

Relationship of Occupational Stress on Emotional and Physical Health in Veterinary Technicians

by

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Abstract

Veterinary technicians experience unique workplace stressors that result in physical and emotional health issues. Research in understanding these problems in this unique group is sparse or not generalizable. This cross-sectional online survey aimed to investigate the relationship between veterinary technician occupational stress and corresponding emotional and physical health throughout an entire Southern California county. A volunteer sample of 122 licensed veterinary premises were recruited in a Southern California county. A Pearson correlation was performed to answer the research questions and results showed that workplace stress was negatively associated with veterinary technician physical health and emotional health. On this basis, it is recommended that additional research be taken to further understand the relationship between workplace stress and physical health in this unique group. Moreover, the creation of health instruments appropriate to the veterinary field should be undertaken.

Key words: Veterinary technician, stress, occupational, emotional health, physical health

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Introduction

Stress at Work: An Overview

While not every manifestation of stress is harmful, workplace stress can cause detrimental physical, psychological, and behavioral problems (Department of Health and Human Services [HHS], 2020). Psychological symptoms of workplace stress include depression, anxiety, irritability, feelings of being unable to cope, and cognitive difficulties, while behavioral symptoms include aggression, mood swings, increased absenteeism, isolation, and drops in work performance (HHS, 2020). Stress in the workplace is caused by various events, such as long hours, heavy workload, job insecurity, over-supervision, lack of resources, harassment, insufficient pay, and incongruency between workplace and personal values (HHS, 2020; LeBlanc & Marques, 2019). Some professions are inherently more stressful than others, particularly those that involve quick decision-making that can have severe financial, social, or other impacts (Koinis et al., 2015). Mental health problems especially affect workers whose mental acuity and creativity are vital to the job (Goetzel et al., 2018). Healthcare professionals are responsible for the lives of others, and their actions have severe repercussions on patients; thus, they are more prone to stress and burnout at higher rates than other occupations (Koinis et al., 2015).

The workplace can be a vital contributor to high healthcare costs and poor health outcomes in the United States as stress has a direct effect on mental and physical health (Goh, Pfeffer, & Zenios, 2015). Healthcare costs are not just an issue of public policy but also have substantial financial implications for employers (Goh, Pfeffer, & Zenios, 2015). Workplace stress-related problems, such as high demands at work, lack of insurance, and work-family conflict, cause over 120,000 deaths annually and cost \$190 billion in health care costs every year

(Center for Workplace Mental Health, n.d.). Almost 90% of health expenditures in the U.S. are from people with mental health issues and chronic diseases (Office of Disease Prevention and Health Promotion [ODPHP], 2020), and almost 25% of employed adults in the U.S. adults suffer from anxiety or mood disorders (Buttorff, Ruder, & Bauman, 2017). When employees receive adequate treatment for health issues, medical costs are lower, productivity increases, and absenteeism decreases (Center for Workplace Mental Health, 2020).

Workplace stress has been shown to affect over 60% of Americans (American Psychological Association [APA], 2017; 2019b). In fact, it has remained a national priority as well as occupational and safety goal of Healthy People for over two decades (ODPHP, 2020). Workplace wellness programs are encouraged by the Center of Disease Control and Prevention (CDC) and other government agencies (U.S. Office of Personnel Management, n.d.).

Human hospitals are the industry with the highest percentage of physical activity, nutrition, and weight management workplace programs (CDC, 2017). Employers can take measures to improve employee health by engaging in managerial practices that can mitigate work stressors (Goh, Pfeffer, & Zenios, 2015). Mental health, wellness, and physical promotion programs, however, are not required in the workplace (Black, 2017). Indeed, less than 26% of all employers in the U.S. offer health risk assessments to employees, and less than 50% of all employers offer any worksite health or wellness program; this percentage is even smaller for companies with fewer than 100 employees (CDC, 2017).

Occupational Stress and Mental Health

When people suffer from mental illnesses, other dimensions of health are affected, diminishing the ability of individuals to perform at their optimal level while at work (Goetzel et al, 2018). Among employed adults, anxiety, substance abuse disorders, and depression are the

most common mental health issues (Goetzel et al.,2018; NIMH, 2019). Since half of these employed workers do not receive the mental health care services they need, they develop additional physical and social impairments, including alcoholism or other addictive behaviors (Goetzel et al., 2018; World Health Organization [WHO], 2019). Indirect costs of mental illness in the workplace include increased rates of disability, safety incidents, absenteeism, underperformance, stress imposed on other team members, and hiring costs (Goetzel et al., 2018; Kowlessar et al., 2011). Among health care workers, common mental health work stressors are emotional exhaustion and burnout, which is inevitable in high patient-to-nurse settings (Cimiotti et al., 2008). Aiken and colleagues (2002) found in their cross-sectional study that each additional patient per nurse was associated with a 23% increase in burnout and 15% decrease in job satisfaction.

A workplace study on healthcare costs and physical and mental health by Goetzel and colleagues (2012) attempted to update and refine the issues found in the Health Enhancement Research Organization (HERO) study from the late 1990s. While the purpose of the original HERO study was to quantify the financial consequences of having workers with elevated health risks detected through a health risk assessment, the more recent study reported on the economic impacts of 10 modifiable health risk factors commonly found in a working population. Goetzel and colleagues reported that employees with depression were almost 50% more expensive (\$2,184 in higher costs) than those not at-risk and workers with high stress were almost 10% more costly (\$413 in higher costs). The authors found that almost a quarter of healthcare costs were due to the risk factors measured in the study. Both the original HERO study and the updated study found that depression was the most important predictor of higher health costs and high stress had a lesser, but still significant, relationship to health costs (Goetzel et al., 2012).

Occupational Stress and Physical Effects

Physical symptoms of workplace stress include fatigue, muscle tension, headaches, heart palpitations, dermatology disorders, and gastrointestinal upsets (HHS, 2020). But consistent, chronic exposure to stress can cause detrimental physical effects that harm coworkers and patients. Indeed, studies have suggested healthcare professionals consistently exposed to work stress are more likely to cause adverse outcomes in patients ranging from medical errors, falls, increased infections, and death from complications of care (Cimiotti et al., 2008).

Supporting this finding was Aiken and colleagues' (2002) study evaluating nurse staffing and patient mortality in Pennsylvania hospitals. The study found that each additional patient given to a nurse had a 7% increased likelihood of dying within the first 30 days of a major complication not present on admission. Aiken and colleagues (2018) also found in their study of South American hospitals that every one additional patient added to a nurse's workload was positively associated with an almost 10% increase in readmissions for patients with pneumonia and heart failure and over 11% readmissions in hospitalized children, thus unnecessarily adding to the cost of care. Nurses in the same study also reported being unable to complete discharge planning and patient education due to the high patient load (Aiken et al., 2018).

Job stress has the likelihood of inducing risky behaviors, such as smoking and drug and alcohol abuse, while discouraging healthy behaviors, such as physical activity and proper diet (Azagba & Sharef, 2011). In fact, the findings from the National Health Interview Survey showed that almost 40% of employed adults in the U.S. are overweight and an additional 30% are obese (CDC, 2017; Fryar et al., 2018). In their study, Goetzel and colleagues (2012) also found that employees with high blood pressure, diabetes, and other chronic diseases were

associated with an almost 30% increase in employer healthcare costs compared to a 21% increase in “healthy” or “normal” employees in the original HERO study.

Registered Veterinary Technicians

Almost 70% of Americans own a cat, dog, bird, or horse (American Pet Products Association, 2019; AVMA, 2020a), while spending almost \$30 billion annually on veterinary services (American Pet Products Association, 2019). With the demand for veterinary services and increases in pet spending comes the demand for veterinarians and veterinary technicians to take care of these non-human family members (Bureau of Labor Statistics, 2019b).

In California, registered veterinary technicians (RVTs) and non-licensed veterinary technicians (veterinary assistants) are often referred to as animal nurses since they care for animal patients the way nurses care for humans (Kasper & Crosby, 2003). RVTs also play a crucial role in the human-animal relationship as they often are an owner’s first point of contact, spending more time with people and their animals than the veterinarian (Kasper & Crosby, 2003). Unlike their human counterparts, however, RVTs’ responsibilities extend beyond nursing, combining numerous roles into one occupation (Kasper & Crosby, 2003; Macedo et al., 2018).

The American Veterinary Medical Association (AVMA, 2020b) state that the process of being licensed as an RVT is similar to that of other medical professions, requiring an associate or bachelor degree in veterinary technology from an accredited program, obtaining practicum or externship hours, and successfully passing the Veterinary Technician National Licensing Exam (VTNE). While human and veterinary medicine are linked, crucial differences exist between the two. RVTs take care of patients of different species that cannot physically speak, and technicians are given the ability to perform euthanasia in animals who are ill, have behavior issues, or are unwanted (Rohlf, 2018).

Technicians are licensed to work in a variety of veterinary settings, such as in emergency, specialty, or research facilities as well as shelters, teaching hospitals, or a mixed practice, and with a variety of animals, such as with companion animals, large animals, and exotic animals (Kasper & Crosby, 2003). The RVT's primary role is to provide expert, skilled medical assistance to a veterinarian and/or an animal (Kasper & Crosby, 2003; AVMA, 2020b). Besides general nursing, RVTs administer and monitor anesthesia, take radiographs, perform dental prophylaxis and extractions, help with rehabilitation, monitor surgical procedures, discuss prescriptions with clients, and process and interpret laboratory tests (Kasper & Crosby, 2003). Under the supervision of a licensed veterinarian, California-licensed RVTs have the legal ability to perform euthanasia and handle controlled drugs, place catheters, suture sub- and cutaneous tissues and membranes, and enact external cardiac resuscitation (Department of Consumer Affairs, 2020). Most RVTs supervise and train other animal-care workers and entry-level technicians (Kasper & Crosby, 2003). In many veterinary settings there are no RVTs present; thus, at these veterinary premises the veterinary assistants perform the same roles as RVTs.

The Bureau of Labor Statistics (BLS) projects employment in the veterinary technician profession to increase over 20% in the next decade (as cited in the Employment Development Department, 2020), which is higher than all other veterinary occupations (Ilic-Godfrey, 2019). In 2019, there were about 9,500 RVTs employed in California, more than any other state, and California technicians make the fourth-highest salary of all veterinary technicians in the U.S. (BLS, 2018). Further, almost 1,000 RVTs work in the Inland Empire Counties of Riverside and San Bernardino (BLS, 2018), making an annual mean wage of \$30,929 and having an hourly wage of \$14.87 (EDD, 2019). Technicians in these counties make the lowest income out of all the counties in California (EDD, 2019). In comparison, registered nurses (RNs), which is the

occupation most similar (EDD, 2020), employed in the Inland Empire counties make an annual salary of about \$106,000 (BLS, 2020b). As another comparison, it was reported on the U.S. Census that the average income for a Riverside County resident was \$64,000 (Census, 2018), and the average person working in Riverside County made an hourly wage of \$23.60 (BLS, 2018b).

Occupational Stress among RVTs

Working with a variety of patient species comes the variety of risks, including getting bitten, scratched, or crushed; accidental needle sticks (Arluke, 1991); exposure to zoonotic diseases (Kasper & Crosby, 2003; see also Foster, 2011); confrontations with impatient or noncompliant owners; disagreements with coworkers or veterinarians (Kasper & Crosby, 2003); exposure to chemicals and anesthetics (Fowler et al., 2016); dissonance with euthanizing healthy animals (Rohlf, 2018); musculoskeletal disorders (Foster, 2011; Rohlf, 2018); and exposure to consistent animal abuse and neglect cases (Rohlf, 2018). The National Institute for Occupational Safety and Health (NIOSH, 2018) listed veterinary services as second in incidence rates for non-fatal occupational injuries and illnesses. Additional occupational risks for veterinary technicians in America are overlooked compared to human medicine (Hanrahan et al., 2018), and no research has evaluated occupational stress or the physical and mental health status of Southern California veterinary technicians. Moreover, it is unknown what percent of veterinary settings in the U.S. offer any form of workplace wellness programs.

RVTs and Compassion Fatigue

Figley and Roop (1991) described compassion fatigue in the veterinary setting as a form of post-traumatic stress disorder since working every day with suffering animals and owners takes a toll on those employees who dispense compassion and empathy. Individuals seeking a

career in a veterinary setting view themselves as “animal people,” expecting to spend much of their time having hands-on contact with animals in a setting where others share the same high priority of human-animal interaction (Arluke, 1991; Rohlf & Bennett, 2005). This is especially noteworthy and creates a risk factor for technicians as research has found that individuals who are the most caring and empathetic towards others are most at-risk for compassion fatigue (Lloyd & Campion, 2017).

Studies have suggested that exposure to animals has short-term health benefits, such as reducing stress and loneliness (Wells, 2009). Ironically, available evidence suggest that animal care workers are consistently subject to moral stress, a form of stress resulting from a behavior that conflicts with what one believes ought to be done (Crane et al., 2015), including burnout (Hayes, 2019) and compassion fatigue (Hill et al., 2020). Taking care of one’s mental and physical health is just as important as taking care of patients’ health (Lloyd & Campion, 2017); therefore, the health of veterinary technicians is an avenue that should be further explored.

Animal workers are also exposed to factors not present in human caring professions such as nursing (Hill et al., 2020). In California, there are over 550 animal shelters or humane societies, and in Riverside County over 13,000 animals were euthanized in 2019 (ShelterAnimalsCount, 2019). Frequently, this unfortunate duty falls into the hands of technicians and shelter workers (Reeve et al., 2005).

Many technicians also face demands for convenience euthanasia, which is when there is no health or behavior reason for an animal to be euthanized as well as instances where owners are unwilling to euthanize suffering animals (Hill et al., 2020). The “caring-killing paradox” is also a unique factor experienced by veterinary professionals who attempt to provide care and protection to animals, and often form attachments to their patients yet are called to euthanize

(Hill et al., 2020; Reeve et al., 2005). This form of “moral stress” causes technicians to be faced with a contradiction of their ideal occupational selves and the reality of having to perform convenience euthanasias (Reeve et al., 2005).

A study by Reeve and colleagues in 2005 found that veterinary professionals’ euthanasia-related stress was related to work-to-family conflict and decreased job satisfaction. However, employees who viewed euthanasia as necessary and acceptable had less strain, and the overall results were not correlated to substance abuse (Reeve et al., 2005). Due to lack of government and state funding for animal services, continual abandonment and mistreatment of animals, and “backyard breeding,” euthanasia in healthy animals is unlikely to decrease; thus, technicians remain an at-risk population for euthanasia-related strain (Reeve et al., 2005).

The National Association of Veterinary Technicians in America (NAVTA) attempted to look at the current state of the veterinary technician profession in its 2016 survey of technician members. Interestingly, the survey results suggested that well-paid technicians are only slightly above the poverty line once income taxes are considered. The survey also reported that the top six most significant problems RVTs face include low income, burnout, lack of recognition and career advancement, the underutilization of skills, and competition with on-the-job trained technicians. Despite providing valuable information on technicians, this survey had low external validity as it only reported data on members who were part of the NAVTA organization. The NAVTA is an optional paid membership organization for anyone interested in the veterinary profession (NAVTA, 2019).

Hill’s and colleagues’ study (2020) measured compassion fatigue and burnout in various animal care workers (technicians, veterinarians, animal control officers). The study found that compassion fatigue did not vary among the three occupations, but burnout was more prevalent in

technicians than veterinarians or animal control officers. The study also suggested that compassion fatigue increased with reported stress from euthanasias, frequency of working with cruelty and neglect cases, and a higher number of hours worked per week (Hill et al., 2020). The study, however, recruited participants through veterinary organizations where participants paid for membership; thus, it is not representative of the technician population.

RVTs and Burnout

In one cross-sectional study of four Australian veterinary specialty teaching hospitals, an interesting occupational stressor was found in the technicians: burnout (Hayes et al., 2019). Like in human medical professions, burnout among veterinary technicians can increase absenteeism and affect working standards, directly impacting patient care (Lloyd & Campion, 2017). Hayes and colleagues (2019) evaluated the relationships between burnout and resilience, self-reported medical error, and depression in veterinary technicians employed in specialty teaching hospitals in Canada. The study discovered that medical errors were positively associated with burnout and negatively associated with resilience. Workload, schedule, and interpersonal relationships had the highest explanatory power on the burnout scale, while patient load and unavailable assistance during increased workloads had the strongest associations on the burnout subscales. The findings of this study suggested that burnout in technicians has a cascade effect, causing depression, career changes, and decreasing hospital care quality while increasing staff costs (Hayes et al., 2019).

Purpose of Study

Individuals who are the most caring and empathetic towards others have a higher risk of experiencing occupational stress when confronted with psychologically demanding workplace roles and environments (Lloyd & Campion, 2017). Occupational stress and its effects on

Southern California veterinary technicians' emotional health and physical health is an understudied area that needs attention as veterinary support staff perform the same (and more) tasks as RNs (Kasper & Crosby, 2003). Many veterinary settings do not employ RVTs due to cost, turnover, or sparsity; thus, in these instances the veterinary assistants perform the roles of an RVT and are subject to the same stressors as technicians. For this study, RVTs and veterinary assistants were classified as technicians and are evaluated as one entity.

Despite existing educational research and studies about veterinary technicians, many of the studies were performed in other countries or other states using convenience sampling or recruitment through national organizations that most technicians are not members of, making external validity low. Further, a significant limitation in addressing the occupational stressors in veterinary technicians is the inability of some veterinary premises to implement workplace health interventions addressing workplace stress, either due to finances, lack of recommendations, little education on how to do so, or lack of appropriate staff. Previous studies have demonstrated that employees in similar environments experience high levels of stress and adverse health outcomes (Cordioli et al., 2019; Foster, 2011; Galdikiene et al., 2019). There have not been any studies evaluating the relationships between work stress and the physical and emotional health of veterinary technicians and assistants in Southern California.

The purpose of the present study was to evaluate the relationship between occupational stress among veterinary technicians and their emotional health and physical health. The goal of the study was to determine the severity that workplace stress causes on the emotional and physical health of these essential, yet often overlooked, workers.

Research Questions

The study answered two questions:

1. Is there a relationship between occupational stress and emotional health among veterinary technicians?
2. Is there a relationship between occupational stress and the physical health of veterinary technicians?

Hypotheses

The hypothesis for Question 1 was that there would be a significant relationship between emotional health (independent variable) and occupational stress (dependent variable) among veterinary technicians. The hypothesis for Question 2 was that there would be a significant relationship between the physical health (independent variable) and occupational stress (dependent variable) among veterinary technicians.

Method

Design

This study utilized a cross-sectional self-administered online survey to examine the relationship between stress and emotional and physical health of Riverside County veterinary technicians. The survey was divided into two sections with the first part of the survey containing 34 questions adapted from the Nursing Stress Scale (NSS) (Gray-Toft & Anderson, 1981) and 36 questions from the Medical Outcomes Study Short-Form 36 Health Survey (SF-36) (Ware & Sherbourne, 1992; Ware et al., 1993). The NSS is composed of 34 items broken into seven sections that describe situations that have been identified as stressful for nurses in the performance of their duties (Gray-Toft & Anderson, 1981). The SF-36 is a multi-item scale composed of 36 questions covering eight constructs of physical and mental functioning (Ware & Sherbourne, 1992). The second section contained 20 questions pertaining to demographics and finances. The online survey contained a total of 90 questions. Using G*Power software, an effect size of 0.30, power of 0.80, and an alpha of 0.05, the minimum required sample size for the study was 84.

Procedures

The data for the research study was collected from May 8, 2020 to June 26, 2020 using Qualtrics® online survey software. The mean time to complete the survey was 33.58 minutes ($SD = 87.84$). Veterinary settings and contact information were located online, and locations were emailed and faxed the survey flyer from May 1 to May 15, 2020, and then again from June 12 to June 19, 2020. The survey data collection period concluded June 26. Follow-up calls were made to veterinary premises between these time periods to confirm email and/or faxed flyer was received and to answer questions about the survey. Ten locations within six Riverside County

cities that had no survey participation (as based on the zip code responses on the demographics section of the survey) were visited in-person and the technicians were given copies of the flyer and snacks to encourage completion of the survey. On the promotional flyers and emails, participants were encouraged to fill out the survey and leave their email or phone number to be entered into a weekly raffle of two \$25.00 gift cards (see Appendix D for promotion flyer). The option for technicians to submit contact for a weekly raffle was presented at the end of the survey. A total of \$350.00 was awarded to participants who left their contact information for the weekly raffle.

This study was approved by the Institutional Review Board (IRB) at California Baptist University under full-board review on April 30, 2020 (see Appendix C). Upon accessing the survey, participant consent was obtained and agreement to participate in the study was required before the survey questions would appear (see Appendix E). Through the consent process, participants were informed that they could decline to answer any question or exit the survey at any time without penalty. The survey had to be completed in one sitting. Surveys that had incomplete responses (i.e., started but not finished) were automatically recorded by Qualtrics 24 hours from when the survey was accessed.

Participants

To be included in the study, participants had to be an RVT or non-licensed veterinary technician (“veterinary assistant”), be over 18 years of age, currently employed in a Riverside County veterinary setting, and have a phone or computer with internet access. Participants for this study were registered veterinary technicians (RVTs) and veterinary assistants employed at Riverside County veterinary premises. Since veterinary assistants perform many, if not all the duties of an RVT due to lack of employed RVTs in some settings, both assistant and technician

responses were analyzed as one entity referred to as “technicians,” and all participants were referred to as just “technicians” unless otherwise stated. One-hundred two attempts were recorded, but 96 filled out the survey for a response rate of 94.11%.

It was unknown the number of veterinary support staff (RVT and assistants) who work in Riverside County since it was possible that technicians licensed in one county may work in a different city or county. However, it was assumed that veterinary premises employ RVTs, assistants, or both. Therefore, in order to find technicians and assistants working specifically in Riverside County veterinary settings, veterinary premises with a current license to practice veterinary medicine were found using the Veterinary Medical Board website. A total of 155 Riverside County veterinary settings had current active licenses as listed on the California Veterinary Medical Board website in May 2020. All 155 offices were contacted to solicit participation in the survey. Out of these veterinary clinics that were contacted, three refused to participate, 17 were unable to be contacted, and 13 stated they did not employ any technicians or assistants. Thus, a total of 122 veterinary premises employed technicians and/or assistants were eligible for the survey.

Measures

The online survey began with the NSS followed by the SF-36 and concluded with demographic questions. The demographic section of the survey included 20 questions. The NSS is composed of 34 items broken into seven sections that describe frequency and intensity of situations that have been identified as causing stress for nurses in the performance of their duties (Gray-Toft & Anderson, 1981). In this project, the term “nurse” was replaced with “technician.”

Total scores for the NSS can be from 0 to 102, and higher scores indicate more frequent stress (Gray-Toft & Anderson, 1981). Four Likert response categories are provided for each

item: Never (0), Occasionally (1), Frequently (2), and Very Frequently (3) (Gray-Toft & Anderson, 1981). This scale provides a total stress score and scores on each of the seven subscales that measure the frequency of stress experienced by RNs in the hospital environment (Gray-Toft & Anderson, 1981). The NSS scale is composed of seven factors: I: Death and Dying (seven questions); II: Conflict with Physicians (five questions); III: Inadequate Preparation to Deal with the Emotional Needs of Patients and Their Families (three questions); IV: Lack of Support (three questions); V: Conflict with Other Nurses (five questions); VI: Work Load (six questions); and VII: Uncertainty Concerning Treatment (five questions) (Gray-Toft & Anderson, 1981).

The seven factors of the NSS are further broken down into three types of workplace environments: Physical, Psychological, and Social. The Physical Environment includes Factor VI which involves stressful situations that arise from a nurse's work load, staffing problems, and inadequate time to complete nursing tasks (Gray-Toft & Anderson, 1981). The Psychological Environment employs Factors I, III, IV, and VII, which involves stressful situations resulting from suffering and death of patients, a nurse's attempts to meet the emotional needs of patients and their families, and the extent of opportunities to share experiences with other staff (Gray-Toft & Anderson, 1981). The Social Environment involves Factors II and V and includes stressful situations that arise from a nurse's interactions with physicians and conflictual situations that arise between nurses and supervisors (Gray-Toft & Anderson, 1981).

A total score that measures the overall frequency of stress experienced by a nurse can be created by adding the individual's responses to all 34 items (Gray-Toft & Anderson, 1981). To score the survey, individual item responses are added together for groups of items and all 34 items to obtain subscale scores and the total score, respectively (Gray-Toft & Anderson, 1981).

Higher scores indicate the respondent identifies a situation as stressful. There are no specific cut scores or published mean norms for the NSS that determine whether an individual is stressed or not (AbuRuz, 2014).

In this study, the original NSS instructions and certain words and statements were rephrased to be more appropriate for veterinary technicians. Also, the question “How often do you find yourself stressed” was inserted before each question on the NSS portion of the survey. Sensitivity and specificity for the NSS ranged from 0.79 to 0.89 (Gray-Toft & Anderson, 1981; see also Foster, 2011; French et al., 2000). The test-retest coefficient for the total scale was 0.81 (Gray-Toft & Anderson, 1981). The Cronbach alpha for the total scale was 0.89 (French et al., 2000).

The Medical Outcomes Study (MOS) Short-Form 36 Health Survey (SF-36) (Ware et al., 1993; Ware & Sherbourne, 1992) section followed immediately after the NSS section on the survey. The SF-36 is a multi-item scale composed of 36 questions measuring eight health concepts: (1) Physical Functioning (PF); (2) Role Limitations due to Physical Health Problems (RP); (3) Bodily Pain (BP); (4) General Health Perceptions (GH); (5) Vitality (VT; energy/fatigue); (6) Social-Functioning (SF); (7) Role Limitations due to Emotional Health Problems (RE); and (8) Emotional Well-Being (MH; psychological distress and well-being) (Ware et al., 1993). Ware noted an additional health rating item, Reported Health Transition, which asks respondents their perceived amount of change in their health in a one-year period. Despite this question being asked on the Vet Tech Survey, this question is not used to score any of the other multi-item scales (Ware et al., 1993).

The SF-36 responses are captured using a Likert-type scale ranging from two to six choices depending on the question. The SF-36 is scored so that a higher score indicates a better

health state (Ware et al., 1993), with the highest score being 100, or the most favorable health state (McHorney et al., 1994; RAND Health Care, 2020). Twenty-five questions were reverse-scored to ensure that a higher number indicated better health on all SF-36 items and scales (Ware et al., 1993). Items and scales are scored in three steps: (1) item recoding for the 10 items that require recoding; (2) computing scale scores by summing across items in the same scale (raw scale scores); and (3) transforming raw scale scores to a 0-100 score (transformed scale score) (Ware et al., 1993). Reliability and internal consistency (Cronbach's alpha) of the SF-36 has been reported as ranging from 0.73 to 0.96 with a median of 0.95 (Ware et al., 1993). Test-retest reliability has been reported as 0.60 to 0.92 (Ware et al., 1993). Ware and colleagues (1993) tested the SF-36 to be successful for content and construct validity.

Independent and Dependent Variables

The first research question sought to determine if there was a relationship between occupational stress and emotional health among veterinary technicians. For this question, the independent variable was occupational stress and the dependent variable was emotional health. The second research question sought to determine if there was a relationship between occupational stress and physical health among veterinary technicians. In this question, the independent variable was occupational stress and the dependent variable was physical health.

For both research questions, the independent variable workplace stress was measured by the NSS as a total score. As previously discussed, the total score for the NSS can range from 0 to 102 with higher scores indicating more frequent stress (Gray-Toft & Anderson, 1981). For the first research question, the dependent variable of emotional health was measured by the subscale Emotional Well-Being (MH) of the SF-36. This subscale contains items from the four major

mental health dimensions of anxiety, depression, loss of behavior/emotional control, and psychological well-being (Ware et al., 1993).

The MH subscale contains five questions arranged on a Likert scale with six responses numbered from 1 to 6. A response of 1 indicates the individual agrees with the statement “All of the time” in the past 4 weeks, while a response of 6 indicates that the respondent agrees with the statement “None of the time.” This subscale has two questions that are reverse scored so that a lower numbered response indicates a more favorable emotional outcome and thus a higher score, i.e., a response of 1 is recoded to a score of 100, a response of 2 is recoded to a score of 80, a response of 3 is recoded to a score of 60, a response of 4 is recoded to a score of 40, a response of 5 is recoded to a score of 20, and a response of 6 is recoded to a score of 0. One of these questions is, “How much time during the past four weeks have you felt calm and peaceful?”

The other three questions are recoded as well, so that a higher-numbered response indicates a more favorable emotional outcome (and thus a higher score) i.e., response of 1 is recoded to a score of 0, a response of 2 is recoded to a score of 20, a response of 3 is recoded to a score of 40, a response of 4 is recoded to a score of 60, and a response of 5 is recoded to a score of 100 (RAND, 2020). A sample question includes “How much of the time during the past 4 weeks have you felt so down in the dumps that nothing could cheer you up?” A high score on the MH subscale refers to being peaceful, happy, and calm all of the time (Ware et al., 1993). Conversely, the lowest possible score means the individual has feelings of nervousness and depression all of the time (Ware et al., 1993).

For the second research question, the dependent variable of physical health was measured by the subscale Physical Functioning (PF) of the SF-36. The PF subscale contains 10 items arranged on a Likert scale with three responses from 1 to 3. A response of 1 indicates the person

feels “Limited a lot” in certain daily activities, while a response of 3 indicates the person feels “No, not limited at all.” A sample question from this subscale is, “Does your health now limit you in these activities? If so, how much? Vigorous activities such as running, lifting heavy objects, participating in strenuous sports.” This subscale is recoded so that a higher response indicates a higher score (i.e., a response of 1 is recoded to a score of 0, a response of 2 is recoded to a score of 50, and a response of 3 is recoded to a score of 100). For both dependent variables of emotional health and physical health, SF-36 items are scored from 0 to 100 so that so that a high score defines a more favorable health state (RAND, 2020).

The highest score on the PF subscale refers to the person being able to perform all types of physical activities, including the most vigorous, without limitations due to health, while the lowest score refers to being limited a lot in performing all physical activities due to health (Ware et al., 1993).

Data Analysis

To answer both research questions a Pearson correlation was used to compare the linear relationship between workplace stress to emotional health and workplace stress to physical health of veterinary technicians. The first research question evaluated the relationship between overall workplace stress (NSS total score) and the SF-36 subscale of MH. The second research question examined the relationship between the NSS total score and the SF-36 subscale of PF.

Results

Demographic Information

Out of 102 individuals who logged onto Qualtrics to take the survey, 96 answered for a response rate of 94.1%. The majority of respondents were Hispanic (48.3%), were female (90.8%), worked in primary care (38.6%), were RVTs (47.1%), and worked nine to ten hours per shift (50.6%). Only 35% (35.2%) of participants responded that their employer offered mental and/or physical health programs. See Table 1 for complete details of demographics for this population.

Major Findings

In this study, the mean and standard deviation for the Physical Functioning (PF) subscale from the SF-36 were 83.32 and 19.74, respectively ($n = 89$). This score suggests that technicians are able to perform all types of physical activities, including the most vigorous, without any limitations due to health. Mean and standard deviation for the Emotional Well-Being (MH) subscale from the SF-36 were 61.91 and 23.61, respectively ($n=89$), suggesting that technicians have moderate psychological distress and feelings of nervousness and depression. Additionally, the mean score for the NSS in this study was 42.01 ($SD=17.25$, $n=96$). This score suggests that technicians experience moderately low levels of stress in the workplace.

Research Question #1

The first research question investigated the potential association between occupational stress and emotional health among veterinary technicians. A Pearson correlation was used to test for the relationship between overall occupational stress (NSS total score) and emotional health among veterinary technicians (SF-36 subscale of MH). A weak, negative but significant correlation was found ($r(87) = -.256$, $p=0.015$). Workplace stress is associated with emotional

health; as overall occupational stress among veterinary technicians increases, emotional health decreases. See Table 2 for the correlation table.

Research Question #2

The second research question explored the association between occupational stress and physical health among veterinary technicians. A Pearson correlation was used to test for the relationship between overall workplace stress and physical health in veterinary technicians (SF-36 subscale of PF). A weak, negative but significant correlation between the two factors was found ($r(87) = -.281, p = .008$). Overall, workplace stress is associated with physical health; as workplace stress increases, physical health decreases. See Table 2 for the correlation table.

Discussion

Summary of Major Findings

The purpose of this study was to evaluate the relationship between workplace stress and emotional and physical health of veterinary technicians and assistants throughout a county. This cross-sectional study found that there was a weak, negative but significant relationship between overall workplace stress and emotional health among veterinary technicians ($r(87) = -.281, p = .008$). This discovery is similar to previous studies concerning veterinary support staff and human nurses that found workplace stressors cause increased levels of psychological distress (Black et al., 2011; Jennings, 2008; Rohlf, 2018). However, this study did not assess the individual workplace stress factors that influence veterinary technicians' emotional health. Without additional statistical analyses, it is unclear which occupational stress factors influence the emotional well-being of participants.

Similarly, this study also found a weak, negative but significant relationship between workplace stress and physical functioning among veterinary technicians ($r(87) = -.256, p = 0.015$). This finding aligns with previous studies that showed that increases in workplace stress negatively affect physical health (Dooley et al., 2020; Mayo Clinic, 2019; Office on Women's Health, 2019). This finding also confirms prior research showing relationships between increased workplace stress and negative physical health in veterinary technicians or human nurses (Hammig, 2020; Sarafis et al., 2016). While the current study revealed a significant relationship between technician workplace stress and physical functioning, over 75% of participants were between the ages of 18 and 34. Additionally, the majority of participants worked at their current employer for one to two years and scored relatively high on the physical functioning subscale.

These findings may imply a younger workforce with relatively low physical health constraints and thus display a weak relationship between overall stress and physical functioning.

An additional, interesting conclusion in this study was that veterinary technicians experience moderately low levels of stress in the workplace despite the unique stressors (e.g., euthanasia, abandonment) that technicians face every day. This discovery is similar to prior findings evaluating occupational stress and veterinary support staff (Foster, 2011; Rohlf & Bennet, 2005). Additionally, the lower levels of stress experienced by veterinary technicians and assistants in this study are comparable to the moderately low levels of stress found in recent studies on RNs (Zavalis et al., 2019). Such conclusions in the human medical field can be explained by the fact that over 70% of human healthcare and hospital settings are given more opportunities for workplace wellness and stress reduction through various programs (particularly physical activity, work-life, and comprehensive program elements) as compared to the veterinary field (Linnan et al., 2019).

However, unlike Foster's (2011) research, this study's population scored higher on both emotional well-being and physical functioning subscales. This can likely be explained by the fact that Foster's study was performed in a different state and climate (i.e., a southern state) which have been shown to have poorer health outcomes (Agency for Healthcare Research and Quality [AHRQ], 2017; United Way of Central Alabama, 2020). Furthermore, Foster labeled "high stress" for the NSS as 31, while the authors of the NSS stated that higher scores closer to 102 indicate higher stress (the authors do not list a cutoff score for what is deemed "higher" or "lower" stress levels). Thus, the overall stress score is open to interpretation of what is considered high or low. Finally, the veterinary support staff population chosen by Foster was a sample that included only those who were members of the national veterinary technician

organization AVTA. That sample may not be representative or generalizable of the entire technician workforce since AVTA is an optional, paid membership organization with annual dues that may not be affordable by many technicians.

Even so, this study's findings are not parallel to a study conducted by the authors of the NSS scale who found nurses employed in all areas of the human hospital setting experience higher levels of workplace stress (Gray-Toft & Anderson, 1981). This discrepancy can be explained by the study having been performed over 30 years ago; since then, there have been improvements in workplace stress interventions, additions to organizational support, and advancements in medical technology that have made workplace stress easier to manage (Hersch et al., 2016; Jennings, 2008). Additionally, the recent COVID-19 pandemic has likely increased the levels of stress experienced by RNs and other employees in human health fields. It is therefore probable that current studies evaluating stress experienced between human and animal medical staff are unique and cannot be compared.

Study Strengths

The strengths of the study include the use of reliable and valid scales. The SF-36 has been utilized in different countries and healthcare settings measuring health-related quality of life (HRQL) (Obidoa et al., 2010). Application of the instrument in clinical practice, policy evaluations, and health intervention evaluations have demonstrated it to be a relatively stable metric when used in a healthy population over moderate time periods (Obidoa et al., 2010). The SF-36 has also been proven to be a reliable and valid measure for decades, particularly in terms of construct and criterion validity (Jenkinson et al., 1994; Ware et al., 1993).

The NSS has also proven to have high internal consistency and construct and content validity when utilized in different countries and hospital settings, including in the veterinary

profession (Foster, 2011; French et al., 2000; Gray-Toft & Anderson, 1981; McCarthy et al., 2010). A final strength of the study was every veterinary premise in Riverside County was contacted for participation, giving adequate and representative responses from participants of a variety of veterinary settings. To date, no other research has attempted to measure technician and assistant responses at every county-wide veterinary premises.

Study Limitations

There were a few limitations of this study. The use of a cross-sectional survey method in the current study means that causal inferences cannot be drawn. Additionally, the self-administered nature of the survey may have influenced recall bias as some of the survey questions asked respondents to recall stress experiences and specific health issues in the past four weeks. Furthermore, the NSS authors initially designed the instrument for use in research of RNs. Thus, it is possible that the participants (RVTs) in this study did not feel the questions were relatable to their workplace experiences, despite several terms in the NSS being rephrased to be more relatable to the veterinary profession. It is also possible that a more appropriate scale measuring stress to the veterinary profession could have been used.

Voluntary response bias was also a limitation concern, since only those participants who wanted to contribute information or be entered into the weekly raffle may have taken the survey. Finally, the results of this study do not consider previous chronic diseases or mental health problems that may be exacerbated by the demands of the veterinary profession; thus, it is possible that there is a third-variable confounding the relationship between physical and emotional health to workplace stress. An example of such are individuals who have pre-existing medical conditions prior to becoming employed in the veterinary field.

Data collection was met with occasional disdain, which affected participation. One veterinary clinic manager responded to the researcher, “My technicians don’t have time to fill out any survey and I can tell you that they definitely are stressed, so you don’t need a survey to tell you that.” While only three veterinary premises declined to participate in the survey, the technicians from these locations could have provided valuable insight into the survey responses.

Public Health Implications

The results of this study confirmed that workplace stress and physical and emotional health in veterinary technicians and assistants should be studied. Research is required to better understand how outside stress influences RVTs beyond the veterinary setting in order to address the entire health of the individual. Future researchers should utilize implementation of stress or physical activity evidence-based programs in the veterinary setting with experimental and longitudinal studies appraising how stress affects this unique population, particularly over time and among different veterinary premises. Finally, the effect of employee stress on veterinary patient outcomes is poorly understood. Studies are needed to enhance the understanding of stress and emotional health on patient safety (Jennings, 2008), especially in veterinary patients as they do not have the ability to communicate with the medical staff. Therefore, it is difficult to understand the results of technician workplace stress on animal patients’ quality of care or nosocomial infections.

At present, the statistics of veterinary premises that provide workplace wellness programs are unknown; this is a concern, as the Workplace Health in America report stated that less than 48% of all employers in the U.S. offer health promotion or wellness programs (Linnan et al., 2019). Moreover, 65% of the technicians who participated in this study stated that their workplaces did not offer wellness or health promotion programs. Public health policymakers and

health educators should be used in all veterinary settings to develop support in offering a healthy work environment for veterinary employees and provide evidence that that it makes good business sense to provide health programming options (Linnan et al., 2019).

Additionally, novel research comparing stress and health outcomes of nurses to veterinary technicians would be worthwhile in differentiating these comparable groups, thus offering targeted, evidence-based workplace wellness programs to the veterinary profession. Studies have proven that wellness programs in the human medical field have led to healthier employees, improved productivity, saved the employer costs, and are affordable to any company regardless of size as long as they are implemented, designed, and evaluated properly (Goetzel, 2020; Levy & Thorndike, 2019; Linnan et al., 2019).

There is a lack of research in veterinary studies. Moreover, the existent research is not as rigorous as that of human medicine, and thus, full understanding of this population is vague. For example, one systematic review measured technician wellness interventions found improvements in burnout and compassion satisfaction, but these studies were few, outdated, or not rigorous enough for significance (Rohlf, 2018). Therefore, more research is needed.

There is no current valid and reliable scale measuring stress in veterinary technicians and assistants. Given the high level of work-related stress in this population, an important avenue of future research is the development of an assessment of workplace stressors uniquely affecting technicians in order to develop psychological health interventions aimed at improving the well-being of this unique group (Deacon & Brough, 2016). Similarly, it would be appropriate to assess and compare the types of coping strategies used by technicians and nurses in the workplace. Individual differences in personality and resilience may act as protective or possible risk factors for unfavorable stress outcomes (Deacon & Brough, 2016).

Conclusion

Veterinary technicians and assistants make up a significant portion of the veterinary workforce. They are involved in and contribute to many aspects of veterinary medicine and public health. They were in general practices providing preventative care to universities engaged in research (Foster, 2011). Results from this study can be used for workplace policy changes (such as ensuring adequate shift coverage and wellness programs), can encourage potential unionization for technicians' rights in the workplace, and can encourage veterinary nurses to express their needs in the workplace in order for improved emotional and physical health outcomes of patients and employees.

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Appendix A: Demographics

Table 1

Demographics of a sample of veterinary technicians and assistants in a Southern California

County (n=96)

Variable	<i>n</i>	<i>%</i>
Gender		
Male	7	8.0
Female	79	90.8
Prefer not to say	1	1.1
Ethnicity		
White	28	32.2
Black or AA	2	2.3
American Indian/AK Native	3	3.4
Asian	6	6.9
Hispanic	42	48.3
Other	6	6.9
Title		
RVT	41	47.1
Veterinary assistant	32	36.8
Other	14	16.1
Age		
18-24	11	12.5
25-34	56	63.6
35-44	12	13.6
45-54	8	9.1
55+	1	1.1
Education Level		
HS grad	1	1.1
Some college	19	21.6
2-year degree	38	43.2
4-year degree	25	28.4
Other	5	5.7
Net Monthly Income		
Less than \$1,500	16	19.0
\$1,501-\$2,000	22	26.2
\$2,001-\$2,500	21	25.0
\$2,501-\$3,000	13	15.5
\$3,001-\$3,500	9	10.7
More than \$3,501	3	3.6

Appendix B: Descriptive Statistics and Correlations

Table 2

Descriptive Statistics and Correlations for NSS and SF-36 Subscales

Variable	N	M	SD	1	2	3
1.NSS total score ^a	96	42.01	17.35	—	-0.26*	-0.28**
2.SF-36 MH score ^b	89	61.91	23.61	-0.26*	—	0.19
3.SF-36 PF score ^c	89	83.32	19.74	-0.28**	0.19	—

a=Nursing Stress Scale, b=Emotional Well-Being subscale, c=Physical Functioning subscale.
*p=.015 **p=.008

Appendix C: IRB Approval

IRB # 076-1920 FULL Approval

To: Kimberly Nellie Ann Fong; Institutional Review Board
Cc: Lindsay Fahnestock

RE: IRB Review
IRB No.: 076-1920 FULL

Project: Occupational Stress in Veterinary Technicians

Date Complete Application Received: 4/14/2020
Date Final Revision Received: 4/17/2020

Principle Investigator: Ms. Kimberly Fong
Co-PI: N/A
Faculty Advisor: Dr. Lindsay Fahnestock

College/Department: CHS

IRB Determination: Full Proposal **Approved** – Faculty research using anonymous survey questionnaires; no minor participants; no more than minimal risk/risk appropriately mitigated; no deception utilized; acceptable consent procedures and documentation, acceptable data protection procedures. Data collection may begin, in accordance with the final submitted documents and approved protocol.

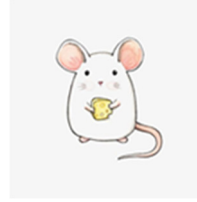
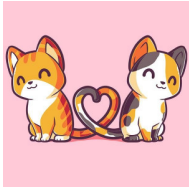
Future Correspondence: All future correspondence about this project must include all PIs, Co-PIs, and Faculty Advisors (as relevant) and reference the assigned IRB number.

Approval Information: (Expiration: Full Review Only) Approval is granted for one year from date below. If you would like to continue research activities beyond that date, you are responsible for submitting a Research Renewal Request with enough time for that request to be reviewed and approved prior to the expiration of the project. In the case of an unforeseen risk/adverse experience, please report this to the IRB immediately using the appropriate forms. Requests for a change to protocol must be submitted for IRB review and approved prior to implementation. At the completion of the project, you are to submit a Research Closure Form.

Researcher Responsibilities: The researcher is responsible for ensuring that the research is conducted in the manner outlined in the IRB application and that all reporting requirements are met. Please refer to this approval and to the IRB handbook for more information.

Date: 4/30/2020

Appendix D: Survey Recruitment Flyer



ALL RIVERSIDE COUNTY VET TECHS NEEDED FOR RESEARCH STUDY!!

This hospital's **Registered Veterinary Technicians AND non-registered veterinary technicians** are being invited to participate in a research study conducted by Kim Fong, RVT (Master of Public Health student) from the Department of Public Health Sciences at California Baptist University (CBU) under the supervision of Dr. Lindsay Fahnestock (Assistant Professor of Health Sciences at California Baptist University).

The **ONLINE** survey should take about 15 minutes to complete & is available at

<https://tinyurl.com/Vet-Tech-Survey>

from **NOW** until **June 26, 2020 at 11:59 pm.**

I will visit your hospital during the next few weeks to promote the survey and to answer questions!

PURPOSE: This study will look at the connection between work stress and physical & mental health of veterinary technicians working throughout Riverside County.

COMPENSATION: Upon completion of the survey, participants have the option of submitting an email/phone number to be added to a weekly drawing for one of four \$25.00 gift cards (vendor TBD). Contact information will **not** be used for any other purpose.

CONFIDENTIALITY: RESPONSES ARE CONFIDENTIAL. Participation in the survey is voluntary. Responses will **not** be shared with anyone. Any personal information in the survey will **not** be used or distributed for future research. Final responses will be reported as a group. This study has been approved by the Institutional Review Board (IRB) at California Baptist University (IRB@calbaptist.edu).

QUESTIONS? Please contact the researcher **Kim Fong, RVT at 909-319-1062** or KimberlyNellieAnn.Fong@calbaptist.edu



Appendix E: Consent Form and Demographic Section of Survey

Work Stress in Veterinary Technicians

Start of Block: Workplace Stress & Health

California Baptist University Informed Consent to Participate in Research You are being invited to participate in a research study conducted by Kim Fong, RVT (Master of Public Health student) from the Department of Public Health Sciences at California Baptist University (CBU) under the supervision of Dr. Lindsay Fahnestock (Assistant Professor of Health Sciences at California Baptist University).

PURPOSE: The purpose of this study is to examine the connection between work stress factors and ways of coping with stress of veterinary technicians working in Riverside County.

INCLUSION CRITERIA: Participants must be over 18 and be a currently employed Registered Veterinary Technician (RVT) or non-RVT (veterinary assistant) at a veterinary setting in Riverside County. Internet access and a computer or cell phone are required to take the online survey.

PARTICIPATION: You will be asked to take an online survey about your work experiences as a veterinary technician. You will also be asked about your experiences of stress at work and how you cope with stressful events. **RESPONSES ARE CONFIDENTIAL.** Your participation in this survey is voluntary. You may refuse to take part in the research or exit the survey at any time without penalty. You are free to decline to answer any particular question you do not wish to answer for any reason. The survey should take approximately 15 minutes to complete.

RISKS & BENEFITS: While there are no direct benefits for you, upon completion of the survey you will have the option of submitting your email or phone number to be added to a weekly drawing for one of four \$25.00 gift cards (vendor TBD). Your contact information will NOT be used for any other purpose and will be deleted weekly.

Your participation in the survey helps increase awareness of the stress and health of veterinary technicians. While no known discomforts are expected, some questions may be personal or upsetting. You can skip them or quit the survey at any time. Anytime you share information online there are risks. A secure system will be used to collect this data, but the risk cannot be eliminated.

CONFIDENTIALITY: Your responses will not be shared with anyone. Any personal information in the survey will not be used or distributed for future research. Final responses will be reported as a group. Your survey responses will be sent to a link on <https://qualtrics.com> where data will be stored in a password-protected electronic format. Qualtrics treats all data as highly confidential. Qualtrics does not collect identifying information such as your name, email address, or IP address. Any identifying information given in this consent form will be separated from your responses to the survey. Therefore, your responses will remain confidential. No one will be able to identify you or your answers.

CONTACT: This study has been approved by the Institutional Review Board (IRB) at

California Baptist University. The IRB is a committee tasked with the review of research and the protection of human participants. If you should have any questions about the nature of this study, about your participation, or your rights as a research participant, please contact the IRB via email at IRB@calbaptist.edu.

If you have questions or want a copy of this consent form please contact the researcher Kim Fong at 909-319-1062 or KimberlyNellieAnn.Fong@calbaptist.edu. You can also contact the faculty advisor, Dr. Lindsay Fahnestock, at 951-552-8535 or LFahnestock@calbaptist.edu.

ELECTRONIC CONSENT: Please select your choice below. Clicking on the “Agree” button indicates that:

- You have read and understand the above information
- You voluntarily agree to participate
- You are 18 years of age or older
- You are a veterinary technician by trade

I agree and give my consent to participate in this research project. I understand that participation is voluntary and that I may withdraw my consent at any time. (11)

I do not agree to participate and will be excluded from the remainder of the questions. (12)

Skip To: End of Survey If California Baptist University Informed Consent to Participate in Research You are being invited... = 12

PLEASE FINISH SURVEY IN ONE SITTING.
Your progress in the survey is shown above.

These last questions ask about demographics. This section should take about 5 minutes to complete, then you will be done!

Q1 What city do you work in?

Please enter zip code for where you work (28) _____

Q2 What is your ethnicity or race?

- White (13)
- Black or African American (14)
- American Indian or Alaska Native (15)
- Asian (16)
- Hispanic (17)
- Other (please specify) (18) _____

Q3 What is your gender?

- Male (1)
 - Female (2)
 - Prefer not to say (3)
 - Other (please specify) (4) _____
-

Q4 How old are you?

- 18 - 24 (1)
 - 25 - 34 (2)
 - 35 - 44 (3)
 - 45 - 54 (4)
 - 55 or older (5)
-

Q5 What is your marital status?

- Married (1)
 - Divorced (2)
 - Single (3)
 - In a relationship but do not live together (4)
 - Live with boyfriend/girlfriend but not married (5)
 - Other (please specify) (6) _____
-

Q6 How many children do you have?

- 0 (20)
 - 1 (21)
 - 2 (22)
 - 3 (23)
 - 4 or more (please specify) (24) _____
-

Q7 What best describes your living situation?

- Rent (59)
 - Own (paying mortgage) (60)
 - Live with parents (61)
 - Other (please specify) (62) _____
-

Q8 What is your highest level of education?

- High school graduate (1)
 - Some college ("I took some classes but do not have a degree") (2)
 - 2 year degree (Associate) (3)
 - 4 year degree (Bachelor) (4)
 - Other (please specify) (5) _____
-

Q9 What type of veterinary setting do you work at?

- Primary care (general practice) (318)
 - Emergency (clinic is open 24 hours) (319)
 - Shelter (city or county) (320)
 - Specialty (cardiology, ophthalmology, etc.) (321)
 - Large animal (322)
 - Educational setting (instructor, professor, etc.) (323)
 - Zoo (324)
 - Other (please specify) (325) _____
-

Q11 How long have you worked at your current job?

- Less than 1 year (1)
- Between 1-2 years (2)
- Between 2-3 years (3)
- Between 3-4 years (4)
- Between 4-5 years (5)
- More than 5 years (please specify) (6) _____

Page Break _____

Q12 How many days per week do you work?

- 1-2 days per week (1)
 - 3-4 days per week (2)
 - 5-6 days per week (3)
 - 7 days a week (5)
-

Q13 How many hours do you work in a typical day?

- Less than 8 hours (1)
 - 8 hours (2)
 - 9-10 hours (3)
 - 11-12 hours (4)
 - More than 12 hours (please specify) (5) _____
-

Q14 What is your title at your current job?

- Registered Veterinary Technician ("RVT") (1)
 - Non-registered veterinary technician ("veterinary assistant") (2)
 - Other (please specify) (3) _____
-

Q15 If you are an RVT, how did you get licensed?

- I attended a program ("Carrington, Platt, Penn Foster" etc.) (1)
 - I attended a university ("Cal Poly Pomona" etc.) (2)
 - I did an "alternate route" (3)
 - I am not an RVT / This question does not apply to me (4)
 - Other (please specify) (5) _____
-

Q20 Does your employer offer any type of mental health or physical health promotion or stress-reduction programs?

- Yes (14)
 - No (15)
 - Not sure (16)
-

Q16 Does your employer offer any type of retirement or financial planning (such as 401k)?

- Yes (9)
 - No (10)
 - Not sure (11)
-

Page Break _____

Q18 How much do you get paid per hour?

- Less than \$15.00 per hour (1)
 - \$15.01-\$17.00 per hour (2)
 - \$17.01-\$19.00 per hour (3)
 - \$19.01-\$21.00 per hour (4)
 - More than \$21.00 per hour (please specify) (5) _____
-

Q19 How much do you get paid on average every month AFTER taxes are taken out?

- less than \$1,500 (247)
 - \$1,501-\$2,000 (248)
 - \$2,001-\$2,500 (249)
 - \$2,501-\$3,000 (250)
 - \$3,001-\$3,500 (251)
 - More than \$3,501 (please specify) (252) _____
-

Q20 When you think of your **current** financial situation, how do you feel?

	Not at all (1)	A Little (2)	Somewhat (3)	Very (4)
Worried (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bothered or upset (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tense (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unhappy (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frustrated (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insecure (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relaxed (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Content (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Thank you for completing the survey!

If you would like to be entered into a raffle to win one of four \$25.00 gift cards (vendor TBD), please leave your email or phone number. Your contact information will NOT be associated with your survey. Two winners per week. No multiple entries.

Feel free to add any comments that you want others to know about being a veterinary technician!
