

# Finding the Balance: Uncovering Resilience in the Veterinary Literature

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## ABSTRACT

Resilience is an issue of emerging importance in veterinary education and research, as in other professional contexts. The aim of this study was to perform an appraisal of how resilience is portrayed in the contemporary (1995–present) research and education literature around veterinary mental health, and to attempt a provisional synthesis informing a conception of resilience in the veterinary context. Qualitative analysis of the literature (59 sources included) revealed a dominant emphasis on mental health problems, particularly stress, which outweighs and potentially obscures complementary approaches to well-being and resilience. We found the construct of resilience underdeveloped in the veterinary literature and in need of further research, but provide a preliminary synthesis of key themes emerging from the current literature (emotional competence, motivation, personal resources, social support, organizational culture, life balance, and well-being strategies). We advocate for greater balance between complementary perspectives in veterinary mental health education and research, and propose that an increasing focus on resilience (here endorsed as a dynamic and multi-dimensional process involving personal and contextual resources, strategies, and outcomes) will help to address this balance.

**Key words:** resilience, veterinary mental health, well-being, veterinary competencies

## INTRODUCTION

During the shift toward competency-based education of the past few decades, various frameworks have defined a wide range of core professional competencies required of the graduate veterinarian. The Royal College of Veterinary Surgeons (RCVS) framework of Day One Competences, which has been particularly influential in veterinary education in the UK, Europe, Australasia, and elsewhere since its release in 2001,<sup>1</sup> included the somewhat ambiguous statement that the new graduate should “be aware of the economic and emotional climate in which the veterinary surgeon operates, and respond appropriately to the influence of such pressures.”<sup>1(p.1)</sup> When updated after review in 2014,<sup>2</sup> the revised list provided clearer guidance on this competency, stating that “veterinary surgeons need to be resilient and confident in their own professional judgments to withstand the stresses and conflicting demands they may face in the workplace.”<sup>2(p.5)</sup> This clarifies that those at risk in this climate are the veterinarians themselves, and that their responses to these pressures should enable their *resilience*—allowing them to maintain equilibrium and continue to thrive despite adversity. Similarly, Lewis and Klausner identified resilience as one of the non-technical competencies underlying success as a veterinarian,<sup>3</sup> while the North American Veterinary Medical Education Consortium (NAVMEC) listed work–life balance, positive coping skills, and a commitment to personal well-being among the core competencies required of graduating veterinarians to fulfill societal needs.<sup>4</sup>

Recognition of the importance of psychological health in competency frameworks comes at a time when multiple studies have reported mental health problems among veterinarians, including depression,<sup>5</sup> stress,<sup>6</sup> anxiety,<sup>7</sup> and suicide.<sup>8</sup> Although these issues are not unique to the profession,<sup>9</sup> concerns regarding mental health risks are frequently expressed in educational and professional discourse within the veterinary literature.<sup>10,11</sup> These collective efforts have strengthened the understanding of many of the psychological challenges as well as poor psychological health experienced by many in the veterinary profession, including students. Furthermore, the attrition rate, at times attributed to the documented stressful nature of the profession, is noted in the literature.<sup>12,13</sup> This is important information for educators, practitioners, and regulatory bodies alike.

While we have an increased appreciation of mental health problems in the profession, few studies articulate the factors associated with psychological well-being and growth. More recent studies have begun preliminary examinations of resilience and associated factors,<sup>14</sup> while others have explored personal resources associated with performance.<sup>15,16</sup> Cake et al. proposed a positive reframing of veterinary practice, highlighting the need to balance discussions of mental health risk against the potential for fulfilling and self-actualizing experiences in veterinary work.<sup>17</sup> As a profession, we know and discuss little about the attributes that promote psychological well-being and resilience among those veterinarians who are thriving and enjoying their career in veterinary medicine.

## Resilience

From a psychological perspective, resilience is a complex and multifaceted construct involving the process of positive adaptation in challenging (adverse) circumstances.<sup>18</sup> Although early resilience research focused on children deemed at risk and on understanding the protective and risk factors that fostered or hindered resilience,<sup>19</sup> research over the past 10 years has investigated resilience in a range of “caring” professions such as nursing,<sup>20–22</sup> social work,<sup>23</sup> and teaching.<sup>24–26</sup>

As use of the word *resilience* increases in everyday language, it is important to define resilience clearly within the scope of particular contexts. Common understandings about resilience refer to the capacity of individuals to cope with stress and “bounce back” from adversity, yet the body of resilience research indicates that such understandings may be limited by their simplicity. A useful definition of resilience has been posited by Mansfield et al.,<sup>27</sup> who conceptualize resilience as a capacity, a process, and an outcome in their research on teacher resilience. For the purpose of the present study, we adopted this definition as the provisional framework for our analysis. That is, resilience involves the *capacity* of an individual to harness personal and contextual resources to navigate through challenges, and the *dynamic process* whereby these resources and contexts interact over time, through use of particular strategies, to enable *outcomes* including professional engagement, satisfaction, and well-being.<sup>27</sup>

Given this provisional definition, the aim of this study was to explore how the concept of resilience is portrayed within contemporary veterinary research, educational discourse, and competency frameworks, and to begin a preliminary synthesis of key emergent themes around resilience within this literature. Since we did not expect the concept of resilience to be explicit, we also surveyed the prevailing language, outcome measures, findings, and recommendations within the broader literature on veterinary mental health and well-being to explore factors that might inform both a conception of resilience in the veterinary context and directions for future work.

## METHODS

We performed a literature search of relevant major databases (Web of Science, including CAB Abstracts, Medline, Current Contents; ERIC; PsycINFO) using the search terms *veterinary* or *veterinarian* (i.e., the truncation term *veterinar\**), and any of the following problem-oriented or well-being-oriented mental health terms collated by the authors: *resilience*, *thriving*, *coping strategies*, *work/job/personal/life satisfaction*, *wellbeing/well-being*, *positive psychology*, *optimism*, *engagement*, *self-care*, *stress management*, *mindfulness*, *mental health*, *stress*, *burnout*, *anxiety*, *suicide*, *suicidal*, *anxiety*, *depression*, or *compassion fatigue*. Searches including *anxiety*, *stress*, and *wellbeing/well-being* returned a large number of spurious animal-based research papers, so we limited the results by journal title to exclude clinical specialist journals unlikely to contain relevant papers. We confined the search to sources published in the last two decades (1995–present).

We imported the results of the search ( $n = 1,545$  papers) to reference management software (EndNote X7.4, Thomson Reuters) and screened by title and/or abstract to exclude irrelevant papers ( $n = 1,300$ ). We excluded papers in languages other than English and non-peer-reviewed sources such as letters, news articles, or conference abstracts ( $n = 177$ ). Finally, papers that could either not be obtained or were not in searchable PDF formats were excluded ( $n = 9$ ), yielding 59 papers for inclusion in the study.

We used qualitative analysis software (NVivo 10.2.2, QSR International) to code text within included papers and to explore the literature using text searches. As found by Beltman et al.<sup>26</sup> and Mansfield et al.,<sup>27</sup> the many and varied factors associated with resilience, and how these are interpreted and understood within the literature, posed challenges for analysis. Consequently, analysis occurred in three phases. First, we performed a word frequency count for mental health terms across all texts to determine raw word frequencies (including within references and keywords). Second, we manually coded the subset of papers reporting empirical research ( $n = 38$ ) to extract from each paper the outcomes or variables measured, risk factors and protective factors identified (i.e., major contributors to, or statistically significant correlates of, negative or positive outcomes), and recommendations or solutions proposed. Factors thought to be similar were grouped within common themes, as were undergraduate and workplace factors (e.g., “performance concerns” included “worried about not being as smart as other students”<sup>28</sup> and “making professional mistakes”<sup>6</sup>). Finally, we explored all papers ( $n = 59$ ) by text search for resilience factors identified in research papers during the previous phase, as well as factors mentioned in the remaining nonempirical papers. After reviewing search results to ensure the word appeared in the correct context, we calculated the number of papers mentioning each term as a resilience factor. To better understand these factors, we used the four key groupings identified in a recent conceptualization of teacher resilience,<sup>27</sup> those being personal resources, contextual resources, strategies, and outcomes.

In addition, we searched 10 competency frameworks identified in a recent systematic review for resilience-related terms.<sup>29</sup> These represent all of the frameworks known to the authors and meeting the following criteria: published since 2000, developed by an identifiable expert consensus or review process, and either published formally in a peer-reviewed publication or adopted by an international accrediting body.<sup>2,4,30</sup>

## RESULTS

Raw word frequency counts across the included literature showed problem-oriented mental health terms are used more frequently than resilience or well-being-oriented terms, in a ratio of about 2:1 (Table 1). The terms *stress*, *suicide*, or *depression* accounted for close to half of all mental health terms used, while words such as *wellbeing* or *resilience* appear far less frequently. Similarly, *stress* or *stressor* were the most frequent mental health terms used

**Table 1:** Raw word frequency count for mental health terms, across all included papers ( $n = 59$ ; well-being or resilience-oriented terms are shown in bold)

Term	Count
Stress, stressful	2,273
Suicide, suicidal	1,522
Depression, depressive	1,027
<b>Support</b>	<b>678</b>
Stressor, stressors	650
Burnout	634
<b>Resources</b>	<b>621</b>
Anxiety	609
<b>Satisfaction</b>	<b>499</b>
<b>Coping</b>	<b>341</b>
<b>Positive</b>	<b>335</b>
<b>Help</b>	<b>312</b>
Distress	299
<b>Engagement</b>	<b>297</b>
<b>Wellbeing, well-being</b>	<b>253</b>
Death, deaths	213
Exhaustion	176
Fatigue	152
<b>Success, successful</b>	<b>139</b>
<b>Resilience</b>	<b>95</b>
<b>Optimism</b>	<b>92</b>
Cynicism	77
<b>Proactive</b>	<b>70</b>
<b>Motivation</b>	<b>62</b>
<b>Wellness</b>	<b>60</b>
<b>Healthy</b>	<b>55</b>
<b>Happiness</b>	<b>45</b>

in source titles (21 titles), followed by *wellbeing* or *wellness* (17 titles) and *suicide* (10 titles).

An overview of 38 research studies found that mental health problems such as depression, anxiety, and stress were the most frequently used outcome measures (Table 2). Only a minority of studies included validated scales for well-being measures, such as the Warwick-Edinburgh Mental Well-Being Scale (WEBWBS),<sup>6,31,32</sup> which has been validated for use in veterinarians,<sup>33</sup> or included specific scales to quantify protective factors such as social support or job satisfaction. Many studies surveyed participants regarding veterinary-specific stressors, but few used a similar approach to explore protective or satisfying factors associated with veterinary work. The most consistently identified risk factor was workload, framed as either academic stress or job demands, interference with work-life balance, or (in particular) long working hours. Other consistently identified factors included being a recent graduate or younger veterinarian (10 studies), or being female (8 studies). Fewer than half of the research studies identified any protective factor, with forms of social support being the most frequently identified factor. Forms of training (e.g., to raise awareness of risk or to learn sup-

portive skills), access to counseling, and promotion of support networks or mentoring were the solutions most frequently proposed. Most of the research studies were cross-sectional or retrospective in nature; only a few studies described interventions at the undergraduate<sup>34-36</sup> or early graduate level.<sup>37</sup>

The words *resilience* or *resilient* were used in 20 included sources. Only a few of these sources included definitions of resilience, among them “the ability to succeed, live, and develop in a positive way despite stress or adversity,”<sup>17(p.185),38</sup> “the outcome of a dynamic equilibrium between contextual risk and protective factors,”<sup>17(p.190),26</sup> and “the ability of an individual to adjust to adversity, maintain equilibrium, retain some sense of control over their environment, and continue to move on in a positive manner.”<sup>39(p.38),40</sup> Mastenbroek et al.<sup>15,37,41</sup> cite resilience as a central element of personal resources, “people’s sense of being in control and [ability] to influence their environment successfully... this definition encompasses a feeling of being appreciated and in control, as well as skills and attitudes that facilitate these feelings.”<sup>41(p.169),42</sup> Only one research study<sup>14</sup> included a specific, validated measure of resilience, the Brief Resilience Scale (BRS).

When we searched the included literature for terms identified as resilience factors (Table 3), the most frequently mentioned factors were various forms of relational support or mentoring. Another group of distinct contextual factors were “job resources,” particularly provision of employee feedback and control, but also aspects of the broader “culture.” The most commonly cited personal resources were emotional competence, and motivation and purpose; the remainder comprised a group of enabling self-beliefs, attitudes, and behaviors. The most commonly mentioned strategy was addressing balance, typically expressed as “work-life balance.”

Only two recently published veterinary competency frameworks explicitly include the word *resilient* or *resilience*,<sup>2,3</sup> though others contain elements that partly embody resilience (Table 4). The three most consistent themes of resilience across the frameworks were withstanding or managing stress, work-life balance, and adapting to change or uncertainty. Competencies mostly comprised desired attitudes and behaviors, and to a lesser extent desired processes (such as making good decisions in the context of “self-management”). Two recently developed competency frameworks do not include resilience-related competencies.<sup>30,48</sup>

## DISCUSSION

### Taking Stock of the Veterinary Mental Health Literature

Our appraisal suggests a potential imbalance in the literature on veterinarian resilience. While it is not the intention of this study to systematically review the strengths and weaknesses of the included sources or the evidence they present (e.g., see reviews by Bartram and Baldwin<sup>49</sup> and Platt et al.<sup>50</sup>), our overview suggests that the veterinary research effort (as in the psychological literature more broadly<sup>9</sup>) is methodologically biased toward identifying the risk factors contributing to mental health problems,

**Table 2:** Overview of recent mental health studies of veterinarians and veterinary students (number of studies in parentheses)

Outcomes measured (30)	Risk factors identified (25)	Protective factors identified (17)	Solutions proposed (26)
Depression (14)	Workload (21)	Peer support (9)	Training (22)
Specific stressors (12)	Recent/younger graduate (10)	Job satisfaction (4)	Counseling (13)
Anxiety (10)	Female gender (8)	Workshop intervention (4)	Support networks (11)
Stress (8)	Lack of work–life balance (8)	Optimism (2)	Mentoring (8)
Job satisfaction (5)	Performance concerns (6)	Self-esteem (2)	Help-seeking culture (7)
Job stress/demands (5)	Financial concerns (5)	Self-efficacy (2)	Autonomy (6)
Social support (5)	Isolation, homesickness (5)	Relationships (1)	Problem solving (5)
Burnout (4)	Uncertainty, lack of control (5)	Motivation (1)	Reduced workload (5)
Mental health (4)	Lack of support (5)	Autonomy (1)	Exercise (4)
Suicide attempt (4)	Moral challenges (3)	Exercise (1)	Admissions selection (3)
Suicide ideation (3)	Team conflict (3)	Hobbies (1)	Empathy, recognition (2)
Work characteristics (3)	Perfectionism (3)	Mindfulness (2)	
Attitudes to mental health (3)	Mental health stigma (2)	Work–life balance (2)	
Job resources (3)	Physical health (2)		
Personal resources (3)	Relationship issues (1)		
Work engagement (3)			
Work–home interaction (3)			
Workload (2)			
Well-being (2)			
Positive/negative affect (2)			
Optimism (2)			
Life satisfaction (2)			
Perfectionism (1)			
Resilience (1)			
Team effectiveness (1)			

**Table 3:** Overview of resilience factors mentioned in the veterinary mental health literature (number of papers in parentheses)

Personal resources (53)	Contextual resources (55)	Strategies (50)	Outcomes (51)
Emotional competence (27)	Relationships (43)	Life balance (30)	Well-being (45)
Motivation (19)	Colleagues (32)	Professional development (18)	Job satisfaction (23)
Sense of meaning, purpose (13)	Family support (28)	Counseling, therapy (16)	Enjoyment (17)
Autonomy (11)	Social support (26)	Time management (15)	Self-esteem (14)
Optimism (11)	Mentors (19)	Problem solving (12)	Engagement (12)
Confidence (10)	Feedback (15)	Exercise (12)	Fulfillment (10)
Flexibility, adaptability (9)	Support networks (14)	Meditation (12)	Life satisfaction (7)
Assertiveness (8)	Peer support (12)	Reflective practice (12)	Happiness (3)
Proactivity (8)	Decision latitude (12)	Coaching (8)	Thriving (3)
Self-awareness (6)	Culture (11)	Sleep (8)	Flourishing (2)
Self-efficacy (6)	Skills discretion (10)	Diet, nutrition (7)	“Compassion satisfaction” (2)
Perspective (6)	Mindfulness (7)	Eudaimonia (1)	
Initiative (5)	Hobbies, volunteering (7)		
Persistence (4)	Spirituality, religion (6)		
Hope (3)	Help-seeking (6)		
Positive attitude (2)	Gratitude (4)		
Self-compassion (1)	Prioritization, organization (4)		
Humor (4)			
Positive psychology (3)			
Setting boundaries (2)			
Goal-setting (2)			

**Table 4:** Resilience-related competencies included in published veterinary competency frameworks 2001–2014

Framework	Competency
<i>Day One Competences</i> , Royal College of Veterinary Surgeons (RCVS) 2001, 2014 (UK) <sup>1,2</sup>	“Understand the economic and emotional context in which the veterinary surgeon operates. Veterinary surgeons need to be resilient and confident in their own professional judgments to withstand the stresses and conflicting demands they may face in the workplace. They should know how to recognize the signs of stress and how to seek support to mitigate the psychological stress on themselves and others.” <sup>2(p.5)</sup>
<i>Attributes expected of graduates of a veterinary program</i> (University of California), Walsh et al. 2001 (US) <sup>43</sup>	“A tolerance for conflicting ideas and an openness and flexibility to accept change.” <sup>43(p.1364)</sup>
<i>Template for a Recommended Curriculum in “Veterinary Professional Development and Career Success,”</i> Lloyd and Walsh 2002 (US) <sup>44</sup>	“II. Basic Life Skills for the Successful Veterinarian. . . B. Emotional intelligence. . . G. Achieving a balance between one’s career, financial success, and personal life. . . 1. establishing life balance goals; 2. family needs and values; 3. handling conflicts between personal, family, and business goals.” <sup>44(p.86)</sup>
<i>Attributes of Australasian Veterinary Graduates</i> , Collins and Taylor 2002 (Australia/NZ) <sup>45</sup>	“Capacity for Self-Management and Self-Knowledge: including. . . change skills; . . . work/leisure balance.” <sup>45(p.71–2)</sup>
<i>Nontechnical Competencies Underlying Career Success as a Veterinarian</i> , Lewis and Klausner 2003 (US) <sup>3</sup>	“Drives for results: Persists despite obstacles and challenges; Handles multiple demands and competing priorities.” <sup>3(p.1696)</sup> “Pursues development: Broadens oneself by pursuing interests outside the profession.” <sup>3(p.1696)</sup> “Demonstrates adaptability and resilience: Responds to competing demands or abrupt changes with a positive outlook; Stays optimistic and resilient in the face of adversity, change, and ambiguity; Uses a large repertoire of skills, experiences, and behaviors to handle a wide variety of challenges and opportunities.” <sup>3(p.1696)</sup>
<i>Practitioner-Defined Competencies Required of New Veterinary Graduates in Food Animal Practice</i> , Miller et al. 2004 (US) <sup>46</sup>	“People Skills: . . . 109. Identify positive stress management techniques. . . 121. Discuss the necessity of a family/work balance; A. Demonstrate an understanding of the potential conflicts between family and practice. . . Ethics and Professionalism: . . . 141. Define professionalism. . . iii. Positive attitude.” <sup>46(p.360–1)</sup>
<i>Core Competencies of All Graduating Veterinarians</i> , North American Veterinary Medical Education Consortium (NAVMEC) 2011 (US) <sup>4</sup>	“Management (self, team, system): Veterinarians make effective choices to manage their professional and personal lives. They are aware of the challenges and the importance of making good work/life balance decisions; The ability to identify business and personal priorities and apply time management skills to balance professional and personal life.” <sup>4(p.30)</sup> “Leadership: They are guided by. . . a commitment to. . . personal well-being.” <sup>4(p.60)</sup> “Adapt to Changing Environments: Veterinarians function within a continually changing physical, technological, economic, and societal environment. They demonstrate curiosity and flexibility when challenged with changing priorities and situations. . . . Veterinary medical graduates will be able to demonstrate. . . Knowledge of coping skills to handle stress in positive ways.” <sup>4(p.61)</sup>
<i>Competency framework based on families of professional situations</i> , Vandeweerd et al. 2014 (Belgium/France) <sup>47</sup>	Basic surgery: Attitudes—objective, convincing if necessary, and reassuring; calm in unexpected situations. Medical and surgical emergencies: Veterinarians react quickly, manage stress caused by the modification of their usual routine, and establish the first actions. General skills—manage calendar (timetable) changes, logistics, and related stress; Attitudes—calm and convincing. Hospitalization: General skills—manage stress and fatigue.

with only shallow exploration of well-being or resilience factors. This is perhaps because, as articulated by Slade, generating a science and shared taxonomy of illness has historically proven easier than developing the equivalent science of well-being.<sup>9</sup> Most studies use scales designed to measure mental health problems such as depression or anxiety, and focus on these outcomes in their analysis and discussion. Similarly, multiple studies included bespoke questionnaires of potential veterinary work-related stressors, but fail to explore aspects of work with the potential to increase satisfaction, engagement, and well-being. It is clear that most research has focused on mental health problems and their sequelae, when it is equally clear from the literature that these problems affect only a subset of the population in cross-sectional studies. These research approaches, while undoubtedly valid from a mental health risk perspective, have potentially left the factors contributing to the health and happiness of the remainder of the study population under-explored. Explorations of the latter lie within the domain of positive psychology, a term and concept rarely encountered within the veterinary literature.

In a recent example from a large US survey, the conclusion that “veterinarians frequently experience health-threatening stress related to the demands of practicing veterinary medicine”<sup>8(p.954)</sup> was reported alongside the finding that 80% of the same sample agreed or strongly agreed that they are happy being a veterinarian. The finding that veterinarians are, on the whole, more content and enthusiastic about their work than distressed and anxious is found consistently in the literature,<sup>17,51,52</sup> but remains underemphasized in surrounding discourse. Also of note is the conclusion from a recent high-quality systematic review, which found “little evidence that veterinary surgeons have particularly poor mental health or suffer from exceptionally high levels of stress.”<sup>50(p.236)</sup> While approaches oriented to either mental health problems or well-being can inform an understanding of veterinary resilience, what is most notably absent from the literature is a *balance* between these extremes.

Other deficiencies emerging from appraisal of the veterinary mental health literature include the dominance of cross-sectional study designs. This is reflected in recent calls for prospective longitudinal studies to better establish the course of mental health across the undergraduate program and transition to work, and to untangle the causality of correlates thought to be risk or protective factors.<sup>50,53</sup> A focus on veterinary-specific work stressors and the emotional load of veterinary work has tended to ignore that the clearest risk factor from the literature, excessive workload and/or working hours, is a generic occupational hazard common to many professions and well known in work psychology.<sup>50</sup> The paucity of research reporting and evaluating the efficacy of potential interventions is also striking, though two recent reports of small-scale trials have helped to address this balance.<sup>34,37</sup> Identification of two intractable risk factors clearly established in the literature, being female and being younger and/or more recently graduated, together with the increasing feminization of the veterinary workforce, only further emphasizes the importance of investigating and validating interventions available to strengthen the re-

silience of veterinary graduates. As noted by Mellanby,<sup>53</sup> research efforts to date have instead been most helpful at defining and raising awareness of the problem, reducing the stigma associated with mental health disorders, and providing a baseline for evaluation of future progress.

### Conceptualizing Veterinary Resilience

Given the generally problem-oriented emphasis of veterinary mental health research and commentary, which in turn reflects the prevailing emphasis of mental health discourse more broadly,<sup>9</sup> it is perhaps unsurprising that we found the emerging concept of resilience to be under-represented and relatively underdeveloped. It is beyond the scope of this study to review the evidence for factors contributing to the resilience of veterinarians and veterinary students, and to do so is perhaps premature given the current scarcity of relevant studies. Nevertheless, we provide here a scoping overview of possible resilience factors mentioned in the veterinary literature, and a preliminary synthesis of emerging themes.

First, it is clear that, as has been shown in other contexts,<sup>26,27</sup> resilience comprises an interactive complex of personal resources, contextual (social/workplace/cultural) resources, implementable strategies, and resilience outcomes (Table 4). Some elements, such as autonomy or motivation, may be assigned to multiple categories depending on context. Second, several themes emerge across the literature as likely to be important in veterinary resilience, each briefly discussed below: emotional competence, motivation, personal resources, social support, organizational culture, life balance, and well-being strategies.

- **Emotional competence** is given particular prominence in veterinary resilience, from multiple perspectives including dealing with the emotional demands of the job, the high level of emotional processing capabilities (i.e., emotional intelligence) required for success, and the use of emotion-focused coping strategies. Many sources emphasize the emotional burden of veterinary work, particularly in the guise of “compassion fatigue,”<sup>10,54–57</sup> or the emotional stress resulting from moral challenges.<sup>14</sup> Other challenges include maintaining appropriate emotional distance for provision of empathic, bond-centered care without risking compassion fatigue,<sup>56</sup> and diffusing negative emotions without resorting to maladaptive coping strategies.<sup>58</sup>
- **Motivation**, including sense of meaning and purpose, stands out as a central resilience factor that is as much an outcome and strategy as it is a personal and contextual resource. Cake et al.<sup>17</sup> reviewed sources of satisfaction for veterinarians and found them to be mostly aligned to meaningful purpose and personal growth, thus mediated particularly by the eudaimonic dimensions of *meaning* and *engagement*. For veterinarians, this largely represents the reward side of the effort-reward imbalance model of work-related stress,<sup>59</sup> as well as the concept of “compassion satisfaction,” (i.e., the protective flip-side of compassion fatigue).<sup>54</sup>

- Other **personal resources** encompass those defined by Mastenbroek et al. as “developable systems of positive beliefs about one’s self and the world. . . [that encompass] a feeling of being appreciated and in control as well as skills and attitudes that facilitate these feelings.”<sup>37(p.312)</sup> Proactive behavior, assertiveness, self-efficacy, reflective behavior, and optimism are shown to be important in their work,<sup>15,37</sup> while autonomy and self-confidence are elements consistently identified elsewhere. A recent trial has importantly shown that these personal resources can be increased through a development program, in which reflection (thus self-awareness) was identified as a necessary element.<sup>37</sup> Self-awareness also aids identification of unhelpful traits or tendencies, including perfectionism, which has been identified as a key risk factor for a subset of veterinarians.<sup>5,14</sup>
- **Social support** from family, friends, and personal mentors emerges as a key element of resilience in the veterinary literature. Similarly, lack of support, social isolation, and homesickness are repeatedly identified as risk factors, suggesting that the ability to establish support structures in new environments is important. Some authors claim that social relationships affect happiness more than any other factor.<sup>60</sup>
- **Organizational culture** encompasses support from supervisors, colleagues, and professional mentors, but also those factors described as job resources in the Job Demands-Resources model of work-related well-being,<sup>15</sup> including decision latitude (professional autonomy) and opportunities for professional development. Access to professional help and a non-judgmental culture of help-seeking are also important. Organizational factors may be influenced directly by management decisions, but also by the broader culture of normative beliefs and behaviors among peers,<sup>61</sup> and more broadly across the profession. These mutual interactions in an expanding web of social and workplace support are what is termed the ecological model of resilience.<sup>62,63</sup> Bartram et al. discuss workplace strategies for encouraging employees to thrive.<sup>59,64</sup>
- **Life balance** is more often expressed in the veterinary literature as “work–life balance,” though we prefer the former term since, “rather than the difficulties of work needing to be balanced by the positivity of ‘other life,’ work can and should be an enjoyable and rewarding part of living.”<sup>65(p.28)</sup> Excessive workload, work hours, and work–home interference emerge strongly as risk factors in the literature,<sup>5,14,15,66</sup> highlighting the need for restorative balance as a prominent theme in veterinary resilience. Enabling strategies mentioned in the literature include time management, prioritization of tasks, and boundary setting. This factor interacts with social support (i.e., the need to make time to maintain nourishing relationships).
- **Well-being strategies** comprise a potential “tool kit” of active strategies to find solutions to problems, to disengage unhelpful thoughts and emotions, and to proactively build a buffering sense of well-being.

Programs should include integrated and holistic attention to wellness across physical, emotional, and psychological health. While present in the literature, the idea of requiring wellness for efficacy as a practitioner—that “one needs to care for oneself to care for others”<sup>54</sup>—has perhaps not been as strongly advocated in veterinary literature and practice as it has been in medicine and other health professions.<sup>11,54</sup>

When reviewing the above resilience themes within published veterinary competency frameworks, it is clear that current frameworks both individually and collectively fail to address the full range of capabilities, attitudes, and personal and contextual resources potentially promoting resilience. Life balance is the most consistent and most emphasized competency within existing frameworks, while emotional competence, personal resources, and well-being strategies are mainly implied in the context of “stress management” or “coping skills.” Competencies in engaging support or help-seeking (i.e., engaging contextual resources) are underrepresented, while those related to motivation and influencing organizational culture are absent. Conversely, a repeated theme in competency frameworks of adaptability or flexibility in the face of change is in some cases ambiguously aligned to resilience, and is instead contextually linked to responses to altered economic or technological circumstances.<sup>4,43</sup>

## CONCLUSION

The recently released RCVS Vet Futures report, while affirming well-being as a priority for the profession, cautioned against the “danger of the profession allowing itself to become over-identified with the single issue of stress.”<sup>65(p.27)</sup> A simple word-frequency count starkly confirms this phenomenon within the recent literature around veterinary mental health, with the word *stress* far eclipsing all other mental health terms, followed by serious problems such as suicidality and depression. Similarly, appraisal of the research effort reveals it to be mostly oriented toward measurement of mental health problems (depression, anxiety, distress) and associated risk factors, and notably less focused on identifying well-being factors or evaluating potential solutions. This imbalance persists across both research and commentary articles, and in both undergraduate and post-graduate contexts, arguably conveying an almost “war zone”-like outlook in some discourse—and quite literally so in one recent example comparing veterinarians to troops being deployed in Iraq.<sup>67</sup> But while a palpable sense of psychological morbidity and risk is clearly repeated across the veterinary literature, we found the concepts of psychological well-being and resilience to be less prominent and less well developed.

Our intention in this appraisal is not to diminish the value of understanding the prevalence or risk factors of mental health problems and suicidality in the veterinary profession. We do suggest, however, that this emphasis has the potential to obscure a full understanding of veterinary resilience and well-being, since these are shown to be more than the absence of negative outcomes. Rather, we find resilience in the veterinary context to be a broad

and multi-dimensional complex of interacting factors, which competency frameworks and prevailing research approaches do not capture adequately. While we also note the limitations of the current literature to support firm conclusions, we provide a preliminary synthesis of emerging themes around resilience in the veterinary context.

In drawing together this conception of resilience, we provisionally endorse the definition developed in other professional contexts<sup>21,27</sup> of resilience as a capacity, a process, and an outcome, as compatible with the current understanding of veterinary resilience and a useful basis for further exploration. We agree that resilience is a dynamic and multifaceted *process* in which individuals draw on personal and contextual resources, and utilize specific strategies to navigate challenges and work toward adaptive outcomes.<sup>27</sup> Development of personal resources (e.g., motivation, emotional competence, enabling self-beliefs) and a tool kit of active strategies (e.g., problem solving, help-seeking, mindfulness) can help build capacity for resilience in professional life. Capacity to engage and mobilize contextual resources (e.g., social, collegial, and professional support) is also important, and may be enabled by the organizational culture. Professional outcomes of resilience in the veterinary profession may be evident in sustained engagement, satisfaction, and meaningful fulfillment, as well as well-being. However, given the current paucity of appropriate studies in the veterinary literature, this provisional conception should be re-appraised in the light of future research and scholarship.

In summary, just as we might advocate life balance to our students, we advocate greater balance in research and education in veterinary mental health, and the need to complement approaches oriented to mental health problems with those oriented to well-being and resilience. This is important since the factors contributing to psychological distress and ill health, and the factors contributing to well-being and resilience, are not opposite ends of a uni-dimensional continuum but rather complex complementary phenomena each demanding exploration. We propose that greater educational and research focus on the dynamic, multi-dimensional construct of *resilience* may help to develop this balance.

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