

WORKPLACE STRESS, MENTAL HEALTH AND BURNOUT OF VETERINARIANS IN AUSTRALIA

P. H. Hatch¹, H. R. Winefield², B. A. Christie³, and J. J. Lievaart⁴.

¹P. H. Hatch, Hatch Counselling and Consultancies
P.O.Box, 1450, Wodonga Victoria

²H. R. Winefield, Faculty of Health Sciences
University of Adelaide, Adelaide, South Australia

³B. A. Christie, School of Animal & Veterinary Science
Charles Sturt University, Wagga Wagga, NSW.

⁴J. J. Lievaart, E.H. Graham Centre for Agricultural Innovation
(an alliance between Charles Sturt University and NSW Department of Primary Industries),
Wagga Wagga, NSW.

Introduction

Burnout, a product of the work environment, has been extensively investigated initially in human service providers (medical practitioners, nurses, fireman, police teachers etc) but veterinarians have not been included. The interest in mental health and well being of veterinarians has paralleled a similar pattern to other professions and the public generally. Anecdotal evidence originating from within the profession states that veterinarians suffer more stress and suffer poorer mental health than the general population. Normative data has been published with respect to the general Australian population but there are no published reports of any studies of the veterinary profession to date. Therefore in the current study of workplace stress, mental health, and burnout are investigated among veterinarians by means of a questionnaire. In this study depression is defined by dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement and inertia; anxiety is assessed by autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect; and stress by non-specific arousal, difficulty relaxing, nervous arousal, agitation, over-reactiveness and impatience. The objective of this study is to report comparative data on stress, anxiety, depression and burnout scores between veterinarians at least one year and the general population.

Materials and Method

Selection of Veterinarians

To include as many veterinarians as possible copies of the current (2007) rolls of registered veterinarians which are maintained by Veterinary Boards in each state and jurisdiction were used to collect addresses. Some in electronic format and some printed. The Tasmanian roll was not made available and a data base for Tasmania was compiled from the Yellow Pages telephone directory and is likely to be therefore incomplete. Likewise the roll for the Northern Territory was not obtained but an older roll (2004) was used so veterinarians who registered subsequently would not have been included.

The rolls were filtered to exclude 2006 graduates who would have had little experience in the workplace. Veterinarians whose addresses were not included on the roll were deleted along with those with duplicate registrations (registered in two jurisdictions), one entry being retained where the address coincided with the State or Territory roll. Veterinarians with an overseas address but still on an Australian roll were also deleted. There remained 6991 individual veterinarians whose details were complete and who would receive a mailed questionnaire. The breakdown into different jurisdictions was Queensland 1600, New South Wales 2249, South Australia 484, Victoria 1510, Western Australia 949, Tasmania 38, Northern Territory 14 and the Australian Capital Territory 147.

Questionnaire design

A self-report questionnaire was designed to investigate the mental health, well-being and work experience of registered veterinarians working in the Australian environment that had graduated before 2006 and had some experience in the workplace.

The veterinary profession consists of individuals who have been awarded an approved degree in veterinary science or veterinary medicine by a University which is the one common criterion. Variables include University of graduation (University of Queensland, University of Sydney, University of Melbourne, Murdoch University and some overseas Universities), gender, personal relationships and life experience before entering University (capital city, rural city or town and farm or agricultural enterprise).

On graduation, veterinarians find employment in diverse fields that were divided into small animal, large animal, mixed, consultancy/specialist, equine, other practice (swine, poultry); or government/administrative, teaching/research, industry (pharmaceutical, laboratory), other veterinary pursuit and non-practicing/ retired.

No data has been published on veterinarians' lifestyles. Involvement in sport at University and after graduation, along with involvement in community clubs and organisations were investigated. The consumption of alcoholic drinks was investigated in terms of daily consumption and amounts.

A series of questions asked respondents to assess the levels of stress felt both in life generally and then specifically in the workplace. The most stressful work events were then related to potential thoughts that were related to the explanatory styles of optimistic or pessimistic or avoidant of the situation. A free form question provided an opportunity to define this most stressful event.

Psychological health and well-being were assessed using three separate instruments; the Kessler K10 (K10), the Depression, Anxiety and Stress Scales (DASS), and the Copenhagen Burnout Inventory (CBI).

The K10 is a 10 item questionnaire that measures generalized psychological distress in the preceding month. The K10 questionnaire was included in the National Mental Health surveys conducted by the Australian Bureau of Statistics in 1997 and again in 2001. It measures non-specific psychological distress in the anxiety-depression spectrum as defined in the Diagnostic and Statistical Manual of Mental Disorders, 4th Ed (DSM-1V) (Nat Bureau of Stats, 2003). Any biases as a result of education or gender are very small and have no practical impact on results (Baille, 2005). Normative data for the Australian population is derived from the 2001 National survey. In that survey the data is divided into four rankings depending on the score and these were low (10-15), moderate (16-21), high (22-29) and very high (30-50). The same rankings were used to compare to the scores of respondent veterinarians.

The DASS measures the negative affective states of depression, anxiety and stress experienced in the last week using a four point severity/frequency scale (Lovibond and Lovibond, 1995). The DASS can be either a 42 item questionnaire or in its short form 21 items. There is no significant variation in the results obtained from either DASS or the DASS 21 (Henry and Crawford, 2005). Normative data are available. The 21 item questionnaire was used in this study because of its brevity and its ability to define the individual states the same as the DASS.

The CBI is a 19 item inventory that measures personal burnout, work burnout and client burnout in a population. It is orientated towards individuals whose main work involves interaction with clients. The core element of burnout is exhaustion (Borritz, Raguiles, Bjorner, Villadsen, Mikkelsen and Kristensen, 2006). In a study of Veterinary graduates who began their course in 1985/86, 80% reported having stress and/or burnout (Heath, 2001). This was based on self-assessment only. The majority of Australian veterinarians are engaged in private practice either as assistant/associates or as owners/principals or partners. The roles and responsibilities of each group are different and twelve questions were designed for the former to determine professional support, autonomy, job satisfaction and future goals. The latter group were asked nine questions related to practice management style.

The questionnaire was voluntary and anonymous.

All data from the returned questionnaires were transferred into an Excel sheet (Microsoft Office). For the descriptive results and the significance testing of the different questions or outcome scores related to depression, anxiety, stress or burnout between different groups of veterinarians the software program SPSS (version 14) was used.

Results and Discussion

Number of respondents and demographics

Of the 6991 self-report questionnaires mailed 2007 were returned completed. Four were received after the data was compiled and analysis started and were therefore excluded. 1030 (51.4%) were received from males and 974 (48.6%) from female veterinarians.

Demographics

University of graduation

Of the respondents 28.8% graduated from the University of Queensland, 19.2% University of Melbourne, 29.2% the University of Sydney, 15.3% Murdoch University and 7.6% from an overseas University.

Main Employment

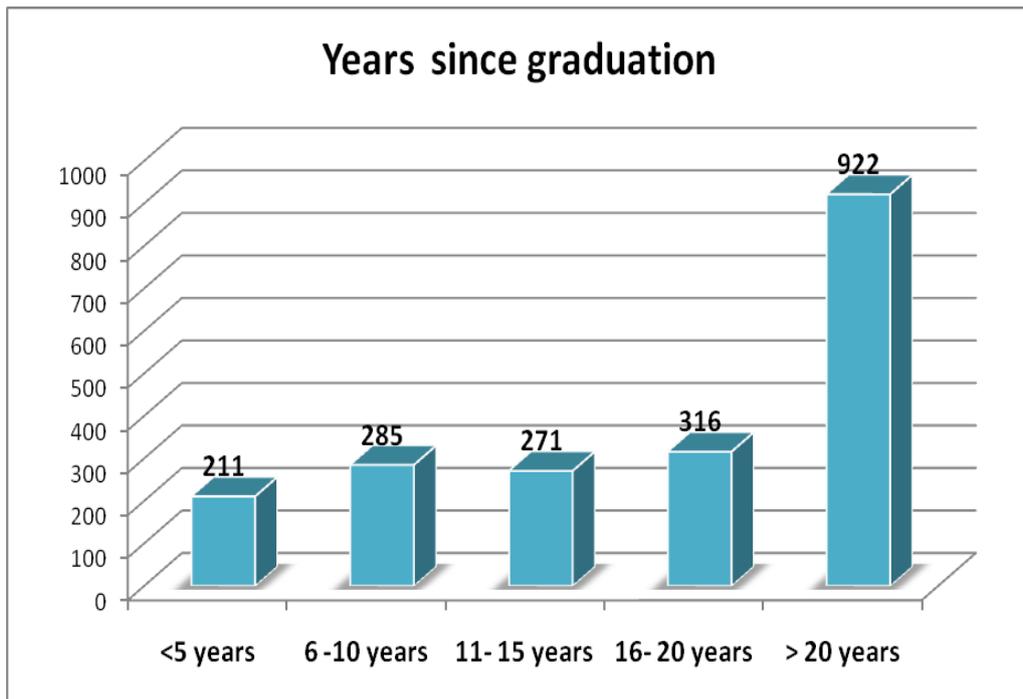
Small animal practice (50.9%), mixed practice (20.9%), equine (4.2%), consultancy/specialist practice (4.7%) were the main areas of endeavor for 80% all veterinarians. Of the remaining 20%, Government/administrative (6%), teaching/research (4.7%), industry (2.4%) and retired /non-practicing were the areas of endeavor.

Of the veterinary practitioners 869 (52%) were assistants or associates and 797 (48%) were principals or partners (owners) of the practices.

Background experience

Before beginning the veterinary course 51.6% resided in capital cities, 29.5% were from rural towns or cities and 19% were from a farm or agricultural enterprise.

Distribution of respondents in years since graduation



STRESS LEVELS

The levels of stress in this table are those reported by the respondent

	General stress	life	Average workday stress	Most stressful work experience
Extremely stressed	2.1%		6.8%	23.3%
Very stressed	8.2%		16.9%	38.3%
Quite stressed	18.1%		22.6%	22.4%
Moderately stressed	32.7%		29.3%	10.6%
Slightly stressed	26.9%		20.6%	3.9%
Relaxed	12.1%		3.7%	1.1%

The Kessler K10 (K10)

Significant differences were found between the respondent veterinarians and the population at large. Veterinarians were significantly over represented in the moderate, high and very high levels and under-represented in the low category.

Percentage of veterinarians in each category of psychological distress

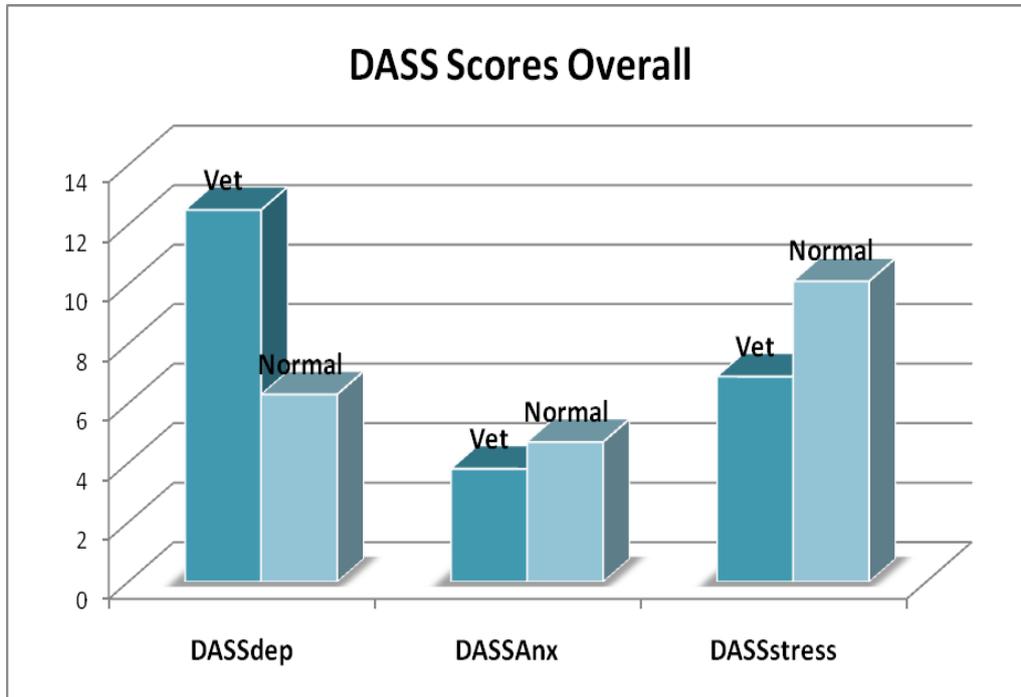
	Low	Moderate	High	Very High
Veterinarians	54.3	30.8	10.2	4.8
Normal data	64.3	23.0	9.0	3.6

The percentages in each category by gender

	Low	Moderate	High	Very high
Male	54.8	30.2	10.1	4.9
Female	37.0	37.6	19.3	6.1

Normal data	64.3	23	9	3.6
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Depression Anxiety and Stress Scores (DASS)



This graph compares the means of the scores of veterinarians with baseline (normative) data. All the data is right skewed and the means do not reflect the true nature of depression, anxiety and stress states of veterinarians.

Comparison of the percentages of veterinarians in each of the depression categories

	Normal	Mild	Moderate	Severe	Very Severe
Veterinarians	76.3	7.0	9.5	3.4	3.8
Normal data	78	9.0	8.0	3.0	2.0

Comparison of the percentages of veterinarians in each of the anxiety categories

	Normal	Mild	Moderate	Severe	Very Severe
Veterinarians	86.3	4.4	6.1	1.5	1.7
Normal data	78.0	9.0	8.0	3.0	2.0

Comparison of the percentages of veterinarians in each of the stress categories

	Normal	Mild	Moderate	Severe	Very Severe
Veterinarians	72.4	10.5	9.6	5.3	2.2
Normal data	78	9.0	8.0	3.0	2.0

Comparison of the percentages of veterinarians in each of the depression categories by gender

	Normal	Mild	Moderate	Severe	Very Severe
Male	77.6	6.1	9.1	3.6	3.6
Female	70.7	9.8	11.1	4.0	4.3
Normal data	78	9.0	8.0	3.0	2.0

Comparison of the percentages of veterinarians in each of the anxiety categories by gender

	Normal	Mild	Moderate	Severe	Extremely severe
Male	87.4	4.4	5.5	1.3	1.5
Female	78.2	5.3	10.6	3.1	2.8
Normal data	78.0	9.0	8.0	3.0	2.0

Comparison of the percentages of veterinarians in each of the stress categories by gender

	Normal	Mild	Moderate	Severe	Extremely severe
Male	72.7	9.8	9.1	6.1	2.3
Female	63.7	13.2	11.7	7.8	3.6
Normal data	78.0	9.0	8.0	3.0	2.0

Copenhagen Burnout Inventory

The tables following all compare the mean burnout score of veterinarians to the normative data mean

Comparison of mean burnout scores

	Personal Burnout	Work Burnout	Client Burnout
Veterinarians	42.8	41.6	35.5
Normal data	35.7	33.0	29.9

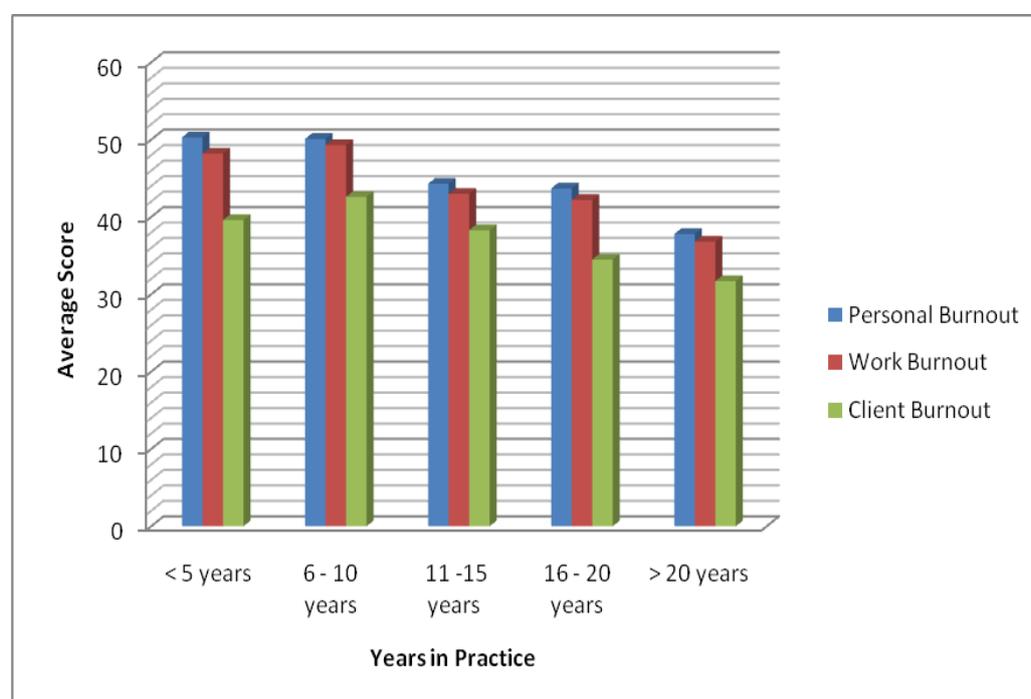
Comparison of the mean burnout scores for male veterinarians

	Personal Burnout	Work Burnout	Client Burnout
Male	37.2	36.8	33.3
Normal data	30.7	31.3	24.1

Comparison of the mean burnout scores for female veterinarians

	Personal Burnout	Work Burnout	Client Burnout
Female	48.6	46.5	37.8
Normal data	35.7	33.0	29.9

The relationship of mean burnout scores and years after graduation



Normal mean scores Personal burnout 35.7, work burnout 33 and client burnout 29.9.

Veterinarians are over-represented in the moderate, high and very categories of psychological distress as measured by the Kessler K10 when compared to the general Australian population. There are gender differences across these categories with more females being in these categories than males. These differences were statistically significant.

The DASS21 measures the negative affective states of depression, anxiety and stress and allows each to be studied individually. The percentage of veterinarians suffering depression is significantly higher in the moderate, severe and very severe groupings than is found in the normal population. The percentage of depressed female veterinarians is significantly higher than their male counterparts. Overall the percentages suffering anxiety is lower than in the normal population, however in comparison female veterinarians suffer more anxiety than those in the normal population. In regard to the percentage of veterinarians suffering stress it is significantly higher than the normal population with both males and females being affected and again females are more affected than are male veterinarians.

Burnout scores for veterinarians were statistically significantly higher on the personal, work and client related dimensions when compared to normative data. Again female veterinarians suffered statistically significant more burnout more than their male counterparts. Burnout was highest for the first 10 years after graduation, decreasing to the 15th year than remaining relatively constant till the 20th year when another significant decrease was noted.

Burnout has been described in three dimensions exhaustion (physical and emotional), depersonalization and reduced personal accomplishment. Along with the physical and emotional exhaustion is fatigue and depression. The level of depression in veterinarians maybe directly linked to the high levels of burnout.

The relationship of burnout to the demand-control model and effort-reward imbalance model of workplace stress remains to be reported.

Conclusion

Burnout has been identified as a major source of workplace stress and is adversely effecting the mental health of veterinarians in Australia. Further analysis of the data for mediating factors will continue and be reported.

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Bibliography

Baille, A .J. (2005). Predictive gender and education bias in Kessler's psychological distress scale (K10). *Social psychiatry and psychiatric epidemiology*, 40.

Heath, T. (2001). *Career Paths of Australian Veterinarians*. Post Graduate Foundation in Veterinary Science of the University of Sydney.

Kristensen, T.S., Borritz, M.E., Villadsen , E., Christensen K.B. The Copenhagen Burnout Inventory: A new tool of the assessment of burnout. *Work and Stress* ,19(3).

Lovibond, P.F. & Lovibond S. H (2004). *Manual for the Depression Anxiety and Stress Scales (2nd Ed.)* : Psychology Foundation Monograph.

Statistics, Australian Bureau of (2006) from www.census.gov as /AUSSTATS/abs@nsf/