herein pleasure is defined as a highly positive emotion, derived from hedonia, which is a key element of SWB or happiness and contributes to overall well-being. Schueller and Seligman (2010) suggest that hedonia and the experience of pleasure are important in human life, resulting in higher well-being, and therefore pursuing pleasure can increase long-term well-being. Biswas-Diener et al. (2015) argue that pleasure is a distinct element of happiness, and that experiencing and

seeking pleasure can be highly motivating. Seligman (2002) finds the three pathways to well-being are through pleasure, engagement and meaning in life, all of which can be attained through one's work. Therefore, experiencing pleasure at work is likely to have benefits in increasing motivation and ultimately job performance.

There is a dearth of tools to examine pleasure in the workplace, with instruments typically measuring pleasure as an aspect of personality, e.g. the Trait Pleasure-Displeasure Scale (Mehrabian, 1978) or level of overall pleasure in life, e.g. the Pleasure Quotient Test (Biswas-Diener et al., 2015). The Professional Quality of Life Questionnaire (ProQOL) (Stamm, 2010) exists to measure the positive and negative aspects of working in a helping role which influence an individual's professional quality of life. Based on compassion satisfaction, it contains items measuring happiness from helping others, work satisfaction, work competency and making a difference to society. However, the ProQOL was designed for use in human healthcare professions (Stamm, 2010) and may not be sensitive to the intricacies of veterinary work (McArthur et al., 2017b). For example, the triadic clinical relationship (self, client and animal patient) that exists in veterinary practice, differs to the dual relationship between professional and client that exists in most other healthcare professions, with the exception of paediatrics (Eminson & Coup, 2000). Utilising qualitative research methods in future studies may help to distinguish the pleasurable aspects of veterinary work, to eventually create a measure of work pleasure or compassion satisfaction specific to the veterinary population.

The Importance of Resilience

Resilience is an important process that contributes to an individual's level of well-being (Seligman, 2011). Like happiness and pleasure, resilience is likely to be useful in countering the negatives of veterinary work (Bartram & Boniwell, 2007). While studies investigating the resilience of veterinary students are increasing (Moffett & Bartram, 2017),

this area remains largely under-researched with veterinarians in practice. Cake et al. (2017) highlight a lack of understanding in the literature about what promotes psychological well-being and resilience in veterinarians, which could be integral to mitigating the risks of mental ill-health in this profession. In their review they reveal resilience factors mentioned in the veterinary literature, including emotional competence, motivation, personal resources (mainly positive beliefs about one's self and abilities), motivation (such as finding meaning in work), social support, organisational culture, life balance and well-being strategies (Cake et al., 2017). This supports the McArthur et al. (2017a) definition of resilience in veterinary medicine, as a multi-dimensional process, where individuals draw on personal (e.g. motivation) and contextual resources (e.g. relationships) as well as strategies (e.g. problem solving) to work towards adaptive outcomes. Furthermore, as resilience is dynamic and contextual, it can be developed over time (McArthur et al., 2017a). The McArthur et al. (2017a) definition contrasts with many basic definitions of resilience which refer to simply bouncing back from adversity (see Smith et al., 2008). These definitions incorrectly assume that an individual either has the capacity to be resilient or does not (Richardson, 2002).

The concept of resilience aligns well with Fredrickson's Broaden-and-Build Theory (2001), which states that experiencing positive emotions builds on existing resources to develop long-term personal resources, such as resilience. The theory proposes that experiencing positive emotions can therefore improve well-being. Sharna, Desiree, and Stephen (2015) add to the model stating that maximising pleasure through savouring a positive event may build personal resources to ultimately enhance resilience. Investigating what factors provide veterinarians with positive feelings may therefore be useful in establishing workplace interventions based on savouring positive experiences to improve resilience. Two of four factors relating to resilience can be categorised as either personal resources or contextual resources (Cake et al., 2017). Veterinary students ($n = 505$) in New

Zealand listed personal resources such as self-efficacy and motivation, along with contextual resources, such as social support and curricula on well-being, as well as organisational strengths, such as counselling services, as protective factors in their studies (Weston, Gardner, & Yeung, 2017). These results are promising, however there is a need to extend the focus and incorporate resilience topics and programs not only within universities, but also in continuing professional education to support veterinarians to flourish.

The work context can contribute to supporting individual resilience. Caké et al. (2017) list 17 contextual resources commonly found in the veterinary literature, including relationships, colleagues, feedback, skills discretion and decision latitude. These are similar to non-specific factors explaining differences in work well-being: autonomy, opportunity for skill use, job demands, variety, task feedback, income, working conditions, supportive management, opportunity for interpersonal contact and social rank (Kahneman, Diener & Schwarz, 2003). Similarly, Mansfield, Beltman, Broadley, and Weatherby-Fell (2016) conducted a review of factors fostering teachers' resilience, and identified 14 important contextual resources, including relationships with students and colleagues, school culture, trust and recognition. There are clearly universal factors that support the resilience of employees across occupations. However, within veterinary medicine, there is a gap in the interventions and trainings aimed at increasing contextual resources in the workplace. Well-known and validated organisational and clinical psychology interventions, such as formalised peer support models and clinical supervision sessions (Cole, 2015; Proctor, 1994) may be a viable option to build contextual resources in veterinarians.

Individual Differences in Personality and Stress

Studies into burnout and stress at work have focused predominantly on the impact of certain work characteristics (Schaufeli & Buunk, 2004); however, new evidence suggests that individual differences in personality may also be related to response to stressors in the

workplace. In their study of 311 veterinarians, Dawson and Thompson (2017) found that neuroticism, but no other personality trait was a better predictor of occupational stress than work environment. While it is a well-established view in the organisational psychology field that personality assessment is a valuable aspect of the recruitment and selection process, it contributes only a part of an individual's suitability for the role, particularly based on their level of conscientiousness (Hunter & Hunter, 1984). Other factors such as cognitive ability, performance on job trials, and supervisory ratings, have higher predictive validity of an individual's job performance (Schmidt, Ones, & Hunter, 1992). While using personality measures as part of the selection process for veterinary students may support the recruitment of individuals better-suited to entering the profession, there exists great value in having diversity in the workplace, including increased innovation and creativity (Mazibuko & Krishna, 2017). Furthermore, it is vital to note that resilience is contextual and not an absent or present personality trait (McArthur et al., 2017a), and can be developed and increased through practice and training. Therefore, it is critical that recruitment and selection of veterinarians are not based on personality results or resilience measures alone.

The Job Demands-Resources Model

While representing a seminal and refreshing paper in the field, the model of veterinary work well-being presented by Cake et al. (2015) neglects the aspects of the job that may hinder the overall level of eudaimonic well-being. The Job Demands-Resources Model (JD-R) is widely accepted in organisational psychology as a theory to predict job stress (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), which takes into account both the positive and negative work characteristics in any given work setting. Job resources refer to aspects of the job, such as performance feedback, recognition and relationships, which support the employee to achieve their work goals, reduce job demands and associated costs, and encourage personal growth (Demerouti et al., 2001). The negative, known as job

demands, refer to the aspects of the job (physical, psychological, social or organisational), which require effort and are therefore associated with mental or physical costs (e.g., exhaustion). Common examples of job demands include time pressure and high workload. The model predicts that job demands result in negative health impairment (typically burnout), while resources result in a positive, motivational state of work engagement. All jobs involve demands; however, too many demands and too few resources lead to negative outcomes. Together, job demands and resources determine the overall well-being of the employee in a certain work context.

Job resources can be intrinsically and extrinsically motivating for employees (Schaufeli & Bakker, 2004); the former via fostering personal growth and development, and the latter by supporting employees to achieve work goals, both processes supporting job satisfaction, positive emotions and work well-being. Schaufeli and Bakker (2004) suggest that job resources in general lead to organisational attachment, lower turnover and a more positive psychological state for the employee. Additionally, job resources can alleviate certain job demands, thereby increasing the likelihood of experiencing positive emotions and enhancing well-being (Bakker, Demerouti, & Euwema, 2005). For example, resources such as task variety and social support could alleviate the demands of workload to achieve engagement and increase motivation. Enhancing job resources, rather than reducing demands, can be effective in supporting employees to achieve their work goals and improve their well-being (Mastenbroek, 2017). Additionally, burnout and its antipode, engagement, have different causes and consequences, and therefore require different intervention strategies (Schaufeli & Bakker, 2004).

Veterinary medicine is known to have prevalent job demands such as high workload and poor work-life balance (Smith et al., 2009), although less is known about the job resources which can counter the demands and result in a positive, motivational state. A recent

study of young veterinary professionals in the Netherlands found that professional development opportunities and skills discretion were key job resources predictive of work engagement and well-being (Mastenbroek, 2017). In another study, Mastenbroek et al. (2014) found gender differences; females benefited from autonomy, while males benefited more from supervisor support. In a study of the JD-R model with veterinary nurses, potential for skill development, task predictability and recognition were key job resources (Kimber & Gardner, 2016). While these studies are a positive start on the subject, additional research is required in an Australian context, using qualitative methods to gain a deeper understanding of the job resources that foster positive emotions and enhance well-being for veterinarians in practice.

Recent adaptations of JD-R model include personal resources, sometimes referred to as psychological capital (Hobfoll, Johnson, Ennis, & Jackson, 2003; Mastenbroek, 2017). Personal resources refer to the within-person capability (traits, states and behaviours) used to control and cope with one's environment, including resilience, self-efficacy and optimism (Luthans, Avey, Avolio, Norman, & Combs, 2006; Mastenbroek, 2017), which may act as a buffer to negative experiences. Self-efficacy, reflective and proactive behaviour were three personal resources that mediated the relationship between job resources and engagement, suggesting that they have an important role in explaining engagement and well-being for young veterinarians (Mastenbroek, 2017). Additional research highlights that work well-being can be improved through interventions to develop and enhance personal resources (Mastenbroek, van Beukelen, Demerouti, Scherpbier, & Jaarsma, 2015). When examining the literature on veterinarian resilience it is important to note key differences in definitions of personal resources. In the McArthur et al. (2017a) study on veterinary students, personal resources support resilience, whereas in the Mastenbroek (2017) study, personal resources encompass resilience. Further research on the job and personal resources that contribute to

the pleasure, happiness and overall well-being of veterinarians, may form the foundation for targeted training and workplace interventions.

Recommendations for Future Research

Common sources of job satisfaction for veterinarians are well documented in the literature; however, factors related to their happiness and pleasure remain unidentified and are worthy of further exploration. This review has challenged the traditionally held view that job satisfaction, as commonly measured, is an adequate measure of positive emotions at work, instead suggesting that extending job satisfaction to include factors related to pleasure in one's work may be more appropriate. While the Cate et al. (2015) model of eudaimonic well-being presents a valuable step forward, emphasising the positives of the veterinary profession, the model does not include the hedonic aspects of well-being, relating to the experience of pleasure at work. There exists great potential to explore these concepts with veterinarians in practice, given that pursuing pleasure can increase long-term well-being (Seligman, 2002). Future research defining and measuring the concept of work pleasure, through both qualitative exploration using the JD-R as a framework, and the development of quantitative measures is required.

Conclusion

Many studies on veterinary well-being focus on the factors known to cause work stress or burnout. This review has discovered a clear gap in the literature about the aspects of the job providing veterinarians with highly positive feelings of pleasure. Gaining an understanding of these factors and how they are related to personal resources or resilience may be key to mitigating the risks associated with the profession and promoting well-being at work. An exploratory study is recommended to gather veterinarians' perceptions on what work factors are associated with feelings of pleasure. The results may support the re-examination of curricula in veterinary education and continuing professional development to

include or increase education on these positive factors, instead of the risks alone. This may occur through university and workplace interventions, such as peer support programs and psycho-education. The proposed study and studies like it are needed to provide a better understanding of veterinary work and to develop measures of positive aspects of that work, including compassion satisfaction (Stamm, 2010). This will be beneficial in identifying what can be done to further enhance and promote the profession.

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Pleasure and Resilience: Keys to Unlocking Veterinary Well-being

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Author's note: This manuscript has been prepared for the Journal of Veterinary Medical Education (JVME), which adheres to the Vancouver reference style, as opposed to APA. Therefore, in-text references are numbered and provided in order in the reference list, which contains abbreviated journal titles. Please note that according to the submission guidelines, the manuscript is single spaced, line-numbered and there is no word count specified.

As per guidelines, all tables are referenced in-text and provided at the end of the document (pages 46-55).

Please see Appendix A (p 62) for Submission Guidelines.

Abstract

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Despite the rise in positive psychology within organisational settings, little is known about the positive factors associated with veterinary work. This mixed-methods, exploratory study investigated sources of pleasure for veterinarians, and the demographic factors predictive of their resilience. A subset of archival data from a larger study on veterinary well-being was analysed. The current study was based on data from 273 veterinarians and four online measures: The Ten Statements Test (TST), the Brief Resilience Scale (BRS), the Personal Resources for Veterinary Resilience Scale (PRVRS) and Demographic questions. In the TST, participants provided up to ten responses to the prompt, “*I derive pleasure in my work as a veterinarian when...*”. Using the Job Demands-Resources Model (JD-R) as a framework, a total of 2536 responses were manually coded into themes relating to resources (positive responses) or demands (responses indicating a negative factor). In order of frequency, Job resources related to Professional Expertise (22%), Positive Outcomes (20%), Job Characteristics (19%), Relationships (16%), Recognition (10%), Helping (7%) and Personal Resources (3%). Top job demands related to Stress and Fatigue (17%) and Poor Work-Life Balance (16%). Over half the sample (54.9%) reported average resilience, a third (33.4%) reported low, and 11.7% reported high resilience on the BRS. Bivariate correlations and a standard multiple regression examined relationships between demographic variables and BRS scores. PRVRS scores were significantly predictive of BRS scores. The results suggest that developing workplace interventions to increase personal resources may protect against the negative aspects of veterinary work.

Keywords: veterinarians, pleasure at work, resilience, job demands-resources model, personal resources

24 *“Pleasure in the job puts perfection in the work” – Aristotle*

25 **Introduction**

26 Organisational psychology has shifted focus in recent times, from managing and reducing
 27 work stress to enhancing well-being and supporting employees to “flourish”.¹ Well-being at
 28 work includes factors such as competence, autonomy, positive self-regard and integrated
 29 functioning.² This new interest stems from positive psychology³ and highlights the
 30 importance of increasing positive experiences and emotions at work, rather than simply
 31 decreasing negative states.⁴ However, the adverse by-products of work, including stress,
 32 burnout and mental ill-health continue to be emphasised in some professions, including
 33 veterinary medicine.⁵⁻⁸ A recent qualitative analysis discovered a clear imbalance, with
 34 studies on mental ill-health, stress and suicide dominating the veterinary literature compared
 35 to those on resilience and well-being.⁹ While veterinary work can be paradoxical, with both
 36 high costs and rewards,¹⁰ research on the positive aspects are regularly ignored. Gaining a
 37 clearer understanding of the work factors that foster positive emotions for veterinarians may
 38 be key to enhancing their well-being and rectifying the imbalance in the literature.

39 Experiencing positive emotions has been found to significantly increase employee well-being
 40 and productivity,¹¹ although research often underestimates this importance.¹² The Broaden-
 41 and-Build Theory¹³ suggests that experiencing positive emotions broaden an individual’s
 42 attention, cognition and action repertoire, ultimately building their physical, intellectual and
 43 social resources. Happiness is a broad, positive emotion, often measured as Subjective Well-
 44 being (SWB),¹⁴ that is consistently associated with benefits at the individual and
 45 organisational level. Happy employees show increases in productivity, supervisory ratings,
 46 customer satisfaction, organisational citizenship behaviours and salary, as well as decreases
 47 in absenteeism and turnover.^{2, 15, 16} In addition, happiness has been identified as an important
 48 goal to strive for at work.¹⁷ Pleasure is an important constituent of happiness, which supports
 49 overall quality of life and can also be attained through one’s work.¹⁸

50 The increasing interest in positive emotions in the workplace aligns with Positive
 51 Organisational Behaviour (POB), defined as the “study and application of positively oriented
 52 human resource strengths and psychological capacities that can be measured, developed and
 53 effectively managed for performance improvement in today’s workplace”¹⁹ (p59). POB
 54 emphasises the dire need for research on the role of positive traits and states at work, rather
 55 than the traditional “four D’s approach: damage, disease, disorder and dysfunction”²⁰ (p148),
 56 to better understand the working life and support an employee to flourish.

57 The well-known “Happy-Productive Worker Hypothesis”, originating in the 1930s, suggests
 58 that employees who are happy at work demonstrate higher job performance than unhappy
 59 employees.²¹ Numerous recent meta-analyses confirm the relationship,²²⁻²⁴ and suggest that
 60 the correlation is strongest in complex jobs undertaken by skilled workers.²⁵ Yet studies on
 61 the Happy-Productive Worker Hypothesis tend to operationalise happiness as job
 62 satisfaction.²⁶ Happiness researchers highlight that this is erroneous, as the constructs differ²⁵
 63 and happiness includes, but is more than, job satisfaction.^{2, 12} Definitions of job satisfaction
 64 vary, with some referencing an attitude of favour,²⁷ or simply a summary of how satisfied an
 65 employee is with their work.²⁸ Additionally, studies tend to measure the cognitive and ignore
 66 the affective component of job satisfaction, yet continue to use it as a measure of happiness.¹¹
 67 “Job related affect” has been suggested as a more appropriate construct than job satisfaction,
 68 which has been likened to “bovine contentment” (p118).²⁵ Regardless of its definition,
 69 researching job satisfaction exclusively is likely to neglect the work factors associated with

70 positive emotions. Nonetheless, studies on job satisfaction continue to dominate the
71 organisational psychology literature across occupations.

72 Studies find veterinarians to be generally satisfied with their jobs,²⁹ yet research often utilises
73 generic measures of job satisfaction, not specific to veterinary work. For example, the single-
74 item, “taking everything into consideration, how do you feel about your job as a whole?”
75 rated on a seven-point Likert-scale (1=extremely dissatisfied to 7=extremely satisfied) is
76 commonly used, yet it does not allow for meaningful investigation into the factors providing
77 satisfaction. Other studies require participants to rate a list of job characteristics on Likert-
78 scales. Using this method, the top three sources of job satisfaction for German veterinarians
79 were ‘a good work atmosphere’, ‘reasonable salary’ and ‘holidays’.³⁰ However, a set list of
80 characteristics is unable to investigate other unique factors which may exist. Other studies
81 utilise qualitative measures, asking participants free-form, open questions about the satisfying
82 aspects of their job. This approach allows for exploration of new ideas and veterinary-specific
83 results. A lengthy survey in the UK found the three best things about being in the veterinary
84 profession were ‘variety’, ‘working with animals’ and ‘challenge/skill use’.³¹ However, the
85 qualitative component is typically added as the final question to extensive questionnaires
86 focused on the challenges and stressors of veterinary work. In addition, qualitative questions
87 tend to seek only three satisfying factors, when there are likely to be more. A thorough
88 investigation on the positive aspects of veterinary work is lacking.

89 Another important facet of well-being is resilience. While gaining momentum in the
90 literature, there is little research on resilience within the veterinary population.⁹ Resilience in
91 veterinary medicine is defined as a multi-dimensional process, where individuals draw on
92 personal (e.g. motivation) and contextual resources (e.g. relationships) as well as strategies
93 (e.g. problem solving) to work towards adaptive outcomes.⁹ This dynamic approach contrasts
94 with many basic definitions of resilience which refer to bouncing back from adversity,
95 incorrectly assuming that an individual either is or is not resilient.³² Resilience factors
96 frequently mentioned in the veterinary literature include emotional competence, personal
97 resources (e.g. self-efficacy, confidence and optimism), motivation (such as finding meaning
98 in work), social support, organisational culture, life balance and well-being strategies.⁹
99 Further research is required to assess whether these factors are related to the pleasure that
100 veterinarians experience in their work, and whether they can be used to enhance well-being.

101 The characteristics of a job can positively or negatively impact an employee’s level of well-
102 being. Herzberg³³ proposed two types of needs at work: hygiene and motivation. Hygiene
103 factors, such as pay and a safe work environment, refer to basic needs that prevent
104 dissatisfaction. In contrast, factors such as interesting work and career advancement
105 contribute to higher-level needs and provide motivation. Another way to classify job
106 characteristics is the Job Demands-Resources (JD-R) Model;³⁴ a well-known framework used
107 to predict job stress that can be applied to any work context. It categorises all aspects of a job
108 into either demands or resources. Demands refer to the characteristics of a job that require
109 effort (either physical or mental) and are associated with certain psychological costs.
110 Conversely, resources refer to the positive aspects of the job that are functional in achieving
111 personal and organisational goals. The two categories result in different processes: too many
112 job demands can result in burnout, while an abundance of job resources yields motivation and
113 work engagement.

114 Adaptations of the JD-R model incorporate personal resources, which refer to an individual’s
115 sense of control and successful influence over the environment.³⁵ Personal resources are
116 measured as traits (e.g. emotional stability) or more commonly as states (e.g. motivation,
117 optimism and self-efficacy). Personal resources are related to higher work happiness and

118 subjective well-being.³⁶ A series of studies on Dutch veterinarians used the JD-R model
 119 (including personal resources) to investigate work engagement and performance.³⁷ Job
 120 resources predicted engagement, job demands predicted in-role performance through
 121 exhaustion, and personal resources were found to have an important role in explaining
 122 engagement and job performance. Additionally, work environments supporting an employee
 123 to use their personal resources have been found to be particularly beneficial, supporting
 124 positive affective states.³⁸

125 Research into veterinary work has typically focused on stress, burnout and mental health
 126 problems, resulting in bias in the literature. Less is known about the work factors associated
 127 with their well-being and resilience. Despite the importance of experiencing positive
 128 emotions at work, this area remains under-researched within the veterinary field. If
 129 experiencing positive emotions supports employee well-being, and increased well-being
 130 enhances productivity, then it is essential to consider the factors at work which are associated
 131 with experiencing positive emotions. Determining the factors that contribute beyond job
 132 satisfaction, to the *pleasure* of veterinary work may provide insight into how to protect
 133 veterinarians against the known risks and support them to flourish.

134 This mixed-methods, exploratory study extends the literature on job satisfaction by
 135 investigating sources of pleasure for veterinarians, using the JD-R model as a theoretical
 136 framework. Qualitative research is invaluable within organisational psychology to understand
 137 new perspectives on how people can thrive at work,³⁹ and provides a ‘voice’ for the
 138 population of interest.⁴⁰ The qualitative element therefore allows access to a wider spectrum
 139 of ideas, as opposed to pre-existing measures of job satisfaction, which are not contextually-
 140 specific to the veterinary profession. The results may contribute to the development of
 141 workplace-based training, measures and interventions to support veterinarians in practice.

142 The following research questions were investigated:

- 143 1. What factors are associated with pleasure for veterinarians at work, beyond job
 144 satisfaction?
- 145 2. What demographic factors predict resilience on the Brief Resilience Scale?

146 **Method**

147 *Procedure*

148 A total of 342 veterinarians participated in a larger study on veterinarian well-being
 149 consisting of an online questionnaire on SurveyMonkey (University of Adelaide Human
 150 Research Ethics H-2015-257). The current study analyses a subset of data from the larger
 151 study, focusing on four measures, including a qualitative component: the Ten Statement Test.
 152 Data was archival, collected from September to November 2016, thus the author did not
 153 prepare the questionnaire items or measures. Participants were recruited through online
 154 advertising and at veterinary conferences in Australia. Participation was voluntary, and there
 155 were no incentives provided. Participants were provided with information about the nature of
 156 the study and how their data would be stored and reported. Their right to withdraw at any
 157 time without consequence was highlighted. Although there were no expected risks other than
 158 inconvenience, participants were informed of counselling services (Beyond Blue, Lifeline
 159 and AVA Telephone Counselling Service) that were available if they felt distressed by issues
 160 arising from taking part in the study. Participants were also advised that they would remain
 161 anonymous, and would therefore not be linked to their data, nor contacted for follow up.

162 *Participants*

163 This study included participants who completed an optional qualitative task at the end of the
 164 questionnaire, the Ten Statements Test. This resulted in a sample of 273 veterinarians,
 165 reflecting a response rate of 79.8% from the larger study. The participants in the current study
 166 were 67.8% female ($n = 185$) and ranged from 23 years to 76 years of age, ($M = 43.86$, $SD =$
 167 12.71). Most participants (77.3%) studied at an Australian University, the remaining
 168 participants reported studying in the United Kingdom, USA, New Zealand, South Africa and
 169 Canada. Nearly half of participants (45.2%) reported that they worked in a capital city, while
 170 26.2% stated that they worked regionally and 28.6% reported working in a country town. The
 171 most common type of practice was small/companion animals (49.8%), while 5.86% worked
 172 with large animals (including equine) and 16.48% worked in mixed practice. A small
 173 percentage (4.4%) worked in an emergency or veterinary hospital setting, and 14.29% of
 174 participants' workplaces were listed as 'other', including exotic animals, government
 175 agencies, racetrack, Universities and wildlife clinics.

176 *Measures*

177 This study analyses data from four measures that were part of the larger online questionnaire:
 178 The Ten Statements Test, The Brief Resilience Scale, The Personal Resources for Veterinary
 179 Resilience Scale and demographic questions.

180 The Ten Statements Test (TST)

181 Each participant completed a version of the TST, which was adapted from The Teacher Ten
 182 Statements Test.⁴¹ The concept was taken from the Twenty Statements Test,⁴² originally
 183 designed as a structured, qualitative measure of self-concept, asking participants to respond
 184 twenty times to the prompt, "I am...". The original instructions were as follows, "Answer as
 185 if you were giving the answers to yourself, not to somebody else. Write the answers in the
 186 order that they occur to you. Don't worry about logic or 'importance'." Due to its structured
 187 approach and free-response format, the TST is a widely-used measure of self-identification,
 188 enabling a comprehensive understanding of role identities,⁴¹ and a qualitative investigation of
 189 the unique intricacies of a construct.

190 The Twenty Statements Test has been found to be a useful measure of features within the
 191 work context, such as organisational culture in the late 1990s, using the prompt, "This
 192 company is...".⁴³ More recently, the TST format has been used to investigate career
 193 motivations in early career veterinarians using the prompt, "*I want to be a veterinarian*
 194 *because...*".⁴⁴

195 The TST used in the current study required participants to provide a maximum of ten
 196 responses to complete the prompt, "***I derive pleasure from my work as a veterinarian***
 197 ***when...***". Participants were provided with the same instructions as the original Twenty
 198 Statements Test. TST research has found that ten responses is sufficient, and that 20
 199 responses often become redundant.⁴¹ One study found no difference in response patterns for
 200 7, 10 or 20 responses.⁴⁵ While some researchers suggest that the responses should be
 201 weighted to account for response order effects,⁴⁶ others suggest that it makes no difference.⁴⁵
 202 The current study did not weight or rank responses and requested a maximum of ten
 203 responses.

204 The Brief Resilience Scale (BRS)

205 The BRS is a general measure of resilience, assessing one's ability to bounce back or recover
 206 from stress.⁴⁷ The BRS is widely-used for its brief length and ease of scoring. The
 207 questionnaire consists of six items (see Table 1, p46). Respondents answer on a Likert-scale

208 of 1 (strongly disagree) to 5 (strongly agree). The BRS score is the average of the sum of the
 209 individual items (after reverse coding items 2, 4, 6), resulting in an overall BRS score
 210 between 1 and 5. The authors of the BRS suggest that a score of 3.70 indicates average
 211 resilience based on their five samples of varying levels of health, age and occupations.
 212 Furthermore, based on the standard deviation ($SD = .68$) as a convention to classify high and
 213 low scores, they suggest that scores below 3.00 indicate low resilience and scores above 4.30
 214 indicate high resilience.

215 The authors of the BRS validated the tool with four groups (students, cardiac rehabilitation
 216 patients, fibromyalgia and a control group) and reported strong internal consistency ($\alpha = .80$
 217 to $.91$) and good test-retest reliability.⁴⁷ It was also found to be positively correlated with
 218 optimism, purpose, coping and health in all samples, and negatively correlated with anxiety,
 219 depression, pessimism and negative affect. In a review of nineteen resilience scales, the BRS
 220 was found to be in the top three with regards to its psychometric properties,⁴⁸ with a
 221 Cronbach's alpha between 0.70 and 0.95 and strong construct validity. In the current study,
 222 the BRS was found to have good internal reliability ($\alpha = .92$).

223 The Personal Resources for Veterinary Resilience Scale (PRVRS)

224 The PRVRS is a newly-developed, contextual measure of an aspect of veterinary resilience:
 225 personal resources⁴⁹ adapted from the Teacher Resilience Scale.⁵⁰ The PRVRS consists of 6
 226 items, (see Table 1, p46), which respondents answer on a Likert-scale of 1 (strongly disagree)
 227 to 5 (strongly agree). The total score is the sum of the individual items, resulting in an overall
 228 PRVRS score between 6 and 30, with a higher score indicating a higher level of personal
 229 resources. The authors of the PRVRS determined the scale to have good internal consistency
 230 ($\alpha = .81$) as well as good split-half reliability (Spearman-Brown coefficient = $.88$).⁴⁹ The
 231 authors used SEM to establish convergent validity of the PRVRS and the BRS, indicating a
 232 good model of fit, as well as a statistically significant positive correlation. In the current
 233 study, the PRVRS demonstrated good internal consistency ($\alpha = .80$).

234 (Insert Table 1 here)

235 Demographic information

236 Each participant also completed a series of demographic questions, including age, gender,
 237 tenure at current workplace, type of practice, number of veterinarians at practice, self-
 238 reported average hours worked per week and location of work (regional city, capital city or
 239 country town).

240 *Data Analysis*

241 Qualitative data analysis

242 Completed questionnaire data were imported into NVivo[®] 11 Plus software for qualitative
 243 coding of the TST data. Responses to the TST were manually coded by the current author,
 244 using a structural coding technique following guidelines by Saldaña,⁵¹ as the content was
 245 based on an existing topic of enquiry. The hierarchical structure emerged through the iterative
 246 data analysis process. The data was categorised into either job demands or job resources, then
 247 sub-coded, with higher-order codes assigned a second, third or fourth-order code to organise
 248 the coding frame. Second-cycle coding involved the formulation of major themes and sub-
 249 themes. Simultaneous coding was used for the minority of responses that referred to more
 250 than one theme or sub-theme. The final coding frame was discussed and agreed on by two
 251 researchers, one of whom was the present author. Following this, a random subset of the data
 252 (10%, $n = 253$) was re-coded by the two researchers to establish inter-rater reliability at a

253 minimum agreement level of 80%.⁵² The researchers then discussed and resolved any
254 differences in their coding to ensure full agreement.

255 Quantitative data analysis

256 Quantitative data were imported into SPSS[®] 25 and examined prior to analysis. The Shapiro-
257 Wilk test and probability plots revealed that the data were not normally distributed. In
258 particular, two measures showed positive skew (number of vets in current practice and
259 tenure) and one measure showed leptokurtosis (average hours worked per week). One
260 variable (tenure at current practice) was rounded up to the nearest year, to be in the same
261 discrete format as the other demographic variables. Tabachnick and Fidell⁵³ highlight that in
262 large samples, a variable with statistically significant skewness and kurtosis often does not
263 deviate from normality enough to make a considerable difference to the analysis.
264 Waternaux⁵⁴ further suggests that in samples greater than 200, this variance disappears
265 altogether. Tabachnick and Fidell⁵³ also note that sample size and visual inspection of
266 distributions are more important than statistical tests of normality. After inspecting
267 histograms, given the large sample size ($n = 273$) and that the data met assumptions for
268 linearity, homoscedasticity and multicollinearity, parametric tests were undertaken.
269 Bootstrapping (bias-corrected method with 1000 iterations) was used to calculate 95%
270 confidence intervals for all analyses. As highlighted by Field,⁵⁵ this method can determine a
271 genuine effect in the population, as bootstrapped 95% confidence intervals are unaffected by
272 the distribution of the data.

273 Data were converted into z-scores, which exposed outliers in the following variables: tenure,
274 hours worked per week and number of vets at current practice (with values greater than
275 3.29).⁵⁵ However, Tabachnick and Fidell⁵³ suggest that in a large sample, standardised scores
276 above 3.29 are expected. The outliers were checked for errors and to confirm that they
277 reflected members of the sample population. Analyses were then run both with and without
278 outliers, resulting in no differences. Consequently, outliers were retained in the dataset.
279 Missing data was excluded pairwise.

280 BRS raw scores were converted into low, medium and high categories based on the
281 interpretation by Smith et al.⁴⁷ While the PRVRS does not have established categories, higher
282 PRVRS scores indicate higher levels of personal resources. Descriptive statistics and
283 bivariate correlations were conducted to determine relationships between variables. This was
284 followed by a multiple regression analysis using variables with a p value less than .2⁵⁶ to
285 examine predictor variables with the outcome variable (BRS scores).

286 **Results: Research Question 1**

287 A total of 2536 open-ended responses were provided to the TST prompt. Participants
288 provided between two and ten responses, with 82% ($n = 223$) completing all ten blanks, and a
289 mean of 9.20 responses per participant. Nonsensical responses e.g. “*never from my boss*
290 *though*”, or responses that did not answer the statement stem, e.g. “*ever I work*”, were
291 omitted from the analysis ($n = 5$), resulting in 2531 statements to be manually coded for
292 themes. Inter-rater reliability for the randomly selected, subset of responses was 84%. A
293 discussion ensued to resolve differences, resulting in 100% agreement.

294 Data analysis began by visually scanning the dataset. It was decided that the data could be
295 categorised broadly into either job resources or job demands, as explained in the JD-R
296 Model,⁵⁷ and coded into themes and sub-themes thereafter. A small percentage of responses
297 ($n = 166$, 6.55%) referred to more than one theme, and were therefore coded at multiple
298 themes or sub-themes, e.g. “*I have a big surgery load & everything goes smoothly & we get*

299 *through in good time*". Table 2 (p48-55) summarises the final coding frame for the study,
300 including the major themes and sub-themes, frequencies, definitions and sample statements.

301 (Insert Table 2 here)

302 The large majority of the TST data ($n = 2616$, 97%) referred to positive work elements and
303 were therefore coded into themes under the category of job resources. This data was grouped
304 into seven major themes and 33 sub-themes. There were a further 82 third-order sub-themes,
305 and three fourth-order sub-themes (see Table 2). The most frequent job resource was
306 Professional Expertise (22%), particularly pleasure derived from using one's Veterinary
307 Expertise (37%), (e.g. "*I make a challenging or unusual diagnosis*") and Scholarship (34%),
308 (e.g. "*I learn something new relevant to my work*", "*I am involved in research*"). Responses
309 referring to Positive Outcomes (20%) made up the second most frequent theme, particularly
310 when treatments or cases are successful (67%) (e.g. "*the animal recovers well*", "*the*
311 *procedure is successful*"). A further 19% of responses related to pleasure from Job
312 Characteristics, predominantly about Workload (38%) (e.g. "*there is some variety in my*
313 *work*", "*when I am operating*") and the Organisational Culture (31%) of the workplace (e.g.
314 "*the workplace is happy*", "*calm environment*", "*team harmony*").

315 Responses about Relationships emerged in 16% of the data, over half of which referred to
316 Relationships with Clients (56%), (e.g. "*I meet nice clients*") followed by Animals (29%),
317 (e.g. "*I get to interact with animals everyday*") and Colleagues and Team (11%), (e.g. "*I*
318 *bond with my team*"). A further 10% of responses related to Recognition, of which 41%
319 referred to Recognition from Clients, (e.g. "*the client says thank you*"). Responses about
320 Helping emerged in 7% of the data, mainly Helping Animals (24%), (e.g. "*I help a pet*"),
321 Clients (23%), (e.g. "*I help a new pet owner*"), Society (21%), (e.g. "*I'm making a difference*
322 *to the world*"), and Colleagues, Team and Students (19%), (e.g. "*when I can help others in*
323 *the workplace with their cases*"). The final theme categorised as a job resource, Personal
324 Resources (3%), primarily included responses relating to pleasure derived from Self-Efficacy
325 and Accomplishment (89%), (e.g. "*I feel like I've done a good job*", "*I succeed*").

326 Despite the positively worded TST prompt, a small number of responses ($n = 81$) referred to
327 negative factors at work, and were categorised as job demands, resulting in ten themes. These
328 responses often began with "*when I don't...*" or "*when there's not...*", stating a factor that
329 the participant dislikes at work. For example, the response "*I have a day during which I am*
330 *not bitten*" refers to feeling pleasure from not being bitten. As being bitten would not provide
331 the participant with pleasure, it was interpreted as a negative statement and was coded to the
332 theme 'Injury' under the broader category of job demands. The most frequent job demand
333 themes referred to Stress and Fatigue (17%), (e.g. "*I do not go home worried about a case*"),
334 "Poor Work-Life Balance (16%), (e.g. "*I don't work all the time*") and Negative Client
335 Experiences (12%), (e.g. "*The client does not attack me*"). Please see Table 2 for a
336 comprehensive summary of themes and sub-themes with sample statements from the TST
337 data (p48-55).

338 The query function in NVivo allowed for meaningful comparisons by cross-tabulating the
339 TST data and demographic variables. The majority of responses on job resources were from
340 participants with average scores on the BRS ($n = 1361$). Participants with high BRS scores
341 provided only 7 responses categorised as job demands compared to those with low ($n = 36$)
342 and average ($n = 38$) BRS scores.

343

Results: Research Question 2

344 *Descriptive Statistics*

345 Table 3 (p46) presents the descriptive statistics for all variables within the current study.

346 (Insert Table 3 here)

347 *Outcome Variable*

348 Brief Resilience Scale (BRS)

349 Over half of the sample ($n = 150$, 54.9%) fell into the average resilience category on the BRS,
 350 while 11.7% ($n = 32$) reported high resilience and a third ($n = 91$, 33.4%) reported low
 351 resilience. An independent samples t-test revealed male participants BRS scores ($M = 3.49$,
 352 $SD = .87$, BCa 95% CI [3.29, 4.69]) were significantly higher than female participants BRS
 353 scores ($M = 3.18$, $SD = .82$, BCa 95% CI [3.06, 3.31]), $t(271) = 2.88$, $p = .004$, $d = .37$,
 354 which was a small to medium effect.⁵⁸ Bootstrapped 95% confidence intervals confirmed this
 355 result.

356 *Predictor Variables*

357 Personal Resources for Veterinary Resilience Scale (PRVRS)

358 Male participants also had significantly higher PRVRS scores ($M = 23.99$, $SD = 3.60$, BCa
 359 95% CI [23.25, 24.74]), than female participants ($M = 22.84$, $SD = 3.21$, BCa 95% CI [22.35,
 360 23.30]), $t(271) = 2.66$, $p = .008$, $d = .34$. According to Cohen,⁵⁸ this is a small to medium
 361 effect.

362 Demographic Information

363 Within the sample, there were no significant differences in gender for region worked, number
 364 of veterinarians in current practice, type of practice or self-reported average hours worked per
 365 week. However, female participants were significantly younger ($M = 30.21$, $SD = 10.60$) than
 366 male participants in the sample ($M = 51.5$, $SD = 13.4$), $t(140.83) = 6.93$, $p < .001$, $d = .93$,
 367 which was a large effect.⁵⁹ Additionally, the participants differed on their current tenure, with
 368 males reporting significantly longer tenure ($M = 13.73$, $SD = 13.26$) than females ($M = 6.1$,
 369 $SD = 6.77$), $d = .72$, which was a medium to large effect.⁵⁸

370 The results for self-reported average hours worked per week varied considerably within the
 371 sample. While the average ($M = 38.38$) reflected a full-time equivalent workload, 34% of
 372 participants ($n = 93$) reported working over 40 hours per week, up to 100 hours. The results
 373 for number of vets in current practice also varied considerably. The majority ($n = 177$,
 374 64.84%) reported working with two to ten other veterinarians, and for 9% of the sample ($n =$
 375 26), they were the sole veterinarian at the practice. A further 16.12% ($n = 44$) of participants
 376 reported working with over ten veterinarians, with five participants reporting that they
 377 worked with more than 50. A further four participants reported working with more than 100
 378 veterinarians and worked in Universities or Government agencies.

379 *Bivariate Correlations*

380 Pearson product-moment correlation coefficients were used to investigate bivariate
 381 correlations between the BRS scores and demographic variables (tenure, age, number of vets
 382 in current practice, average number of hours worked per week and PRVRS scores) (Table 4,
 383 p46). Significant correlations were found for BRS scores and age, tenure and PRVRS scores.
 384 The strongest relationship was between BRS scores and PRVRS scores, ($r = .57$, $n = 273$, $p <$
 385 $.001$), indicating that higher scores on the BRS were associated with higher scores on the
 386 PRVRS. These findings were also confirmed with outliers removed.

387 (Insert Table 4 here)

388 *Multiple Regression*

389 A standard multiple regression was then carried out using the ‘enter’ method to investigate
 390 whether the three variables (age, tenure and PRVRS scores) could significantly predict BRS
 391 scores. Regression coefficients, standard errors and bootstrapped 95% confidence intervals
 392 can be found in Table 5 (p47). The total model explained 32.4% of the variance in BRS
 393 scores, which is a medium effect.⁵⁸ PRVRS was the only significant predictor of BRS scores
 394 ($F(3,241) = 38.45, p < .001$) with the highest beta value, explaining 27.46% of the variance
 395 in BRS scores, suggesting a small effect.⁵⁸ Bootstrapped 95% confidence intervals [.103,
 396 .160] provided further confirmation that the results reflected a robust estimate of the true
 397 population. The multiple regression therefore predicts that the higher an individual’s PRVRS
 398 score, the higher their BRS score is likely to be.

399 (Insert Table 5 here)

400

Discussion

401 This mixed-methods, exploratory study had two aims: firstly, to investigate veterinarian
 402 perspectives on the work factors related to feelings of pleasure, and secondly, to determine
 403 which demographic variables predict resilience on the BRS. This study contributes to the
 404 POB movement, which highlights a need to focus on the positive rather than negative work
 405 factors to enhance well-being.¹⁹ Furthermore, it provides an important shift from the
 406 overwhelming literature on the mental health risks within the veterinary profession.
 407 Additionally, this study extends existing studies on job satisfaction which tend to use Likert-
 408 scales consisting of generic job characteristics. The large and varied sample from different
 409 age groups, locations and practice types provide confidence in the generalisability of the
 410 findings. In fact, the sample in the current study ($n = 273$) was the largest known to be used
 411 with the TST measure, and thus the depth of qualitative data and as well as the rigorous data
 412 analysis process are also key strengths.

413 Participants provided 2536 responses to the TST prompt, “*I derive pleasure in my work as a*
 414 *veterinarian when...*”, which were categorised and manually coded into themes (see Table 2
 415 for all themes, sub-themes, frequencies and sample statements, p48-55). The results provide
 416 important insights into the many pleasures of veterinary work, which were previously
 417 neglected. The major themes categorised as job resources, in order of frequency, related to
 418 Professional Expertise (22%), Positive Outcomes (20%), Job Characteristics (19%),
 419 Relationships (16%), Recognition (10%), Helping (7%) and Personal Resources (3%). It is
 420 acknowledged that the themes in the current study are consistent with previous findings. The
 421 three main sources of pleasure and/or satisfaction for UK veterinarians were ‘Good Clinical
 422 Outcomes’ (41.5%), ‘Relationships with Colleagues’ (33.7%) and ‘Intellectual
 423 Challenge/Learning’ (32.4%).⁶¹ These factors formed major themes and sub-themes in the
 424 current study, confirming that similar sources of satisfaction/pleasure exist for Australian
 425 veterinarians. Similarly, a survey of nearly 10,000 veterinarians in the UK found that Variety
 426 (48%), Challenge/Skill Use (33%) and Working with Animals (33%) were cited as the best
 427 things about being a veterinarian, although the results also included factors such as clients,
 428 status, autonomy, colleagues and working outside,³¹ all of which were found in the current
 429 study. However, the themes and sub-themes in the current study reached a new depth on the
 430 topic, providing a more comprehensive understanding of the wide variety of resources in
 431 veterinary work than previous research.

432 Other findings vary or are inconsistent with previous research. Results from a study of
 433 German veterinarians found ‘Good Working Atmosphere’, ‘Holidays and Leisure Time’ as
 434 well as ‘Reasonable Salary’ were the most important job characteristics providing

435 satisfaction.³⁰ While the two former themes align with the current findings (i.e. organisational
436 culture and work-life balance), the latter, regarding pay, was not a major theme in the current
437 study. Responses about pay made up only 1.19% ($n = 31$) of the dataset, suggesting that pay
438 tends to be more of a hygiene factor for veterinarians than a motivator, contributing to
439 happiness.³³ Thus, increasing pay is unlikely to have a large effect in improving veterinary
440 happiness or well-being. This is consistent with longitudinal research, which suggests that
441 while many Australian veterinarians feel dissatisfied with their salary, almost all are very
442 satisfied in their work.²⁹

443 The largest proportion of the data (22%) referred to the theme of Professional Expertise,
444 particularly using one's veterinary expertise to diagnose and treat animals, as well as a focus
445 on scholarship and learning. These themes align with the concept of achieving mastery over
446 one's environment, which has been emphasised as a key factor contributing to well-being.⁶²
447 The four sub-themes within Professional Expertise: Veterinary Expertise, Communication,
448 Scholarship, and Collaboration, have been highlighted as four of seven key competency
449 domains necessary for veterinary practice.⁶³ Therefore, having opportunities to use their
450 highly specialised skillsets is not only important from a competency perspective, but also
451 appear to be a salient, pleasurable aspect of work for practicing veterinarians. Opportunity to
452 use one's skills in a meaningful way is frequently identified in the literature as contributing to
453 job satisfaction.^{31, 64} This has also been found in other healthcare professions, such as
454 surgeons,⁶⁵ suggesting the importance of skill use in specialised fields.

455 It is also worth acknowledging that the majority of responses referred to pleasurable factors
456 applicable to many professions, (e.g. social support, variety, opportunity for skill use and
457 positive organisational culture). Arguably the most unique aspects of veterinary work are
458 working with and helping animals, and while mentioned, these factors were not the most
459 frequent themes relating to overall pleasure at work for veterinarians. Helping animals and
460 positive relationships with animals, made up only 1.72% and 4.74% of responses,
461 respectively, whereas there was nearly double the number of responses relating to positive
462 relationships with clients ($n = 239$, 9.14%). In contrast, in their study of early career
463 veterinarians, Cake et al.⁴⁴ found that animal-related themes made up a quarter of statements
464 relating to career choice motivations for newly graduated veterinarians. Themes relating to
465 animals and their care also dominated another study of first-year French veterinary students.⁶⁶
466 Similarly, Figley and Roop⁶⁴ found helping animals to be one of the top three satisfiers for
467 practicing veterinarians. These results suggest that while helping and working with animals is
468 satisfying and may be a reason to pursue a veterinary career, once in the workforce,
469 veterinarians find many other aspects of their work pleasurable. Future campaigns to promote
470 the profession to prospective students may therefore mention the many positive factors
471 identified in the current study contributing to the role of a veterinarian.

472 Responses about workplace-based human relationships dominated the TST data, highlighting
473 the importance of the contextual resource of social support. Having company at work, a
474 supportive team, positive relationships with clients and colleagues and being recognised by
475 others were frequently mentioned. This is supported by previous findings that positive affect
476 is predicted by social interaction, and individuals who have minimal interactions with others
477 in the workplace tend to experience lower well-being.⁶⁷ Within the workplace, co-worker
478 relationships are extremely important.⁶⁸ Debriefing on difficult events with peers is a
479 technique regularly used by nurses,⁶⁹ which is likely to have benefit with veterinarians.
480 Responses about meeting friends at conferences and other professional development events
481 also highlights the importance of external peer support. Veterinarians who work in isolation

482 may need to seek social support from other avenues, such as conferences, peer support with
483 other veterinary staff in the practice, and professional associations to support their well-being.

484 Despite the positively-framed TST prompt, the current study inadvertently highlighted some
485 negatives of veterinary work. However, there were far fewer statements coded to job
486 demands ($n = 81$) than job resources ($n = 2616$). The most frequent job demands related to
487 Stress and Fatigue (17%), Poor Work-Life Balance (16%) and Negative Client Experiences
488 (12%). These findings are consistent with the abundant literature on the long working hours
489 and resulting work life balance issues, ethical dilemmas and workload, resulting in stress and
490 exhaustion, as well as complaints or issues with clients.^{6, 70-72} However, employees have been
491 found to thrive when faced with job demands, so long as sufficient job resources are also
492 available.⁷³ Therefore, ensuring that the job resources highlighted in the current study, such
493 as positive relationships, recognition and a supportive organisational culture, are abundant
494 and available, is likely to be more beneficial in countering the job demands than attempting to
495 remove them altogether. This is consistent with findings that well-being can be enhanced by
496 nurturing positive work characteristics, rather than eliminating negative factors.³⁷

497

498 Responses relating to Euthanasia appeared in the TST data as both a job demand and a job
499 resource. The pleasure derived from performing a Caring Euthanasia was cited more
500 frequently ($n = 15$) than negative statements about Euthanasing Animals ($n = 3$). Recent
501 research suggests that while performing euthanasia is positively related to depressed mood, it
502 could actually have a protective role against suicide risk in veterinarians, although the
503 mechanisms are unclear.⁷⁴ Furthermore, the frequency of euthanasia accounts for only minor
504 variance in depressed mood, suggesting that other factors determine veterinary wellbeing,
505 which complements the wide array of positive factors highlighted in the current study.

506 *Personal Resources and Resilience*

507 Resilience is a key aspect of successful functioning and well-being, yet research on factors
508 contributing to resilience in veterinarians is scarce. Resilience in veterinary medicine is
509 defined as a dynamic and multi-dimensional process where individuals use personal
510 resources, contextual resources and strategies to overcome and adapt to challenging events.⁷⁵
511 The demographic variables that were significantly correlated with BRS scores (age and
512 tenure) were no longer significant once PRVRS were added into the regression model. That
513 PRVRS scores predicted 27.46% of the variance in BRS scores is not surprising, as personal
514 resources make up a dimension of the conceptual resilience framework.⁷⁵ However, there is a
515 large amount of variance unaccounted for in the multiple regression model, indicating that
516 other factors are related to resilience, requiring further research. Additionally, this study
517 examined only one aspect of the resilience framework. Therefore, investigating contextual
518 resources and strategies, and developing veterinary-specific measures for them, may be a
519 practical next step, as resilience is contextual and can be enhanced. This is particularly
520 warranted given the high frequency of workplace-based relationships identified in the TST,
521 which are likely to be a protective contextual resource for veterinarians.

522 The sample was made up of more females than males, who were younger than male
523 participants. This result reflects the gender shift in the profession, as around 60% of
524 veterinarians⁷⁶ and approximately 80% of veterinary students are female, compared to 11% in
525 1970.⁷⁷ Females had significantly shorter tenure, which is also reflective of the population, as
526 females tend to practice for fewer years than males and take time off for parental leave.⁷⁶ In
527 addition, scores on the BRS indicated that over half of the sample fell in the average range, a
528 third exhibited low resilience and only 11% reported high resilience. This trend was also
529 found in a study of Australian veterinary students⁷⁵ suggesting that the sample is

530 representative of the wider veterinary population. Furthermore, studies from various
531 demographics, such as nursing and university students, find BRS scores to be normally
532 distributed or slightly negatively skewed,⁷⁸⁻⁸⁰ therefore that the majority of participants
533 exhibited average resilience, and a third had low resilience is consistent with previous
534 findings. This suggests that building resilience in other occupations and demographics is also
535 needed. Interestingly, participants with high BRS scores provided only 7 responses
536 categorised as negative job demands. This is consistent with findings that experiencing
537 frequent positive emotions predicts resilience to adversity.¹³

538 *Practical Implications and Workplace Interventions*

539 The premise of POB is the need for research on positive work characteristics to support
540 employees to flourish.¹⁹ Qualitative research is now recognised as highly valuable in
541 intervention studies, providing participants' perspectives and experiences rather than focusing
542 on objective methods alone.⁴⁰ In their literature review of 15 workplace intervention studies,
543 Meyers et al.¹ found that interventions based on principles of positive psychology (i.e.
544 building positive traits or states) have the potential to enhance employee well-being and
545 decrease stress. This study has identified the many aspects of veterinary work contributing to
546 the pleasure of veterinary practice. Thus, the findings can be used in conjunction with
547 established interventions in organisational psychology, to shape and develop workplace
548 training and interventions to enhance veterinary well-being. Managers and practice owners
549 can use these results to enhance the work environment for their employees, for example,
550 ensuring that veterinarians have opportunity to use their expertise, participate in regular
551 continuing education, and engage frequently with other people.

552 Workplace interventions can be classified as primary, secondary, or tertiary.⁸¹ Primary
553 interventions aim to eliminate workplace stressors, secondary interventions alter the way that
554 individuals perceive stressors, and tertiary interventions provide treatment after experiencing
555 stressors. It is recommended that interventions in veterinary medicine engage secondary
556 interventions, as many workplace stressors are difficult to remove and may be inherent to the
557 field.¹⁰ Secondary workplace interventions such as cognitive behavioural therapy (CBT) and
558 well-being programs, have been found to significantly increase employee well-being,⁸² and
559 may be valuable additions to continuing education for veterinarians. Furthermore, developing
560 a personalised self-care plan based on physical, cognitive, interpersonal and spiritual domains
561 has been beneficial in supporting compassion satisfaction and reducing compassion fatigue in
562 hospice workers,⁸³ and may have potential to be implemented into veterinary medicine. This
563 is particularly vital as compassion fatigue has been noted in veterinary students,⁸⁴ and is
564 therefore likely to be a concern with practicing veterinarians.

565 Deriving pleasure through helping others was found to be a key theme in the current study.
566 This aligns with the concept of compassion satisfaction, referring to the pleasure one feels
567 from helping others in a caring profession, such as nursing, medicine or social work.⁸
568 However, compassion satisfaction and compassion fatigue are typically measured by the
569 Professional Quality of Life Questionnaire (ProQOL), which is not designed for use in
570 animal-care.⁸⁴ Future research may use the current study's findings on pleasurable work
571 factors to develop and validate a measure of compassion satisfaction for the animal-care
572 community, as this is currently lacking.⁸⁴ Furthermore, as veterinarians may have higher
573 compassion fatigue than other occupations, due to caring for both animals and human
574 owners,⁸⁵ establishing and validating norm groups for this profession would be required.

575 Clinical supervision and mentoring, mandatory requirements in psychological training and
576 practice, are also recommended, and are now used in other helping professions such as

577 nursing.^{86, 87} Workplace-based mentoring benefits both the mentor and mentee, encouraging
578 self-discovery and development.⁸⁸ Clinical supervision is used to optimise the service one
579 provides and ensure alignment of organisational and profession-wide goals.⁸⁹ Furthermore,
580 clinical supervision is a protective factor⁹⁰ associated with improved job satisfaction⁸⁶ and
581 enhanced treatment outcomes.⁹¹ Adopting a clinical model of supervision and mentoring is
582 likely to be beneficial in meeting the increasing challenges of the modern-day veterinarian.⁹²

583 Positive outcomes, such as successful treatments, accounted for one-fifth of the TST data.
584 Telling others about a positive event can have more benefits to the individual than
585 experiencing the event itself; this phenomenon known as Interpersonal Capitalisation.⁹³
586 Therefore, it is recommended that veterinarians regularly share positive events and treatment
587 successes with their colleagues (e.g. 'good news stories' at Team Meetings) to further
588 enhance positive emotions. Interpersonal Capitalisation is similar to the problem-solving
589 method, Appreciative Inquiry (AI).⁹⁴ Rather than focus on what has gone wrong, AI reframes
590 the problem to seek out what has worked well and highlights how quality care can be further
591 improved. The result is a positive, strengths-based approach to patient care rather than a focus
592 on problems or unsuccessful outcomes. AI can celebrate the successes of an individual or
593 team effort, thereby promoting confidence and self-efficacy.⁹⁵ As positive outcomes made up
594 a large proportion of the data, and self-efficacy and accomplishment were found to provide
595 participants with pleasure, it is recommended that veterinarians consider implementing AI
596 and/or the regular sharing of successes into the workplace.

597 Male participants reported significantly higher resilience and personal resources on the BRS
598 and the PRVRS than female participants. In a study of junior veterinarians, females were
599 significantly more exhausted and less engaged than their male counterparts.⁹⁶ Research on
600 gender differences echoes this finding; females are more likely than males to experience
601 emotional exhaustion and burnout at work.⁹⁷ Supporting female veterinarians to increase their
602 personal resources to enhance their resilience and protect against burnout is a viable next
603 step. However, males are known to experience higher stigma towards psychological help-
604 seeking than females.^{98, 99} Therefore, it is possible that male participants provided an inflated
605 estimate of their resilience and personal resources, resulting in this gender difference.

606 A program introduced by the Netherlands Veterinary Association showed significant
607 increases in personal resources for participating young veterinarians ($n = 46$).¹⁰⁰ The 10-
608 month program consisted of 6-weekly modules, including peer-coaching, professional skills
609 training and reflective practice, facilitated by coaches. "Micro-interventions", consisting of
610 short, facilitated discussions on goal setting and recognising small 'wins' have also been
611 beneficial in developing employees' personal resources such as self-efficacy, optimism, hope
612 and resilience.¹⁰¹ These interventions have potential within the Australian veterinary field,
613 engaging organisational consultants to provide training to enhance personal resources and
614 resilience.

615 While it has been found to have a significant impact on employees,¹⁰² organisational culture
616 has been researched to a lesser extent in the veterinary literature. In the current study,
617 organisational culture was a key sub-theme of Job Characteristics. Having a happy team and
618 colleagues was a contributing factor to pleasure at work. A study of Canadian veterinarians (n
619 = 274) found that the subjective effectiveness of one's veterinary team was related to higher
620 individual job satisfaction and lower burnout.¹⁰³ Workplace team interventions (for example
621 team-building retreats) have been highlighted as beneficial in developing trust and team
622 cohesion with nurses.¹⁰⁴ Veterinary practices may further strengthen organisational culture
623 and team effectiveness by following suit.

624 *Limitations*

625 While the TST measure accessed a new depth in veterinarian perspectives on the positive
626 aspects of their work, it is unclear how the participants interpreted the prompt. As many
627 themes relate to previous findings on job satisfaction, it is uncertain whether the TST prompt
628 was specific enough to gauge factors related to pleasure, beyond job satisfaction. Adapting
629 the TST statement to be more specific to the intricacies of veterinary work may improve the
630 efficacy of the measure and result in differences, e.g. *“I derive true pleasure (over and above*
631 *job satisfaction) in my work as a veterinarian when...”* However, as noted by Smith,¹⁰⁵
632 research into job satisfaction can be misleading unless respondents understand the unique
633 aspects of their profession compared to others. Therefore, a useful next step may be to
634 conduct focus groups with a variety of healthcare professionals, including veterinarians, to
635 understand the distinctiveness of their respective professions, and then better identify the
636 factors that uniquely provide them with pleasure. Additionally, the development of a
637 veterinary-specific measure of job satisfaction with norms allowing comparison with
638 veterinarians and other helping professions (e.g. nurses, social workers, teachers) would be
639 valuable future research. This would allow investigation into whether the positive and
640 negative factors identified within the current sample are unique to veterinarians, or consistent
641 with similar occupations.

642 The demographic variables, age, tenure, hours worked per week, and number of vets in
643 current practice, were not significantly associated with BRS scores, which is inconsistent
644 with previous research. Long working hours are significantly related to poorer health and
645 well-being outcomes,⁷⁴ and increasing tenure and age are typically related to better
646 psychological health.¹⁰⁶ However, limitations with the archival data, particularly how the
647 demographic data were measured and collected are likely to have impacted the results. With
648 regards to hours worked per week, the questionnaire did not request employment type,
649 therefore it was unclear whether participants were fulltime, part time or casual employees,
650 nor whether they included on-call hours in their responses. Data on tenure was also
651 ambiguous, as locum or contract workers were not identified.

652 The decision to round tenure data to the nearest year may also have impacted the precision of
653 the results and must therefore be interpreted with a level of caution. Number of vets in
654 current practice may also have been erroneous, as it is likely that some participants
655 interpreted the question as number of veterinarians in the entire organisation rather than their
656 practice only, as the results ranged from 1 to 800. Future iterations would be much improved
657 by rectifying these methodological problems.

658 Participants in the larger study may have been motivated to complete the voluntary
659 questionnaire out of interest in the topic on veterinary well-being, suggesting a non-response
660 bias. It is also noted that 69 participants from the larger survey did not complete the TST.
661 However, that the TST also produced negative responses (job demands) provides more
662 confidence to the generalisability of the results. Furthermore, participants who completed the
663 questionnaire but not the TST may have experienced survey fatigue. Future iterations may
664 use the TST as a stand-alone measure to combat this.

665 Despite the BRS exhibiting strong psychometric properties, it is a generic measure of
666 resilience, therefore the results may not be generalisable to veterinary work. As resilience is
667 contextual, participants may be more (or less) resilient than their BRS score indicates.
668 Finally, the cross-sectional nature of the study does not allow for inference of causation.
669 Longitudinal studies investigating the effects of various job resources on resilience for

670 veterinarians over time, as well as the efficacy of any interventions developed from this study
671 are required.

672 *Conclusions*

673 This study was a constructive and encouraging step forward in restoring the balance between
674 the negative and positive aspects of veterinary work in the literature. It provided a specific,
675 qualitative investigation into the positive aspects of veterinary work and a step forward in
676 understanding veterinary resilience. Importantly, a third of participants reported low levels of
677 resilience, indicating a need for additional research and veterinary-specific interventions to
678 address this.

679 The results present a more comprehensive understanding of the pleasures of veterinary work,
680 based on nearly 300 veterinarian perspectives, uncovering more specific aspects of the
681 profession. The themes suggest that despite the known risks, there is an abundance of positive
682 factors and resources associated with being a veterinarian. The findings provide further
683 support to previous research on the highly rewarding career in veterinary medicine,
684 encouraging well-being and happiness.¹⁰⁷ Establishing interventions based on the key themes
685 in the current study may further enhance veterinarians' well-being and resilience. It is hoped
686 that this study stimulates future POB research on veterinary work, to promote the profession,
687 protect against the risks and support veterinarians to flourish.
688

Tables

Table 1

Brief Resilience Scale (BRS) and Personal Resources for Veterinary Resilience Scale (PRVRS) items

| BRS items | PRVRS items |
|--|---|
| 1 I tend to bounce back quickly after hard times | 1 At work I can be flexible when situations change |
| 2 I have a hard time making it through stressful events * | 2 I can quickly adapt to new situations at work |
| 3 It does not take me long to recover from a stressful event | 3 I am generally optimistic at work |
| 4 It is hard for me to snap back when something bad happens * | 4 At work I focus on building my strengths more than focusing on my limitations |
| 5 I usually come through difficult times with little trouble | 5 I am good at maintaining my motivation and enthusiasm when things get challenging at work |
| 6 I tend to take a long time to get over setbacks in my life * | 6 I like challenges in my work |

* *Item requires reverse scoring*

Table 3

Descriptive statistics for study variables

| Variable | <i>n</i> | <i>Mean</i> | <i>SD</i> | <i>Range</i> |
|--------------------------------|----------|-------------|-----------|--------------|
| Age (years) | 272 | 43.86 | 12.71 | 23-76 |
| BRS score | 273 | 3.28 | .85 | 1.00-5.00 |
| PRVRS score | 273 | 23.21 | 3.38 | 13-30 |
| Tenure (years)* | 246 | 8.53 | 9.74 | 1-46 |
| Number of vets in practice* | 247 | 13.15 | 55.62 | 1-800 |
| Average hours worked per week* | 247 | 38.38 | 14.13 | 3-100 |

* *Outliers detected*

Table 4

Bivariate correlations between BRS score and predictor variables

| Predictor Variable | BRS score |
|-------------------------------|-----------|
| Age | .172* |
| Tenure | .217* |
| Number of vets in practice | .025 |
| Average hours worked per week | .046 |
| PRVRS score | .573** |

* $p < .01$, ** $p < .001$

Table 5
Multiple regression analysis of variables associated with BRS scores

| Predictor Variable | BRS score | | | | |
|--------------------|-----------|-----------------------|---------|-----------------------------|------|
| | <i>B</i> | <i>SE_B</i> | β | BCa 95% Confidence Interval | |
| Constant | .092 | .337 | | -.607 | .803 |
| Age | .001 | .005 | .017 | -.009 | .010 |
| Tenure | .010 | .006 | .117 | -.003 | .022 |
| PRVRS score | .132 | .013 | .553* | .103 | .160 |

Note: $R^2 = .324$, * $p < .001$.

Table 2. Final coding frame including definitions, sample statements and frequency (number and percentage) of codable statements on the TST ($n = 2536$)

| Category Theme Sub-theme | Definition and Sample Statements | Statements Coded | |
|--------------------------------------|--|------------------|------------|
| | | No. | % |
| Job Demands (Negative) | Aspects of the job requiring effort (physical or mental), associated with psychological and physiological costs, such as burnout.³⁴ | 81 | 3% |
| Euthanasing Animals | <i>“there aren’t too many euths (sic)”, “when I don’t have to euthenase (sic) an animal”</i> | 3 | 4% |
| Financial Challenges | <i>“I don’t have to worry about money”, “There are no client budget restraints for diagnostics and treatment”</i> | 6 | 7% |
| Injuries | <i>“I have a day during which I am not bitten”, “The animal does not attack me”</i> | 8 | 10% |
| Negative Client Experiences | <i>“clients aren’t annoying”, “clients don’t whinge about money grubbing vets”, “the client does not complain (formally or informally)”</i> | 10 | 12% |
| Negative Colleague Experiences | <i>“There is no competition between colleagues”, “staff does not make mistakes”, “giving other team members the support I never had”</i> | 7 | 9% |
| Other Negative Workplace Experiences | <i>“I don’t have to deal with anger or complaints”, “nothing goes wrong”, “when I can work without wanting to quit”</i> | 9 | 11% |
| Poor Work-Life Balance | <i>“my day does not interfere with me personal life”, “I don’t work all the time”, “when my on call is not disturbed”</i> | 13 | 16% |
| Stress & Fatigue | <i>“I can get through a day without anxiety”, “I am not overwhelmed”, “I am not too exhausted by the work”</i> | 14 | 17% |
| Unsuccessful Treatment Outcomes | <i>“nobody dies”, “a difficult wound doesn’t break down”</i> | 3 | 4% |
| Workload Challenges | <i>“I am not rushed”, “there aren’t a lot of emergencies”, “I am not overworked and can manage my caseload”</i> | 8 | 10% |
| Job Resources (Positive) | Health-protecting aspects of the job that can support the achievement of work goals, reduce demands and foster personal growth.³⁴ | 2616 | 97% |
| Helping | A prosocial behaviour or action undertaken to benefit others.¹⁰⁸ | 186 | 7% |
| Animals | <i>“I help the patient”, “I make a difference to a patient’s life”</i> | 45 | 23% |
| Clients and Animal Owners | <i>“I help an owner”, “I help friends with their animals”, “I help a new pet owner”</i> | 43 | 24% |
| Colleagues, Team & Students | <i>“when I can help others in the workplace with their cases”, “mentoring new graduates”, “I can help (technically) others at work – vets or nurses/admin”</i> | 35 | 19% |
| Human Animal Bond | <i>“I am able to improve the human animal bond”, “when I give a small tip that can improve the human animal bond”</i> | 4 | 2% |

| | | | |
|--|--|------------|------------|
| Society | <i>“im (sic) making a difference to the world”, “I improve standards in the profession”, “I can contribute to the community”</i> | 39 | 21% |
| Unspecified | <i>“I have helped someone”, “when people tell me how much I helped them”, “I can see that I am helping”</i> | 20 | 11% |
| Job Characteristics | Job dimensions which can create conditions of high work performance and internal motivation,¹⁰⁹ including career affordances which refer to the utility value of certain actions of the work and/or environment aligning with one’s goals.¹¹⁰ | 521 | 19% |
| Career Affordances | | 70 | 13% |
| Ancillary Benefits | <i>“I am allowed to take my dog”, “I get to have as much chocolate during work as I want”, “Because I don’t have to dress up for work”</i> | 5 | 1% |
| Opportunities (Unspecified) | <i>“My degree exposes me to exciting opportunities”, “new opportunities arise”</i> | 3 | 1% |
| Professional Development & Connections | <i>“I can meet with other professionals at conferences and educational events”, “vets get together and recount tales”</i> | 16 | 3% |
| Travel | <i>“I get to travel and work”, “I travel to interesting places”, “I can work in different places around the world”</i> | 8 | 2% |
| Work Environment | | 38 | 7% |
| Clean & Well-Presented | <i>“Office presentation is good”, “the clinic is clean and well organised”, “provide people with a nice working environment”</i> | 4 | 1% |
| Outdoor Work | <i>“When I get to go out onto farms driving around being outside”, “Being outside”, “I get to be on site with a farmer and their animals”</i> | 16 | 3% |
| Resources & Systems | <i>“I have adequate resources to do my job”, “Technology is used to make life easier”, “the team is properly trained”</i> | 18 | 3% |
| Organisational Culture | | 160 | 31% |
| Celebrating Others’ Successes | <i>“my colleagues succeed”, “My nurses achieve their goals”, “seeing younger vets develop as veterinarians”</i> | 16 | 3% |
| Enjoyment | <i>“Staff are enjoying their job”, “when everyone is enjoying work”</i> | 8 | 2% |
| Fun | <i>“Everyone has fun at work”, “The team jokes and sings out the back”, “I have fun with my colleagues”</i> | 16 | 3% |
| Happy Team & Colleagues | <i>“the workplace is happy”, “I can make my staff happy”, “work colleagues are happy”</i> | 36 | 7% |
| Harmonious | <i>“The team are working harmoniously”, “staff moral/relationships are good”, “team harmony”</i> | 10 | 2% |

| | | | |
|---------------------------------|--|-----|-----|
| High Quality Standards | <i>“customer care is excellent”, “having high quality standards and support”, “high standard of care is achieved”</i> | 6 | 1% |
| Laughter | <i>“I have a laugh with other staff members”, “we tell jokes and laugh with clients or workmates”, “I can laugh at work”</i> | 27 | 5% |
| Other | <i>“I see empathy for animals practiced”, “They’re like a family”, “...my staff feel free to suggest improvements and openly discuss issues”</i> | 22 | 4% |
| Social | <i>“social nights/events”, “we have a nice morning tea”, “social gatherings of colleagues outside of work”</i> | 5 | 1% |
| Supportive | <i>“I have support from my colleagues”, “I’m offered a cup of tea”, “I bond with my team and we support each other”</i> | 14 | 3% |
| Pay, Job Security and Promotion | <i>“I get paid fairly for the work I have done”, “remuneration is adequate for a reasonable quality of life”, “get promotions”</i> | 31 | 6% |
| Work-Life Balance | <i>“I feel as though I have a good balance between work and home life”, “I go home on time”, “I can work a normal 40 hour week to balance family life”</i> | 67 | 13% |
| Workload | | 197 | 38% |
| Autonomy | <i>“I am able to organise my own workload”, “I have autonomy”, “Can work independently”</i> | 10 | 2% |
| Busy | <i>“the day passes quickly”, “The adrenalin of a busy day”, my team are happy and busy”</i> | 17 | 3% |
| Challenging | <i>“challenging cases occur”, “I am working on something difficult”, “the case tests my lameness diagnostic skills”</i> | 18 | 3% |
| New & Interesting | <i>“I see an interesting dermatology case”, “trying new treatments”, “seeing new diseases”</i> | 13 | 2% |
| Organised | <i>“work is organised & runs smoothly”, “When all my medical records are written and well done”, “making order out of chaos”</i> | 32 | 6% |
| Preferred Focus | <i>“when I am operating”, “consulting work”, “using the ultrasound”</i> | 41 | 8% |
| Rewarding | <i>“I find babies on ultrasound”, “bizarre lesions”, “when I teach a puppy how to sit politely”</i> | 15 | 3% |
| Simple Cases | <i>“All of my cases are cut and dried”, “Uncomplicated cases”, “Deal with simple things”</i> | 3 | 1% |
| Variety | <i>“there is some variety in my work”, “I love the variety and spontaneity in my days”, “I get to treat new species of creatures”</i> | 21 | 4% |
| Well-paced | <i>“I have ample time to read and investigate”, “the pace of work is not too fast and not too slow”, “have sufficient time to devote to each patient”</i> | 27 | 5% |

| | | | |
|---|---|------------|------------|
| Personal Resources | Aspects of the self, related to an individual's sense of control and successful influence over the environment.³⁵ | 80 | 3% |
| Flexibility & Adaptability | <i>"I am "rolling with the punches" on a crazy day", "I can use my training laterally"</i> | 2 | 3% |
| Mindfulness | <i>"I get away then reflect", "I spend quiet time with animals", "I pause and enjoy the moment wherever that may be"</i> | 6 | 8% |
| Positive Attitude | <i>"I get into my car each day looking forward to the working day ahead"</i> | 1 | 1% |
| Self-Efficacy & Accomplishment | | 71 | 89% |
| Achievement | <i>"I master a new skill", "I feel like I am improving", "I achieve my goals"</i> | 19 | 24% |
| Completion | <i>"I get a heap of work done", "I finish what needs finishing", "I can tick off the 'to do list'"</i> | 11 | 14% |
| Good Work | <i>"I feel like I am being a good vet and feel like I know what I am doing", "I have done a good job", "I make a good judgment call"</i> | 23 | 29% |
| Success | <i>"I get it right", "I do something new successfully", "my advice works"</i> | 18 | 23% |
| Positive Outcomes | Broadly agreed, measurable changes in health, quality of life or in general.¹¹¹ | 534 | 20% |
| Financial Outcomes & Practice Growth | <i>"practice makes a profit", "I achieve our sales targets", "I can pay my bills"</i> | 61 | 11% |
| Positive Outcomes (Unspecified) | <i>"everything works out", "outcomes are successful", "when we win"</i> | 51 | 10% |
| Solve Problems (General) | <i>"I get to solve complex problems", "I can fix things", "A problem is solved with effective communication"</i> | 63 | 12% |
| Treatment & Procedure Outcomes | | 359 | 67% |
| Case Goes Well | <i>"there is a successful case", "things go well with a patient", "Good clinical outcomes for patients"</i> | 40 | 7% |
| Challenging Case Resolved | <i>"I solve a difficult case with a good outcome", "A difficult case is discharged", "a tricky case works out"</i> | 25 | 5% |
| Improve Productivity | <i>"I can improve herd productivity via management rather than medicine", "financial improvements to farm", "the herd looks good"</i> | 11 | 2% |
| Improve Quality of Life, Nutrition & Disease Prevention | <i>"I improve the quality of life for an animal", "an animal's wellbeing improves", "we sign a patient up on a wellness plan"</i> | 22 | 4% |
| Procedure Goes Well | <i>"an operation is successful, particularly a difficult one", "I successfully deliver a foal", "mass completely excised, no recurrence expected"</i> | 44 | 8% |
| Relieve Suffering & Improve Welfare | <i>"When I relieve suffering", "I can make the pet more comfortable", "animals' welfare improves"</i> | 51 | 10% |

| | | | |
|---|---|------------|------------|
| Save Lives | <i>"we save a life", "when I can save an animal from death or suffering", "when I save the one that should have died"</i> | 38 | 7% |
| Treatment Works & Animal Recovers | <i>"I see healed animals", "treatments are successful", "the pet goes home healthy"</i> | 128 | 24% |
| Professional Expertise | Knowledge and skills specific to a profession.⁶³ | 599 | 22% |
| Collaboration | | 100 | 17% |
| Collaborating with Colleagues & Other Veterinarians | <i>"I work with other vets to solve problems", "I use specialists to help resolve problems beyond my capabilities", "collaborate with colleagues"</i> | 9 | 2% |
| Discussing & Solving Cases with Colleagues | <i>"I have a brainstorm with colleagues", "I discuss cases and share information with colleagues", "my colleagues help me to solve cases"</i> | 16 | 3% |
| Effective Teamwork | <i>"All of the team is working well together", "when you see the team pull together well", "Your nurses and colleagues work as a well oiled unit"</i> | 67 | 11% |
| Leadership | <i>"I influence others to do a better job", "I can delegate and balance everyone's day", "can organise and manage emergency responses to disease or disaster"</i> | 5 | 1% |
| Unspecified | <i>"there is cooperation", "there is collaboration", "Working with people"</i> | 3 | 1% |
| Communication | | 72 | 12% |
| Clear Explanation & Guidance | <i>"instructions have been understood", "I can describe a disease's epidemiology without inducing sleep", "I report results to a client and can offer in detail explanations to them"</i> | 27 | 5% |
| Client Education | <i>"I can educate owner and family", "when I teach an owner how to effectively communicate with their dog", "A client is more knowledgeable after their consult"</i> | 26 | 4% |
| Emotional Support & Empathy | <i>"when I can help clients through difficult decisions", "counselling clients", "I help a junior colleague feel better if they have a bad day"</i> | 16 | 3% |
| Understanding & Conflict Resolution | <i>"I understand the client", "when I'm asked to see a complaining client, and make them happy and keep them as clients"</i> | 3 | 1% |
| Scholarship | | 203 | 34% |
| Educate Colleagues, Team & Students | <i>"training or teaching other vets or nurses", "I can teach a student", "I share knowledge or help a colleague"</i> | 42 | 7% |
| Learning & Reflective Practice | <i>"I learn a new skill", "learning a new procedure/treatment", "I have time to reflect on my work regularly and make improvements"</i> | 115 | 19% |
| Publication | <i>"I can express myself in print and on radio", "I publish a significant finding", "present papers"</i> | 9 | 2% |
| Research | <i>"I am involved in research", "I read an article that improves my knowledge", "a new veterinary book arrives"</i> | 14 | 2% |

| | | | |
|-------------------------------------|--|------------|------------|
| Teaching (Unspecified) | <i>“when you get to teach someone something”, “teaching others”</i> | 23 | 4% |
| Veterinary Expertise | | 224 | 37% |
| Calming Animals | <i>“I manage to get a nervous animal to trust me”, “patients are calm in my presence even in a scary clinic setting”</i> | 5 | 1% |
| Caring Euthanasia | <i>“we do a caring euthanasia for a pet that needs it”, “I perform a peaceful euthanasia”, “doing a euthanasia compassionately and competently”</i> | 15 | 3% |
| Clinical Acumen | <i>“I find a wide range of appropriate options for animal care”, “my clinical assessment is correct without lab tests”, “I can interpret a condition on blood results”</i> | 24 | 4% |
| Clinical Problem Solving | <i>“I solve a puzzling case”, “I figure out what is going on in a complicated case”, “A difficult case is solved”</i> | 41 | 7% |
| Diagnosis | <i>“I can arrive at a diagnosis”, “I correctly diagnose a problem”, “a diagnosis can be reached and treatment can be started”</i> | 52 | 9% |
| High Quality Care | <i>“am able to fully work up and treat a case”, “I am performing the highest standards of care”, “I go that little bit further for my clients”</i> | 11 | 2% |
| Knowledge | <i>“I know what is going on with my patient”, “I can use my vet knowledge to achieve work outcomes”, “I know what to do”</i> | 16 | 3% |
| Surgical Proficiency | <i>“I manage to spay 5 cats in 60 minutes”, “I salvage injured pets limbs”, “I fix a fracture, remove a foreign body, learn a new surgery”</i> | 38 | 6% |
| Technical & Procedural Proficiency | <i>“perform a difficult procedure”, “I’m efficient and get through large numbers”, “I successfully use the ultrasound”</i> | 22 | 4% |
| Recognition | Positive acknowledgement and feedback of results.¹⁰⁹ | 264 | 10% |
| Feel Respected | <i>“I am respected by others”, “respect is shown from colleagues”</i> | 21 | 8% |
| Social & Professional Status | <i>“Others ask my opinion as an expert”, “when I am respected by my children for my career”, “I am valued by other members of the community”</i> | 39 | 15% |
| Thanks & Appreciation (unspecified) | <i>“when I am thanked”, “people sincerely thank you”, “when something I did well is recognised”</i> | 51 | 19% |
| Thanks & Appreciation for Practice | <i>“our practices are recognised for performance”, “clients tell me they have heard good things about us”, “we receive positive feedback”</i> | 8 | 3% |
| Thanks & Appreciation from Clients | <i>“the client says thank you”, “I get positive feedback from owners”, “clients thank me for my time and care”</i> | 108 | 41% |
| Thanks & Appreciation from | <i>“Recognition from clients or colleagues”, “my employer praises my work”, “my hard work is recognised by coworkers/colleagues (sic)”</i> | 37 | 14% |

Veterinarians, Boss, Team &
Students

| Relationships | The way in which two or more people or things are connected or behave towards each other.²⁸ | 428 | 16% |
|---------------------------------------|---|------------|------------|
| Animals | | 124 | 29% |
| Cute & Interesting | <i>“there are fluffy animals”, “I meet a pet who is very cute or unusual”, “I meet a cool dog”</i> | 8 | 2% |
| Favourite Patients | <i>“I have patients that I love”, “getting to interact with my favourite patients”, “I see one of my favourite patients back for a recheck”</i> | 3 | 1% |
| Human-Animal Bond | <i>“I see how much pleasure the pet gives their family”, “am reminded of the importance of the human-animal bond”</i> | 10 | 2% |
| Long-term Relationships | <i>“I see a pet through from young to old age”, “some of the long term relationships I have with clients and their pets”</i> | 7 | 2% |
| Nice, Happy & Well-Behaved | <i>“The patients are a delight to handle – well behaved/beautiful specimens etc”, “when the pet is reasonable”, “pets are friendly”</i> | 26 | 6% |
| Pleased to See Me, Like Me & Grateful | <i>“the pet likes me!”, “I look into the eyes of my patients and feel their love”, “the pet appreciates that I am trying to help”</i> | 32 | 7% |
| Positive Interactions | <i>“I am in contact with animal both physical and mentally”, “I get to cuddle and kiss peoples’ pets”, “contact with animals”</i> | 14 | 3% |
| Puppies, Kittens & Other Baby Animals | <i>“I get to play with puppies and kittens...!”, “baby animals come in”, “seeing a puppy/kitten”</i> | 24 | 6% |
| Clients | | 239 | 56% |
| Bonded & Favourite | <i>“I form a bond with clients”, “when clients greet me like a long lost friend when you’re out getting lunch”, “favourite clients come in”</i> | 21 | 5% |
| Care for Animals & Support Treatment | <i>“have clients who put their pets’ needs first”, “clients allow me to perform gold standard treatments”, “the bill is paid unquestioningly”</i> | 17 | 4% |
| Happy & Satisfied | <i>“I see happy clients”, “clients are satisfied with the outcome for their pet”, “A client is happy with my service”</i> | 62 | 14% |
| Long-term Relationships | <i>“interacting with long standing clients”, “I develop long term relationships with long standing clients”</i> | 10 | 2% |
| Nice People | <i>“You have regular clients who are lovely”, “clients are friendly”, “I meet nice clients”</i> | 19 | 4% |
| Positive Interactions | <i>“clients are interested in what I say”, “have a good yarn in the consult with a client”, “I make my clients smile”</i> | 51 | 12% |

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|---------------------------------|---|----|-----|
| Requested Veterinarian | <i>“a new client comes on a personal recommendation”, “clients request me to see their animal”, “a client is referred to me”</i> | 23 | 5% |
| Trust & Listen to Advice | <i>“clients listen”, “clients trust me”, “I am valued for my expertise not treated as an affront to dr google (sic) or the breeder”</i> | 36 | 8% |
| Colleagues & Team | | 49 | 11% |
| Friends, Company & Nice | <i>“I have friends working with me”, “enjoying company at work”, “I work with nice and motivated staff”</i> | 9 | 2% |
| Good Team & Colleagues | <i>“I work with a good team of vets and nurses”, “my crew is good”</i> | 4 | 1% |
| Liked & Relate Well | <i>“I have good relationships in my team”, “I am liked and respected by colleagues”, “I relate well to staff”</i> | 10 | 2% |
| Positive Interactions | <i>“The nurses are happy to see me after I’ve been on holidays for a couple weeks”, “I work with nice & motivated staff”</i> | 21 | 5% |
| Trusted & Part of a Team | <i>“I feel part of a team”, “Feel needed and part of the team”, “nurses I work with trust me with their animals”</i> | 5 | 1% |
| Positive Interactions (General) | <i>“I get to work with interesting people”, “social interaction”, “people like me”, “when people are happy”</i> | 16 | 4% |

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Appendix A

Journal of Veterinary Medical Education Submission Guidelines

Author Requirements and Submission Guidelines

The lead author is responsible for:

- Designating, in the submission cover letter, the type of manuscript that is being submitted, e.g. Educational Research Report, Teaching Tip, Best Practices, Institutional Policy, Challenges and Issues. Failure to do so may significantly delay review.
- Determining the individuals to be included as co-authors and those to be recognized in the Acknowledgements: The JVME endorses the criteria for authorship promulgated by the International Committee of Medical Journal Editors, please see their recommendations here.
- Obtaining the consent of co-authors AND those individuals listed under Acknowledgements for their names to be included.

Preparing the Manuscript for Submission

All submitted manuscripts must be in English; authors for whom English is a second language may benefit by having their manuscript edited by a colleague prior to submission, as revision of language is not the responsibility of the JVME or reviewers. All submitted manuscripts must be in an electronic form, with text in Microsoft Word or WordPerfect. Manuscripts must be paginated and line-numbered. Use only a single space between sentences. Within the text, hard returns should be used only at the ends of paragraphs and at the ends of items in lists. Do not insert manual page breaks, optional hyphens, non-breaking hyphens, or non-breaking spaces within the text. Do not use the space bar to indent paragraphs. Use a single, standard font for all text.

Process for Submission

All manuscripts must be submitted via the JVME eJPress site, which can be accessed directly at <http://jvme.msubmit.net/>

Peer Review

All manuscripts are subject to peer review. JVME has an identified panel of reviewers and will also seek additional reviewers as the topic of a manuscript requires.

Preparing the Manuscript for Resubmission After Peer Review

Authors for whom English is a second language who have not had their manuscript edited by a colleague prior to submission are encouraged to do so. Failure to do so may result in rejection prior to review, since revision of language is not the responsibility of the JVME or reviewers. As an author, you may be notified by the JVME that your manuscript, following review, requires minor or major revisions to be acceptable for publication. Such a notification will include comments from reviewers and editors, and you will be encouraged to revise your manuscript in accordance with these comments. Prepare a cover letter outlining the changes made in accordance to the comments received. The cover letter should provide sufficient detail to enable the reviewer to readily determine the changes that have been made, or the rationale for reviewer suggestions that have not been adopted. Upload your revised manuscript to the JVME peer-review system within 40 days to be considered as a revised manuscript. A manuscript returned beyond that time without consent for an extension will be considered as a new submission for JVME and review purposes.

Guidelines on Animal Ethics and Welfare

All material published in JVME must adhere to high ethical and animal welfare standards. Any research involving animals must be based on ethological knowledge and respect for species-specific requirements for health and well-being. Defined welfare standards must be applied in all studies involving living animals irrespective of species and function. Please include specifications of animal or human ethics approval as required.

Animal Ethics Criteria

Manuscripts will be considered for publication only if the work detailed therein:

1. Follows international, national, and/or institutional guidelines for humane animal treatment; where national or institutional guidelines do not exist, international guidelines must be followed, e.g., National Institutes of Health or Euroguide (see references below).
2. Has been approved by a properly constituted internal ethics review committee at the institution or practice at which the studies were conducted;
3. Demonstrates a high standard (best practice) of veterinary care and involves informed client consent for studies using client-owned animals.

To verify compliance with the above policies, the authors must:

1. Specify in Materials and Methods that the study has been approved by a properly constituted animal care and use committee or equivalent ethical review committee, the approval process of the committee, and the international, national, and/or institutional guidelines followed.
2. Alternatively, provide a letter signed by the submitting author certifying that legal and ethical requirements have been met with regard to the humane treatment of animals described in the study and/or provide other evidence, such as a signed animal use form, of compliance with ethical review at the institution.

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1. Manuscripts and authors that fail to meet the aforementioned requirements.
2. Studies that involve unnecessary pain, distress, suffering, or lasting harm to animals.
3. The Editor retains the right to reject manuscripts on the basis of animal ethical or welfare concerns.

Reference URLs for Animal Ethics

1. World Association of Medical Editors
2. Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals
3. Guide for the Care and Use of Laboratory Animals
4. Euroguide on the Accommodation and Care of Animals Used for Experimental and Other Scientific Purposes

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For any manuscript describing original work involving the use of human subjects, that work must have been approved by the Human Subjects Institutional Review Board (IRB) (or equivalent ethical body) of the institution within whose jurisdiction the work was conducted. Each manuscript reporting the results of such work must provide a specific notation within the Methods section that the IRB has approved the research. Human subject research, for most institutions, includes all research in which an individual's opinion has been sought in a circumstance such as a survey. In all circumstances, IRB approval is required for publication in the JVME.

Manuscript Requirements

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The manuscript title must appear on the title page and be succinct and informative.

Author Information Title Page

On the title page list the author name(s), in the following order: first name, initial, last name; their current academic or business mailing address; terminal academic degrees; diplomate status if desired; current position and area of research; and e-mail address of the primary author to whom correspondence should be addressed and an ORCID iD number for any author who wishes to provide that information. An ORCID iD number is a persistent digital identifier that distinguishes you from other researchers to ensure your work is recognized, if you wish to register, please go to <https://orcid.org/register>. Should the primary author anticipate a circumstance where contact may be difficult or lost, e.g. graduation of a student serving as lead author, a primary author moving to another institution, etc., the primary author is encouraged to provide the address and contact information of a secondary author who can serve as a continuing point of contact.

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All manuscripts must include a brief abstract (maximum of 250 words). The abstract should be a single paragraph, do not provide headed sections. The abstract should concentrate on the purpose of the manuscript, the major results obtained, and the conclusions of primary interest. The abstract can strongly influence a manuscript's online worth to readers and must be carefully considered and constructed early on in the manuscript's development.

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- It must describe an approach.
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The use of key words will enhance discoverability through JVME Online, search engines, and databases. When choosing key words for your manuscript, please consider the following:

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- Using single-word terms
- Choosing terms that are too broad and not focused
- Using terms that are too specialized, which creates low results

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Words to be abbreviated should be spelled out in full the first time they appear in the text, with the abbreviation given in brackets. Thereafter the abbreviation should be used. It is preferable to use abbreviations only when the word is used multiple times.

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Within the manuscript three levels of headings are acceptable. Use boldface to indicate major headings, italics to indicate the first level of subheadings, and regular type for the lowest level of subheadings. Sections should not be numbered and bulleted lists of sentences or phrases are also acceptable.

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Tables must be numbered consecutively in order of citation within the text, with Arabic numerals, with a simple reference within the text such as (Place Table 1 here). Tables should be created in Microsoft Word or WordPerfect using the Tables function provided by these programs. Each table should have a short title and legend to facilitate understanding. Please provide all tables at the end of the manuscript or as a separate file if the table is large.

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Journal Manuscripts

Smeak DD, Beck ML, Shaffer CA. Evaluation of video tape and a simulator for instruction of basic surgical skills. *Vet Surg* 20(1):30-36, 1991.

- Please note that the complete manuscript title and the names of all authors should be cited. Journal titles should be abbreviated following the abbreviations standards of Index Medicus or Biological Abstracts (note that abbreviations are never followed by a period, and initials are not separated by a space).

Books

Beck A, Katcher A. *Between Pets and People: The Importance of Animal Companionship*, 2nd ed. West Lafayette, IN: Purdue University Press, 1998 p127-132.

- Note that the book title is capitalized (except for prepositions, manuscripts, and conjunctions). Page numbers or chapter numbers should be cited to direct the reader to the appropriate section.

Book Chapters

Munro H. The battered pet: signs and symptoms. In Ascione FR, Arkow P, eds. *Child Abuse, Domestic Violence, and Animal Abuse: Linking the Circles of Compassion for Prevention and Intervention*. West Lafayette, IN: Purdue University Press, 1999:240-248.

Online Documents

Brown JP, Silverman, JD. May 1999 Executive Summary: The Current and Future Market for Veterinarians and Veterinary Medical Services in the United States. <<http://aavmc.org/documents/es199905.htm>>. Accessed 12/22/00. Association of American Veterinary Medical Colleges, Washington, DC, 1999.

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Endnotes

Notes may be added at the end of the text to briefly enter explanatory or supplementary information or the source of materials. They should not be more than a single sentence. They should be given lower-case superscript letters (a, b, c...) in the order of their citation within the text and provided in a section at the end of the manuscript labeled NOTES. Use your word processing program's Endnotes function to create endnotes. In no case should footnotes at the bottom of each page be used.

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