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Holly Monaghan, Vanessa Rohlf, Rebekah Scotney, and Pauleen Bennett

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Compassion Fatigue in People Who Care for Animals: An Investigation of Risk and Protective Factors

Holly Monaghan
La Trobe University

Vanessa Rohlf
Monash University

Rebekah Scotney
University of Queensland

Pauleen Bennett
La Trobe University

Compassion fatigue (CF), comprising secondary traumatic stress (STS) and burnout (BO), can adversely affect caring professions. This study explored CF risk levels among paid and volunteer animal-care professionals ($N = 559$) and identified the extent to which job demands predict CF. Potential moderators were also investigated. Participants reported average risk levels for CF. No significant differences in CF risk levels were found between paid and volunteer animal carers. Hierarchical multiple regression revealed job demands predicted 18% and 17% of the variance in STS and BO, respectively, after controlling for age, involvement with euthanasia, and hours spent in the animal-care role. Significant relationships were identified among STS, BO, and the hypothesized moderators. Moderation analyses showed these did not significantly moderate the relationship. It was concluded that job demands are an important risk factor for CF in animal carers. Reducing job demands may be an effective intervention for employers seeking to promote the well-being of animal-care professionals.

Keywords: compassion fatigue, secondary traumatic stress, burnout, animal care professionals, job demands

People working in helping roles are considered to be at increased risk of developing stress-related conditions, such as depression, anxiety, and compassion fatigue (CF; Killian, 2008). Although there are inconsistencies in the definition of the term *compassion fatigue*, the condition is understood by Stamm (2010) to comprise both secondary traumatic stress (STS) and burnout. STS is thought to be caused by a caregiver's exposure to the trauma or suffering of others or through witnessing or hearing about others' traumatic experiences (Jenkins & Baird, 2002). The symptoms of STS are similar to symptoms of posttraumatic stress disorder and include invasive thoughts, nightmares, hypervigilance, and avoidance (Killian, 2008). Burnout is defined as emotional, mental, and physical exhaustion, typically caused by exposure to chronic occupational stressors (Maslach, Schaufeli, & Leiter, 2001). Although a substantial body of research exists,

which investigates CF in people who work with human populations, there is comparatively little research investigating CF in people who work with animals and the subsequent risk and protective factors associated with working with animals (Scotney, McLaughlin, & Keates, 2015). Available research does, however, identify this group to be particularly vulnerable to occupational stress and CF.

Animal-care professionals, including veterinary professionals, animal shelter workers, animal trainers, and volunteer animal rescue and foster workers, choose their occupations because of a passion for helping animals (Scotney et al., 2015). They are, however, often exposed to animals that have experienced trauma, neglect, and abuse (Rohlf & Bennett, 2005), and they may also be required to participate in euthanasia (Reeve, Rogelberg, Spitzmüller, & DiGiacomo, 2005). Accordingly, animal-care professionals report high levels of exhaustion, relationship conflict, poor well-being, sadness, sleep difficulties, and feelings of guilt and anger resulting from their work (Black, Winefield, & Chur-Hansen, 2011; Moore, Coe, Adams, Conlon, & Sargeant, 2014; Reeve et al., 2005; Rohlf & Bennett, 2005; Scotney et al., 2015; White & Shawhan, 1996). In an organizational context, CF is linked with increased absenteeism, reduced well-being, poor work satisfaction, and poor staff turnover (Cocker & Joss, 2016; Figley & Roop, 2006; Scotney et al., 2015). Therefore, it is important to identify risk and protective factors that are most likely to impact levels of CF, to develop appropriate interventions to minimize attrition rates in organizations. It is of particular importance to investigate CF in both paid and unpaid animal care profession-

Holly Monaghan, Department of Psychology and Counselling, La Trobe University; Vanessa Rohlf, Department of Psychology, Monash University; Rebekah Scotney, Department of Veterinary Science, University of Queensland; Pauleen Bennett, Department of Psychology and Counselling, La Trobe University.

Vanessa Rohlf is now at the Department of Psychology and Counselling, La Trobe University.

Correspondence concerning this article should be addressed to Pauleen Bennett, Department of Psychology and Counselling, La Trobe University, Edwards Road, Flora Hill, Victoria 3552, Australia. E-mail: Pauleen.bennett@latrobe.edu.au

als. Many animal rescue groups and shelters rely heavily on volunteers for business operations, and these volunteers are often exposed to the same aspects of the organization as paid workers, such as euthanasia and animals that have been neglected or abused (Neumann, 2010). The identification of both risk and protective factors of CF in both paid and volunteer workers is therefore equally important.

The job demands and resources model may provide a useful theoretical framework with which to understand CF risk and protective factors. According to this model, all work aspects can be defined as either job demands or job resources (Bakker, Demerouti, & Sanz-Vergel, 2014). Job demands include the cognitive and emotional demands of the work as well as work hassles including working to deadlines and working with conflicting role requirements. Job resources, on the other hand, involve the characteristics of a work role that assist individuals to meet work goals, diminish job demands, and promote personal development (Bakker et al., 2014). Examples of job resources include autonomy, social support, feedback, coaching, and professional development opportunities (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). According to the model, job demands deplete workers, placing individuals at risk of burnout (Bakker et al., 2014). For example, Mastenbroek et al. (2013) found job demands including work-home interference and workload, job insecurity, and role conflict predicted burnout in recently graduated veterinarians working in the Netherlands. Job resources are understood to energize and motivate workers and may therefore buffer the negative effects of job demands (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). For example, job resources predicted burnout in a sample of recently graduated veterinarians and were also linked with increases in work performance and engagement in a sample of Dutch veterinary professionals and colleagues (Mastenbroek et al., 2013; Mastenbroek, Jaarsma, Scherpbier, Van Beukelen, & Demerouti, 2014).

Additional personal resources including compassion satisfaction (Bakker et al., 2014), emotional intelligence (Ogińska-Bulik, 2005a, 2005b), self-compassion (Barnard & Curry, 2012), and social support (Baruch-Feldman, Brondolo, Ben-Dayan, & Schwartz, 2002) may also be considered relevant protective factors of CF. Compassion satisfaction refers to the positive affect that people experience in helping roles as a consequence of assisting others (Figley, 2002; Stamm, 2010). This includes feelings such as those of accomplishment, reward, and happiness, which occur as a result of a person's engagement in a helping role (Figley & Roop, 2006; Stamm, 2002). Compassion satisfaction may assist in explaining and understanding the reasons why people choose to pursue and remain in emotionally demanding roles that can lead to conditions such as CF, rather than pursue roles that may take less of a toll on the person's life (Figley, 2002). This phenomenon has been found to increase overall job satisfaction in emotionally demanding roles such as child protection (Conrad & Kellar-Guenther, 2006) and is linked with decreased levels of CF in veterinary students (McArthur, Andrews, Brand, & Hazel, 2017).

According to Neff (2003), self-compassion comprises self-kindness, mindfulness, and common humanity. As a whole, self-compassion refers to the tendency to approach and act toward oneself in a kind, nonjudgmental way while understanding that your experiences are normal and a part of human life (Beaumont,

Durkin, Hollins Martin, & Carson, 2016). Self-compassion is linked to a number of well-being indicators including lower levels of depression and anxiety (Neff & Lamb, 2009) and to reduced avoidance symptoms in people experiencing posttraumatic stress disorder (Thompson & Waltz, 2008). It also negatively correlates with CF, with people with high levels of self-compassion recording lower levels of CF (Beaumont et al., 2016).

Emotional intelligence has been described as the ability to identify and manage one's own emotions and those of others and to also have the ability to direct cognitions and actions in line with this information (Mayer, Caruso, & Salovey, 2016). Emotional intelligence may be an important protective factor, as it may aid workers in being able to identify one's own negative emotions and address these effectively (Killian, 2008).

Last, social support has been identified as an effective tool to assist people in coping with difficult job demands, including exposure to animal euthanasia. In a study that explored which factors influence reaction and adjustment to euthanasia for people working in the animal care industry, over 25% of the participants reported that receiving social support from their family and friends improved their ability to cope with being involved in euthanasia (Reeve et al., 2004).

With these hypothesized risk and protective factors in mind, this study aimed to (a) explore levels of CF risk among paid and volunteer animal care professionals, (b) determine group differences in risk levels for CF among paid and voluntary animal carers, (c) identify the extent to which job demands predict CF, and (d) analyze whether job resources, personal resources (self-efficacy and optimism), compassion satisfaction, social support, emotional intelligence, and self-compassion moderate the relationship between job demands and CF.

There were four hypotheses in this study. First, it was hypothesized that the majority of participants would report high-risk scores for burnout and STS. Second, it was hypothesized that volunteer animal carers would have significantly higher levels of CF than paid animal carers. Third, it was hypothesized that job demands would predict levels of CF. Finally, it was hypothesized that job resources, compassion satisfaction, personal resources, social support, emotional intelligence, and self-compassion would moderate the relationship between job demands and CF.

Method

Participants

Participants were recruited via social media, via online advertising, through animal welfare organizations, and by word of mouth. Only participants over the age of 18 years and with the ability to read and write in English were eligible. A total of 715 individuals commenced the online survey. Participants who did not identify themselves as paid or voluntary animal care professionals and those who did not complete the instrument used to measure CF were excluded from analysis. This resulted in a sample size of 559. The study was conducted in Australia, however the sample included individuals from various countries. Additional demographic information is presented in the Results section.

Measures

Demographics. A 22-item questionnaire was developed by the research team to measure key demographic characteristics. These included age, gender, relationship status, number and composition of household members, country of residence, education level, annual income, type of animal care position (including whether the role was paid or voluntary), intention to leave their role, number of companion animals, and number of hours worked per week and length of time in the role. Two items measuring participants' level of direct and indirect exposure to animal euthanasia were included in this section. Responses to these two items were scored on a 5-point Likert scale, in which high scores were indicative of a high degree of exposure.

CF and Compassion satisfaction. The Professional Quality of Life (ProQOL) was used in this study to measure CF and compassion satisfaction. The ProQOL consists of 30 items with three subscales: Burnout (10 items), Compassion Satisfaction (10 items), and Secondary Traumatic Stress (10 items). Responses were scored on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). The ProQOL was adapted in this study to relate to animal carers, for example, "I am preoccupied with more than one animal I help" rather than "I am preoccupied with more than one person I help." The subscales of the ProQOL have demonstrated moderate-to-excellent internal reliability in previous research, with Cronbach α s of 0.72 (Burnout), 0.80 (Secondary Traumatic Stress), and 0.87 (Compassion Satisfaction). The ProQOL has previously revealed excellent convergent and discriminant validity (Bride, Radey, & Figley, 2007). As recommended by Stamm (2010), subscale scores were summed and divided into low-risk (includes scores 0 to 22), average-risk (includes scores 23 to 41), and high-risk (includes scores 42 and greater) categories. In this context, the purpose of these categories was to estimate prevalence of risk levels, which was similarly carried out by McArthur, Mansfield, et al. (2017) and Hunsaker, Chen, Maughan, and Heaston (2015). Stamm (2010) did indicate a preference for using the ProQol as a continuous scale for statistical purposes, and to this end, inferential statistics were carried out using ProQol as a continuous scale.

Job demands, job resources, and personal resources. The Job Demands and Resources Questionnaire (JDRQ) was used to measure job demands, job resources, and personal resources (self-efficacy and optimism) among the sample (Bakker, 2014). It consists of 118 items covering a range of variables, including demographic information, job demands (work pressure, cognitive demands, emotional demands, and role conflicts and hassles), job resources (autonomy, social support, feedback, opportunities for development, and coaching), personal resources (self-efficacy and optimism), well-being (work engagement and exhaustion), performance (in-role performance and extra-role performance), and behavior (strength use, job crafting, and self-handicapping). Items are measured on Likert scales with varying number of points, with responses ranging from *never* to *very often*, from *strongly disagree* to *strongly agree*, from *almost never* to *almost always*, from *not at all characteristic* to *totally characteristic*, from *absolutely wrong* to *absolutely right*, and from *totally disagree* to *totally agree*.

Social support. The ENRICH Social Support Inventory (ESSI) is a seven-item self-report scale used to measure an individual's level of social support. Items 1 to 6 are scored on a 5-point

Likert scale from 1 (*none of the time*) to 5 (*all of the time*). The ESSI has demonstrated good internal reliability (Cronbach's $\alpha = .88$) and strong validity (Vaglio et al., 2004). One item from the scale was excluded from this study. It was a yes or no question that is not included in the final score and that asked for information we collected elsewhere.

Self-compassion. The Self-Compassion Scale (SCS) is a 26-item scale that measures self-compassion across six subscales including Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness, and Overidentification. Items are measured on a 5-point Likert scale from 1 (*almost never*) to 5 (*almost always*). Neff (2003) reported that the SCS has good reliability (Cronbach's $\alpha = .91$) and strong validity.

Emotional intelligence. The Trait Emotional Intelligence Questionnaire–Short Form (TEIQ-SF) is a 30-item questionnaire used to identify trait emotional intelligence. The four subscales included in the TEIQ-SF are Wellbeing (happiness, optimism, and self-esteem), Emotionality (empathy, emotion perception, emotion expression, and relationships), Self-Control (impulse control, stress management, and emotional regulation), and Sociability (emotion management, assertiveness, and social awareness). Petrides and Furnham (2006) reported that the TEIQ-SF has good internal reliability (Cronbach's $\alpha = .81$), with a test–retest reliability of 0.86.

Procedure

Before commencing the study, ethics approval was obtained from the La Trobe University Human Ethics Committee (S17-082). Advertising flyers for the study were distributed at animal-related conferences and events, via social media, and at online forums for animal care volunteers and professionals and emailed to relevant organizations and individuals. Participants were instructed to read a participant information statement before commencing the study, which informed them that completing the questionnaire would be considered consent to participate in the study. The participant information statement also informed participants that they could withdraw from the study at any time before submitting their data. All participants were given the opportunity to go in a draw to win one of six \$50 gift vouchers, regardless of whether they withdrew from the study before completion.

Data Analysis

Analyses for this study were conducted using IBM SPSS Statistics for Macintosh, version 22 (IBM Corp., Armonk, New York). Data analysis included running frequencies and percentages to identify risk levels for burnout and secondary traumatic stress. A one-way analysis of variance (ANOVA) was used to identify group differences in burnout and secondary traumatic stress among three groups: volunteers, paid employees, and both (participants who engaged in both paid and voluntary animal care work). The results of this were used to decide whether subsequent analyses would include the entire sample or whether separate analyses by group would be more appropriate. Due to the small number of participants who identified as male or nonbinary, the sample was analyzed as a whole without division of gender. Pearson's correlational analyses were run to identify relationships among the variables (Pallant, 2016).

To analyze whether job demands predict levels of burnout and secondary traumatic stress, a hierarchical multiple regression was performed. The potentially confounding variable of age was entered at Step 1, whereas involvement in euthanasia, hours spent in a paid role, and hours spent in a voluntary role were entered at Step 2 to identify how much of the variance in CF could be explained by these factors. Finally, job demands were entered into the analysis in Step 3 to determine whether this would significantly predict CF. To determine the extent to which resources might moderate the relationship between job demands and CF, moderation analyses were performed using Model 1 of the PROCESS macro for SPSS (Hayes, 2012). The PROCESS macro uses least squares regression and bootstrapping, which involves resampling the data set over a thousand times to estimate the indirect effects of each data set, and subsequently produces more precise confidence intervals and effect sizes. Effect sizes are considered significant if results do not include zero in the upper and lower levels of a 95% confidence interval (Hayes, 2012). Interaction effects are also produced to identify whether variables significantly moderate a relationship between two variables. Due to the number of variables included in the moderation analyses, a Bonferroni adjustment was used to control for Type I error. This was performed by dividing the critical p value by the number of comparisons in the data set (Pallant, 2016).

Results

Demographics

Of the final sample, 60.4% of participants resided in Australia, and 39.6% resided in other countries, with the largest proportions residing in the United States (20.7%), the United Kingdom (3.9%), and Canada (2.0%). Close to half of volunteers reported volunteering 1 to 10 hr per week (47.2%), whereas 33.1% of paid animal care workers reported working between 31 and 40 hr per week, and 32.9% reported working more than 40 hr per week. Almost half the sample reported that they were engaged in paid animal care work (45.8%), 32.2% reported they were participants in voluntary animal care work, and 22% were engaged in both voluntary and paid animal care work. Participants engaged in volunteer animal care, either exclusively or along with paid animal care, were most commonly volunteering in foster care roles (21.2%), domestic rescue (19.8), and animal shelters (13%).

Participants engaged in paid animal care work, either exclusively or along with being in a volunteer role, were most com-

Table 1

Sample Size, Means, Standard Deviations, and Cronbach α s of the ProQOL, JDRS, ESSI, TEIQ-SF, and SCS

Scale	<i>N</i>	Cronbach α	<i>M</i>	<i>SD</i>
ProQOL				
Compassion Satisfaction	556	.91	39.27	6.37
Burnout	557	.74	23.76	5.22
Secondary Traumatic Stress	559	.86	27.29	6.94
JDRQ				
Job Demands	457	.82	78.76	16.88
Job Resources	335	.76	51.63	12.06
Personal Resources	472	.82	26.11	4.29
ESSI	456	.92	20.97	6.28
TEIQ-SF	468	.90	140.88	22.75
SCS	445	.94	71.44	16.20

Note. ProQOL = Professional Quality of Life; JDRQ = Job Demands and Resources Questionnaire; ESSI = ENRICH Social Support Inventory; TEIQ-SF = Trait Emotional Intelligence Questionnaire-Short Form; SCS = Self-Compassion Scale.

monly employed in the veterinary sector (36.4%) and animal shelters (36%), followed by behavior training (12.3%). The majority of volunteers were female (92.4%), married (37.6%), had an undergraduate-level education (34.1%), and an annual income below \$30,000 (25.3%). Paid animal care workers were also predominantly female (94.2%), married (32.6%), and had an undergraduate-level education (39.3%), but their most common income level was between \$30,001 and \$50,000 (37.2%).

Reliability

Table 1 presents internal reliability analyses for the ProQOL subscales, JDRQ subscales, ESSI, TEIQ-SF, and SCS. All scales and subscales were found to have good internal reliability, as they were above .70 (Pallant, 2016).

Frequencies

Table 2 displays frequencies and percentages for secondary traumatic stress as a function of engagement type. It can be seen that the majority of volunteer animal carers recorded scores in the average-risk level category for STS. Very few volunteers reported high-risk symptoms for STS. The same pattern was also observed for paid and both animal carers, with the majority in the average-risk level and very few in the high-risk category for STS. Frequen-

Table 2

Frequencies and Percentages for Low-, Average-, and High-Risk Levels for Secondary Traumatic Stress and Burnout Among Volunteer, Paid, and Both Animal Carers

Engagement type	Secondary Traumatic Stress						Burnout					
	Low		Average		High		Low		Average		High	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Volunteer	50	29.4	116	68.2	4	2.4	49	29.0	119	70.4	1	0.6
Paid	64	26.4	172	71.1	6	2.5	41	16.9	201	83.1	0	0.0
Both	23	19.8	89	76.7	4	3.4	24	20.9	91	79.1	0	0.0
Total	149	26.7	393	70.3	17	3.0	119	21.4	437	78.5	1	0.2

Table 3
Pearson Correlation Scores for Burnout, Secondary Traumatic Stress, and Variables of Interest

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. JD	—	.22**	-.12**	.49**	.44**	-.11*	-.31**	-.26**	-.12*	-.23**	.27**	.21**	.03
2. JR		—	.49**	-.45**	-.15	.22**	.26**	.37**	.33**	.07	-.10	-.07	.11
3. CS			—	-.62**	-.17**	.17**	.31**	.43**	.52**	.20**	-.10	-.03	.15*
4. BO				—	.63**	-.28**	-.50**	-.59**	-.42**	-.15**	.18**	.13	.11
5. STS					—	-.12*	-.39**	-.39**	-.25**	-.02	.13**	.04	.16**
6. SS						—	.19**	.27**	.21**	-.10*	.01	-.09	-.16**
7. SC							—	.67**	.53**	.30**	-.17	-.11*	.14*
8. EI								—	.64**	.27**	-.10	-.06	.04
9. PR									—	.25**	-.04	-.03	.13
10. Age										—	-.25**	-.14*	.19**
11. Euth Inv											—	.11*	.17**
12. Paid hours												—	-.13*
13. Vol hours													—

Note. JD = job demands; JR = job resources; CS = compassion satisfaction; BO = burnout; STS = secondary traumatic stress; SS = social support; SC = self-compassion; EI = emotional intelligence; PR = personal resources; Euth Inv = involvement in euthanasia; Vol Hours = volunteer hours.
* $p < .05$. ** $p < .001$.

cies and percentages were also calculated to identify risk levels of burnout among volunteer, paid, and both animal carers. The results presented in Table 2 demonstrate that the large majority of animal carers recorded average-risk scores, with only one volunteer animal carer recording a high-risk score for burnout.

One-Way ANOVA

A one-way between-groups ANOVA was conducted to explore differences in levels of burnout risk, as measured by the ProQOL, in paid, volunteer, and both animal carers. There were no marked differences between groups. Accordingly, there was no statistically significant difference at the $p < .05$ level in Burnout scores between the three groups: $F(2, 523) = 2.478, p = .085, \eta^2 = 0.01$. The average Burnout score for volunteer animal carers was 26.40 ($SD = 6.16$), whereas the average Burnout score for paid animal carers was 27.64 ($SD = 5.67$). A further one-way between-groups ANOVA was conducted to determine differences in levels of STS among paid, volunteer, and both animal carers. The average STS score for volunteers was 27.17 ($SD = 7.15$), whereas the average STS score for paid animal carers was 26.73 ($SD = 6.49$). There was no statistically significant difference at the $p < .05$ level in STS scores between the three groups: $F(2, 525) = 2.845, p = .059, \eta^2 = 0.01$. Because a significant difference between the employment types was not found, these variables were excluded from further analyses.

Correlations

Pearson product-moment correlations were conducted to identify important variables related to burnout and STS. As seen in Table 3, burnout was strongly positively correlated with STS, $r = .63, p < .001$, and strongly negatively correlated with compassion satisfaction, $r = -.62, p < .001$, self compassion, $r = -.50, p < .001$, and emotional intelligence, $r = -.59, p < .001$, and moderately negatively correlated with personal resources, $r = .42, p < .001$, and job resources, $r = -.45, p < .001$. This means that animal care workers who reported higher levels of compassion satisfaction, self-compassion, emotional intelligence, personal re-

sources, and job resources reported lower levels of burnout, whereas animal care workers who reported high levels of burnout also reported high levels of STS. There were also moderate negative correlations between STS and self-compassion, $r = -.39, p < .001$, and STS and emotional intelligence, $r = -.39, p < .001$, indicating that animal care workers with high levels of STS reported lower levels of self-compassion and emotional intelligence (Nicol & Pexman, 2003). Social support was found to have a small negative correlation with burnout, approaching the moderate level, $r = -.28, p < .001$, and a small negative correlation with STS, $r = -.12, p < .05$. Hierarchical multiple regression was used to assess the ability of Job Demands to predict Burnout and STS, after controlling for the influence of age and identifying the amount of variance that is explained by involvement with euthanasia, hours spent in a paid animal care role and hours spent in a voluntary animal care role (Table 4).

Burnout

Age was entered at Step 1, explaining 4% of the variance in Burnout. After the entry of involvement with euthanasia, hours

Table 4
Hierarchical Multiple Regression Analyses Predicting Burnout and Secondary Traumatic Stress From Job Demands

Predictor	Burnout		Secondary Traumatic Stress	
	ΔR^2	β	ΔR^2	β
Step 1	.04*		.01	
Age		-.20*		-.07
Step 2	.04*		.04*	
Hours in paid role		.14*		.07
Hours in volunteer role		.06		.11
Euthanasia involvement		.13		.14*
Step 3	.17**		.18**	
Job demands		.43**		.45**

* $p < .05$. ** $p < .001$.

Table 5
Interaction and Conditional Effects of Job Demands on Burnout at Each Level of the Moderating Variables

Variable	Burnout					Secondary Traumatic Stress				
	B	SE	P	95% CI		B	SE	p	95% CI	
				LL	UL				LL	UL
Job resources interaction ($R^2 = .37, p < .001$)	.00	.00	.04	.0001	.0051	.00	.00	.53	-.0023	.0044
Personal resources interaction ($R^2 = .41, p < .001$)	.00	.00	.15	-.0013	.0088	-.00	.01	.79	-.0162	.0123
Compassion satisfaction interaction ($R^2 = .58, p < .001$)	-.00	.00	.95	-.0041	.0038	-.00	.00	.21	-.0091	.0020
Self-compassion interaction ($R^2 = .38, p < .001$)	.00	.02	.01	-.0137	.0972	.04	.03	.27	-.0287	.1017
Emotional intelligence interaction ($R^2 = .49, p < .001$)	.00	.00	.20	-.0004	.0017	-.00	.00	.56	-.0020	.0011
Social support interaction ($R^2 = .31, p < .001$)	.00	.00	.08	-.0005	.0088	-.00	.00	.70	-.0072	.0049

Note. CI = confidence interval.

spent in a paid animal care role, and hours spent in a voluntary animal care role in Step 2, 6% of the variance in Burnout was explained. Job Demands was then entered at Step 3, and the total variance explained by the model as a whole was 22.8%, $F(5, 197) = 12.96, p < .001$. Job Demands explained an additional 17% of the variance in Burnout, after controlling for age, involvement with euthanasia, hours spent in a paid animal care role, and hours spent in a voluntary animal care role, $F(1, 197) = 43.46, p < .001$. In the final model, only Job Demands was statistically significant ($\beta = .43, p < .001$).

Secondary Traumatic Stress

Age was entered at Step 1, explaining 1% of the variance in STS. After the entry of involvement with euthanasia, hours spent in a paid animal care role, and hours spent in a voluntary animal care role in Step 2, 4% of the variance in STS was explained. Job Demands was then entered at Step 3, and the total variance in STS explained by the model as a whole was 22.9%, $F(5, 198) = 11.79, p < .001$. Job Demands explained an additional 18% of the variance in STS, after controlling for age, involvement with euthanasia, hours spent in a paid animal care role, and hours spent in a voluntary animal care role, R^2 change = .18, F change (1, 197) = 47.46, $p < .001$. In the final model, only Job Demands was statistically significant ($\beta = .45, p < .001$).

Moderation Analyses

Moderation analyses were conducted using the PROCESS macro for SPSS, to identify the extent to which the six key variables moderated the relationship between job demands and CF (burnout and secondary traumatic stress). A Bonferroni correction, used to control for Type I error (Pallant, 2016), adjusted the p value to $< .008$. Table 5 presents the moderation analyses for the relationship between job demands and burnout and between job demands and STS. Of the six potential moderators, Job Resources and Self-Compassion produced the strongest effect for job demands and burnout. However, neither was significant at the adjusted α level.

A further moderation analysis was conducted to identify significant moderators of the relationship between job demands and STS, as measured by the ProQOL. The interaction effects of Job Resources, Personal Resources, Compassion Satisfaction, Self-Compassion, Emotional Intelligence, and Social Support were all

nonsignificant at the adjusted α level of .008. This indicates that none of these variables had a moderating effect on the relationship between Job Demands and STS.

Discussion

The aims of this study were to explore levels of risk for CF among animal carers; to determine group differences in CF between paid, voluntary, and both animal carers; to identify whether job demands predict CF; and to identify whether job resources, personal resources, compassion satisfaction, social support, emotional intelligence, and self-compassion moderate the relationship between job demands and CF. To explore these aims, participants completed an online survey comprising a demographic questionnaire, the ProQOL, the JDRQ, the ESSI, the TEIQ-SF, and the SCS. There were four hypotheses developed for the study. First, it was hypothesized that the majority of participants would report high-risk scores for burnout and STS. Second, it was hypothesized that volunteer animal carers would have significantly higher levels of burnout and STS than paid animal carers. Third, it was hypothesized that job demands would predict levels of CF. Fourth, it was hypothesized that job resources, compassion satisfaction, personal resources, social support, emotional intelligence, and self-compassion would moderate the relationship between job demands and CF.

The hypothesis that the majority of participants would report high-risk scores for burnout and STS was not supported by the results. Frequency analyses showed that only one volunteer recorded a high-risk score for burnout, whereas a total of four volunteers, six paid workers, and four persons who both volunteered and were paid to care for animals recorded high-risk scores for STS. The majority of participants obtained scores in the average-risk level for STS and burnout, followed by a smaller percentage in the low-risk level for burnout and STS. These results conflict with previous research that has suggested that animal carers are at a particularly high risk of CF due to the nature of their job demands (Figley & Roop, 2006; Rank, Zapanick, & Gentry, 2009; Scotney et al., 2015). The hypothesis that there would be a significant difference between paid and volunteer animal carers in burnout and STS was also not supported. This may indicate that employment type may not be an important factor in CF and that volunteers are not at any higher risk of CF than paid animal care workers. Further, although the roles and responsibilities of paid and volunteer animal carers may be different, the perceived de-

mands of animal care, in terms of work pressure, cognitive demands, emotional demands, role conflict, and hassles may be equivalent.

The hypothesis that job demands would predict levels of CF in animal carers was supported by the results. Hierarchical multiple regression analyses revealed that job demands accounted for 19.7% of the variance in STS and for 21.5% of the variance in burnout in the sample. Previous research has presented direct involvement with euthanasia as an important job demand that can lead to CF in people who work with animals (Scotney et al., 2015). However, results from the hierarchical multiple regression found that only the Job Demands scale of the JDRQ significantly predicted CF, whereas Involvement With Euthanasia did not. In the correlation analysis, involvement with euthanasia was only found to have small positive relationships with burnout, $r = .11, p < .05$, and STS, $r = .13, p < .001$. These findings conflict with previous research that suggests euthanasia is a significant contributor to outcomes such as CF (Baran et al., 2012) and indicates that other job demands may be more important in explaining and predicting CF in animal carers. This finding supports findings from Rohlf and Bennett (2005) that euthanasia may not be the most negatively perceived job demand for animal carers. This finding is also in line with Von Dietze & Gardner, 2014, reporting that individual responses to euthanasia can be improved with appropriate support and training.

The hypothesis that job resources, personal resources, compassion satisfaction, social support, emotional intelligence, and self-compassion would moderate the relationship between job demands and CF was also not supported by the results of the study. Although job resources and self-compassion were found to be the strongest moderators in the analysis, they were not statistically significant when a Bonferroni adjustment was applied. Previous research has consistently identified job resources as a significant moderator of job demands and burnout (Bakker, Demerouti, & Euwema, 2005); however, job resources was discounted as a significant moderator in this study. Bonferroni adjustment was conducted to reduce the risk of Type I errors due to the number of comparisons; however, it is also acknowledged that Bonferroni adjustments can be quite conservative and can lead to accepting a false null hypothesis (Narum, 2006). Thus, there may be value in exploring the role of job resources in the relationship between CF in this population in future.

Findings that personal resources (optimism and self-efficacy) do not moderate the relationship between job demands and burnout is consistent with research by Xanthopoulou et al. (2007), who reported that personal resources did not moderate the relationship between job demands and exhaustion and instead mediated the relationship between job resources and exhaustion. It is possible that the variables proposed as moderators in this study could instead mediate the relationship between job demands and CF, which was not explored in this study. There were strong negative relationships identified through correlation analysis between job demands and self-compassion, job demands and emotional intelligence, and job demands and compassion satisfaction, and a moderate negative association between job demands and personal resources was identified. Emotional intelligence and self-compassion were also found to have a moderate negative relationship with STS. This indicates that these variables are associated with lower levels of job demands and STS and may be worth

investigating further to identify how this relationship occurs and whether this could inform interventions for people at risk of CF. Social support was only found to have small negative correlations with STS and burnout, indicating that it may be the least important of the variables explored in this study. This finding conflicts with previous research by Reeve et al. (2004).

The results from this study indicate that there are variables that are associated with both STS and burnout to varying degrees, and there also are variables that are associated with burnout and not STS. This indicates that factors that may be protective factors for the burnout component of CF may not protect people against STS. This is also supported by the moderation analysis, as, although Job Resources and Self-Compassion were found to significantly moderate the relationship between job demands and burnout before Bonferroni adjustment, none of the proposed moderators significantly moderated the relationship between job demands and STS. Further investigations to identify specific protective factors against STS for those working in animal caregiving roles is warranted.

Limitations and Suggestions for Future Research

There was a strong gender bias in this study, with the large proportion of participants being female. This was expected due to the high number of females in the animal care industry (Neumann, 2010). However, this also prevented gender comparisons. Future research should identify a way to recruit a greater number of males to identify whether any gender differences exist in this population.

A large number of different animal care roles were combined for the purposes of this study. This was important because previous research has primarily investigated occupational stress in animal laboratories, animal shelters, and veterinary sectors but has neglected multiple other animal care roles such as animal training, management, and grooming. Future research may benefit from being able to compare levels of CF and job demands between these different roles so that intervention programs can target the unique stressors facing these occupations. Prospective studies may also benefit from conducting participant interviews to gather further information, such as reasons for staying in their role, and to identify job demands and resources that are most important with regard to work satisfaction and intention to remain in their role.

Conclusion

Although the study did not identify any significant moderators, there was a strong association between burnout and self-compassion, and emotional intelligence and compassion satisfaction. Future research could investigate these variables as mediators rather than moderators of the relationship between job demands and CF. The current study found that job demands predicted burnout and STS in animal carers, which provides partial support for use of the job demands resources model in this context. These findings may assist organizations, employees, and volunteers to decrease the risk of CF in animal carers by motivating them to reduce job demands such as work pressure, cognitive demands, emotional demands, role conflict, and hassles (Bakker, 2014).

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