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Challenging identity: Development of a measure of veterinary career motivations

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ABSTRACT

Background

While little is known about the motivations underpinning veterinary work, previous literature has suggested that the main influences on veterinary career choice are early/formative exposure to animals or veterinary role models. The aim of this study was to develop and provisionally validate a veterinary career motivations questionnaire to assess the strength of various types of career motivations in graduating and experienced veterinarians.

Methods

A cross-sectional sample of experienced veterinarians (*N*=305) and a smaller cohort of newly-graduated veterinarians (*N*=53) were surveyed online using a long-form questionnaire. Exploratory factor analysis (EFA) was used to iteratively derive a final, short-form questionnaire for survey of a second cross-sectional sample of experienced veterinarians (N=751).

Results

EFA derived a final questionnaire with 22 items loading onto six factors (*social purpose, animal orientation, vocational identity, challenge and learning, career affordances*, and *people orientation).* While motivations based in *animal orientation* were predictably strong, those based in *vocational identity* were not universal and were weaker in younger and graduate veterinarians; both of these motivations were rated lower by males. Motivations based in *challenge and learning* emerged as some of the strongest, most universal and most influential; *people orientation* and *social purpose* were also important, particularly for older veterinarians.

Conclusion

The major motivations for pursuing a veterinary career may best be represented as an intrinsic passion for animal care and for learning through solving varied challenges. These motivations are largely intrinsically oriented and autonomously regulated, thus likely to be supportive of work satisfaction and wellbeing.

INTRODUCTION

What motivates people to become veterinarians, and what provides ongoing motivation for veterinarians in their work? While it might be assumed that the barrier of highly competitive selection implies strong career motivations in incoming veterinary students, little is known about the nature of these motivations and how they evolve across the transition to work, or across the career lifespan. Several propositions are clearly flagged in the literature: that people decide to become veterinarians at an early age,[1-6] and that this decision is typically influenced by formative exposure to animals[1-4,7] or veterinary role models.[4,5,7,8] However these factors describe more the *narrative* of initial career choice, than the ongoing or future motivations that veterinarians might seek in their work. By contrast, an exploratory qualitative study of the career motivations stated by graduating Australian veterinary students[9] found that statements of early vocational identity were not prominent. Rather, graduates stated a broad range of reasons for becoming a veterinarian in addition to animal-oriented identity, including themes such as love of learning, challenge and problem-solving, variety, social relatedness, helping people, social contribution, and career opportunity. An interview-based qualitative study in the UK found similar themes of intrinsic interest in scientific problem-solving, and navigating belongingness.[6]

Some data suggest gender differences in veterinary career motivations, which are of interest given the strong gender bias in those entering the profession.[3,5,10] In Heath's longitudinal studies, female students reported deciding to enter veterinary science earlier, and were more influenced by 'love of animals' and 'interest as a child in living things' relative to males, who were more influenced by income.[10] Ilgen *et al.*[7] found in the US that females were more likely to report being attracted to the career by the experience of owning a pet and the opportunity to care for animals, while men were more likely to be attracted by career status or "the rigour of the educational environment".[(p. 1590)] Similarly in UK veterinary students, females were more likely to confirm 'owning an animal', 'something I always wanted to do' and 'visited a vet with a sick animal' as reasons for choosing a veterinary career, while males were more likely to indicate 'hardest course to get into', 'to join a profession' and 'want to train as a scientist'.[11] In a French study, Sans *et al.*[5] found the themes of 'passion', 'vocation/dream job', 'varied job', 'animal welfare', and 'liking animals' were more frequently cited by female students, while males were more likely to state 'high income' or 'well-thought-of job'. Female veterinary students have been shown to have

greater concerns for animal welfare than males,[2,10] and similar bias towards animal welfare has been shown in the context of analgesia provision by female veterinarians.[12,13]

While most of these studies have approached veterinary career motivations in the context of college admissions and future workforce planning, motivation influences a wide range of important outcomes including work performance, engagement, learning, and job satisfaction. A small but consistent body of evidence shows that veterinarians find job satisfaction from intellectual challenge and learning, from client and colleague relationships, and from 'making a difference' through helping animals, people, and society.[14-16] Motivation is also a central factor in veterinarian resilience and wellbeing.[9,17] One major theoretical framework linking motivation and wellbeing is Self-Determination Theory (SDT),[18] which concerns the quality, rather than the quantity, of the motivations underpinning behavioural choices, particularly the degree to which these are self-regulated and autonomous. SDT broadly divides motivations into those that are *intrinsic* (inherently rewarding) versus those that are *extrinsic* (for attainment of an external goal or reward separable from the activity itself). These can be further subdivided into a continuum in which extrinsic motivations are categorised by the degree to which they are internalised, and thus supportive of fundamental psychological needs for competence, relatedness, and autonomy. Motivations closer to the intrinsic/autonomous end of the SDT continuum have been associated with positive psychological consequences.[18] In the context of medical education, the Academic Motivation Scale (AMS) builds on SDT by further subdividing intrinsic motivations according to their alignment with the needs to *know*, to *accomplish*, or to experience *stimulation*.[19] This scale has itself been adapted and validated for veterinary education by Vandeweerd *et al.*[20] as the 'Veterinary Motivation Test'. Cake *et al.* [9] similarly found that SDT and the AMS formed a useful explanatory framework for typifying the career motivations stated by graduating veterinary students.

Notwithstanding the consistency of the above evidence, this study was designed to address several knowledge gaps around veterinary career motivations. Most studies of motivation have sampled undergraduates, rather than working veterinarians, and have discussed the likelihood that regardless of a person's initial motivations for entering veterinary science, these may change across their career.[1,3,5-7,9] This leaves open questions around whether patterns of career motivations are similar between veterinary students and experienced veterinarians, and thus by inference how these change over time or with increasing work

experience. Comparison of motivation between populations or over time ideally requires a career motivation questionnaire that has been designed and validated for veterinary contexts. The structure and wording of the 'Veterinary Motivation Test' developed and validated by Vandeweerd *et al.*[20] render it principally suitable for student contexts. Accordingly, the aims of this study were to develop and pilot a veterinary career motivations questionnaire, and apply this to assess the strength of various types of career motivations in graduating and experienced veterinarians. In order to establish construct validity, the sensitivity of the instrument to predicted gender effects was tested, as well as the relationship between career motivations and basic demographics including age and type of practice.

METHODS

Sampling

Three survey samples were collected independently, two within a broader study of veterinarian resilience conducted as part of the VetSet2Go project (www.vetset2go.edu.au). Briefly, a cross-sectional sample of experienced veterinarians in 2016 (survey 1) and a smaller cohort of newly-graduated veterinarians in 2016 (survey 2) were surveyed using a long-form questionnaire; exploratory factor analysis (EFA) and iterative item reduction was then used to derive a short-form questionnaire for survey of another large, cross-sectional sample of experienced veterinarians in 2017 (survey 3). All surveys were administered online using SurveyMonkey (www.surveymonkey.com). Recruitment for the first sample was by an invitation appended to another survey related to employability, which was distributed through veterinary journals and organisations in Australia, New Zealand, the UK and parts of the USA. New graduate veterinarians (survey 2) were recruited at the point of graduation, from the 2016 cohort of graduating students at five Australian veterinary schools (University of Adelaide, University of Sydney, University of Melbourne, Murdoch University, and James Cook University) by emailed invitations distributed via internal university mailing lists immediately after the final examinations. The short-form questionnaire (survey 3) was included in a longer survey for a study of resilience in veterinarians. An email invitation to join the study was distributed via professional groups including Australian state veterinary registration boards, the Australian Veterinary Association, and the VetSet2go project. The survey was available during August-November 2017 for a period of 3 months. This study was

approved by the University of Adelaide Human Research Ethics Committee (H-2015-257, H-2016-206, H-2017-073) and all participants consented to use of their anonymised responses for this purpose.

Questionnaire

Initial questionnaire development was based on the exploratory study of Cake *et al.*,[9] which captured the range of career motivations stated by graduating veterinarians using a free-response Ten Statements Test,[21] and coded these into themes mapped against major motivational theories including SDT and expectancy-value theory. This precursor study effectively established the conceptual framework, and face and content validity for the questionnaire developed in the present study. The Factors Influencing Teaching Choice (FIT-Choice) questionnaire developed for teacher education[22] provided an additional framework for item development.

Based primarily on participant's free-choice responses in Cake *et al.*,[9] the long-form iteration of the questionnaire included 71 items under the stem question '*I am motivated to be a veterinarian because…*', rated by a five-point Likert scale for their importance to the respondent's motivation to be a veterinarian (1: not at all like me, 2: rarely like me, 3: sometimes like me, 4: often like me, 5: very much like me). Items were selected to test a wide range of hypothesised motivation factors based on Cake *et al.*[9] and Watt & Richardson's[22] FIT-Choice framework, including prior experiences, self-beliefs (e.g., ability beliefs), intrinsic value, task demand, task return, and 'fallback career'. In order to test convergent validity in the absence of suitable validated comparison measures, four items were added to provide global measures for motivation ('*My work as a veterinarian is motivating'; 'I am motivated to remain a veterinarian'*) and career satisfaction ('*I am very satisfied with my choice of becoming a veterinarian'; 'Working as a veterinarian gives me great satisfaction'*).

Analysis

Data were analysed using SPSS Statistics (v. 24.0, IBM). Normality of data was confirmed from histogram shape, Q-Q plots, skewness and kurtosis as well as Kolmogorov-Smirnov and Shapiro-Wilk tests. In order to reduce the length of the questionnaire and distil its component structure, EFA was performed using principal axis factoring with oblique rotation (oblimin with Kaiser normalisation). Items were removed in a iterative procedure to

stepwise eliminate items with weak loading (less than 0.4), generalised loading onto multiple factors, or poor fit to other items in emergent factors (*i.e.*, poor content validity and interpretability).[23,24] Sampling adequacy was assessed using the Kaiser-Meyer-Olkin test and Bartlett's test of sphericity. Validity of factors was established from scree plot (Cattell's test) and eigenvalues of ≥1. Cronbach's alpha was used to establish internal consistency of final factors; an alpha of 0.7-0.9 was considered good.[23] Effect of item removal was also tested (i.e., that item deletion did not result in improvement of alpha for the remainder). A minimum of three items were retained per factor.[24] Using the same method, EFA was independently repeated for the short-form questionnaire data from survey 3.

Item means were compared by gender, and for new graduate versus experienced veterinarians (i.e., survey 2 versus survey 1+3 combined) by independent Student's *t*-tests. Correlations between factor subscales were determined by Pearson's correlation coefficient from the combined (surveys 1-3) sample, and also correlations against the global satisfaction and motivation measures where included (surveys 1 and 2). The effect of demographic factors (age, gender, practice type) on factor subscales was tested by multivariate general linear regression with age in years as a covariate. Practice type was categorised into small animal practice, large animal practice (including production animal, equine and mixed practice), and non-clinical work (government, industry, academia, research, etc.). The treatment of Likert ratings as interval data and the use of parametric tests followed Rattray & Jones[23] and Norman[25] who found these tests robust to violations of assumptions. *P*-values of <0.05 were considered statistically significant.

RESULTS

Across the three surveys, 1081 participants provided sufficiently complete responses for inclusion; 69% of all respondents were female. The mean (median) age of respondents was 43.6 (43.0) years in survey 1 (*N*=305), 25.6 (24.0) years in new graduate survey 2 (*N*=53), and 45.5 (43.0) years in survey 3 (*N*=751). In the first survey the nationality or location of respondents was not known, but most were graduates of Australian veterinary schools, with a minority from schools in the UK and Europe (13%), USA (4%), New Zealand (2%) and elsewhere (<1%). In survey 3, nearly all respondents were registered in Australia (98%), though some were trained elsewhere including the UK and Europe (5%), New Zealand (2%),

and the USA (1%). Because of the open survey distribution via third parties, response rates could not be calculated.

For the initial EFA, the Kaiser-Meyer-Olkin statistic (0.815) and Bartlett's sphericity test (P<0.0005) confirmed adequacy of sample size and correlation assumptions. Although acceptable normality of data was confirmed for all items, some items showed some mild-moderate skewness towards higher ratings. However, this was considered acceptable for EFA which does not require strict assumptions of normality. EFA extracted 6-8 valid factors at each stage of stepwise item reduction, which was performed in seven steps. The predominant themes of factors transiently identified at each iterative step included: *animal orientation, people orientation, love of challenge and learning, problem-solving, variety, social contribution, vocational identity, job security/stability*, and *job opportunity*. Several of these themes coalesced during stepwise item reduction to yield a final structure with 22 items loading to six factors: *social purpose, animal orientation, vocational identity, challenge and learning, career affordances*, and *people orientation* (**Table 1**). These factors explained 70.4% of the variance. Cronbach's alpha coefficients indicated good internal consistency that could not be improved by item deletion for most factors, albeit marginal for *career affordances*, potentially indicating some heterogeneity in this construct. The item *'I want to help people'* cross-loaded onto *people orientation* and *social purpose*, but was retained in *people orientation* due to its high content validity. Identical factor structure and similar internal consistency were found when EFA was repeated with the reduced 22-item questionnaire in survey 3.

TABLE 1 NEAR HERE

A number of highly-rated items eliminated during the EFA aligned to the intrinsic motivation subtypes of the AMS, for *knowledge ('I am interested in the science (biology, physiology, medicine)'*, 4.30±0.86), for *achievement* (*'I like achieving good outcomes for patients'*, 4.38±0.80; *'I like achieving good outcomes for clients'*, 4.22±0.79) and for *stimulation* (*'It is an interesting job'*, 4.22±0.76; *'I find veterinary work stimulating'*, 4.07±0.87). While consistent with theories of motivation, these items failed to load with the final factors.

The most highly rated items in the final derived questionnaire (**Table 1**) comprised the *animal orientation* and *challenge and learning* factors, while the lowest rated items were in

career affordances. Items in *vocational identity* had the most variable responses (*i.e.*, highest standard deviation), with over a quarter of respondents rejecting (*i.e.*, score 1 or 2) the statements '*I've always wanted to be a veterinarian'* and '*It is all I've ever wanted to be'*. Item ratings in the new graduate cohort (survey 2) were significantly higher compared to more experienced veterinarians for multiple items, but significantly lower for two items within *vocational identity* ('*I've always wanted to be a veterinarian*' and '*It was a childhood dream to become a veterinarian*') and the item '*It provides a decent income*'. Item ratings by female respondents were higher compared to males for all items in the *vocational identity* and *animal orientation factors*, but significantly lower for '*It provides a decent income*' and '*There are lots of career opportunities as a veterinarian*'. These gender effects were confirmed at subscale level by multivariate regression (**Table 2**). Respondent age was positively correlated with subscale scores for *vocational identity*, *challenge and learning*, *people orientation*, and *social purpose*. Compared to small animal practice, large animal practice was positively associated with higher subscale ratings for *challenge and learning*. Compared to clinical (small animal and large animal) practice, non-clinical practice was associated positively with motivations in *challenge and learning*, *social purpose* and *career affordance*s, and negatively with *people orientation*.

TABLE 2 NEAR HERE

Bivariate correlations between subscales **(Table 3)** showed that while all correlations were statistically significant, *vocational identity* correlated most strongly with *animal orientation*, while the *people orientation*, *social purpose* and *career affordances* subscales correlated most strongly with each other. While all factor subscales were significantly correlated with the global motivation and global satisfaction items included in surveys 1 and 2 (treated as respective global estimates), the *vocational identity* and *animal orientation* subscales were found to correlate mostly weakly with these global measures. Cronbach's alpha values for the global motivation and global satisfaction measures were 0.72 and 0.88 respectively.

TABLE 3 NEAR HERE

DISCUSSION

This study aimed to develop and provisionally validate a veterinary career motivations questionnaire, in order to survey the quality of motivations (*i.e.*, subtypes or patterns of motivation, rather than general level of motivation) underpinning veterinary career choices. The breadth and factorial pattern of the motivations included in the final derived instrument generally support the motivational taxonomy and conclusions of the precursor exploratory study by Cake *et al.*,[9] namely that there are multiple strong motivations for veterinary work including, but clearly not limited to, early vocational identity and affinity for animals. This only partially supports the predominant view from earlier literature, that the major veterinary career motivations are a strong sense of vocational identity[1-6] developed alongside a love of animals.[1-4,7] While *vocational identity* was indeed found to be correlated with *animal orientation* and endorsed as a career motivation by a large subset, identity-based motivations were rejected by over a quarter of respondents and rated significantly lower by younger and recently graduated veterinarians. This suggests that vocational identity forms a relatively stronger motivation for older veterinarians; alternatively this may possibly indicate a generational shift in the importance of formative/childhood experiences as motivations for pursuing veterinary careers. Motivations formed around *vocational identity,* and to a lesser extent *animal orientation*, were also found to have the weakest correlation to global motivation and satisfaction, subject to the caveat that these simple global estimates were unvalidated.

By contrast, motivations based in *challenge and learning* (*e.g.*, love of learning and problem-solving) were found to be among the highest rated, most universal, and most influential (*i.e.*, most strongly correlated to global motivation and satisfaction). This aligns with the conception of Armitage-Chan *et al.*[26] of the veterinary professional as one who navigates challenges and solves problems in order to help animals, people and society. Results also suggest that motivations in *challenge and learning* may become increasingly important for older veterinarians, and are positively associated with career choices in large animal and non-clinical practice. Motivations comprising *animal orientation* were also highly rated, in line with previous literature[1-5,7,9] and as might be expected in predicting why intelligent, medically-minded people might choose to pursue veterinary rather than human healthcare. Since many veterinary entrants might potentially have also satisfied entry requirements for medical or paramedical courses, they may have already decided significant life choices based on their stronger motivations for animal versus human care. Importantly though, *animal orientation* motivations should not be viewed as inversely correlated with human-oriented

or social motivations, since these were instead found to be (weakly) positively correlated. While motivations around *people orientation* and *social purpose* may become more important with age and experience as suggested by Cake *et al.*,[9] *animal orientation* motivations apparently remain very strong across veterinary careers. In line with prior literature,[3,15,27-30] extrinsic motivations here comprising *career affordances*, particularly '*It provides a decent income*', were found to be comparatively less important, except perhaps for those pursuing non-clinical careers. This adds to already comprehensive evidence that veterinarians are not strongly motivated by financial gain,[31] a point noted as being potentially at odds with the status of many veterinarians as fee-for-service providers within small businesses.[32]

As predicted from previous studies[2,3,5,7,10] gender significantly influenced the pattern of veterinary career motivations, with female respondents rating *vocational identity* and *animal orientation* more highly, and some aspects of *career affordances* (income, opportunities) lower. This closely aligns to various reports that female veterinary students are more likely to indicate a love of animals,[3,5,7,10] a sense of vocational identity[5,11] and concern for animal welfare,[2,5,10] while male students are more likely to be attracted to the profession by potential income[5,10] or status.[5,7,11] Similar patterns have been reported for the academic motivations of medical students, with females higher in intrinsic motivation subscales, while males are more extrinsically motivated.[19,33] However gender effects were notably absent in surveys of French and Belgian students using a comparable instrument the Veterinary Motivation Test,[20] suggesting a difference in either that sample population, or the items and subscale structure of that questionnaire.

Cake *et al.*[9] found that the stated motivations of newly graduated veterinarians included multiple intrinsic and extrinsic motivations as defined by SDT,[18] but that this dichotomy was somewhat forced, for example in splitting the love of animals (intrinsic) from the desire to reduce animal suffering (extrinsic). Such motivations comprised a single factor in the present study, supporting the internalised, autonomously-regulated nature of motivations based in helping animals and people. Similarly while intrinsic motivations for learning, accomplishment and stimulation were strong, these did not resolve into distinct factors as in some academic motivation scales.[19,20,34] Rather, the factors resolved in this study reflected more the *subject* of the motivations (*i.e.*, animals, people, society or self). Nevertheless, the motivations broadly aligned with SDT macrotheory in reflecting fundamental needs for

competence (*challenge and learning*), relatedness (*people orientation*), and autonomy (in the sense of personally congruent and meaningful purpose). Motivations that are intrinsic or autonomously-regulated in the SDT continuum are predictive of positive psychological outcomes.[18,35] These findings again demonstrate the potential alignment of veterinary career motivations with known sources of work satisfaction,[14-16] job characteristics associated with positive outcomes,[30] and predictors of eudaimonic wellbeing (*i.e.*, wellbeing based in self-actualisation and meaningful fulfillment)[18,36] as outlined conceptually by Cake *et al.* (2015).[14] For example, motivations based in helping others (animals, people) align to the elements of meaning or purpose prominent in the models of wellbeing used in positive psychology.[14,36]

This study provisionally established the validity of a 22-item questionnaire measuring the quality of veterinary career motivations. Content validity was established since the items were derived from authentic responses, and matched key predictors of motivation and work satisfaction identified in the literature.[14,30] Construct validity was demonstrated by the stability of factor structure across multiple cohorts, and by sensitivity and specificity at subscale level to known gender differences predicted from previous studies, as well as other demographic factors. Convergent validity was demonstrated by correlation with global estimates, though the unvalidated and *ad hoc* nature of these global measures is acknowledged. However, this questionnaire should not be considered to be fully validated and cautious use is recommended with further validation in other contexts. Several limitations of this study are acknowledged. Like the AMS, the instrument measures the quality or type of motivation, and has not been validated as a measure of strength of motivation. The sample population was mainly Australian, hence the findings and questionnaire validity may not be generalisable to other cultural contexts. All measures were self-reported, and subject to possible bias such as social desirability or evaluator apprehension bias. Some skewness of ratings towards the maximum may have affected analyses, although EFA, alpha coefficients[37] and the parametric statistics applied to ordinal Likert scales are generally considered robust to non-normality.[23,25] Future use of a 7-point scale may resolve skewness towards maximal scores. Inter-item correlations and alphas for *vocational identity* were high, indicating likely redundancy in the three retained items; one of these items could be safely removed, or this subscale omitted if not a variable of interest in future studies.

CONCLUSION

This study provides fresh insights into the career motivations of veterinarians, which are not well studied beyond veterinary student studies and scant data on job satisfaction.[6,14-16] Cross-sectional surveys using a provisionally validated veterinary career motivations questionnaire confirmed that there are multiple strong motivations for veterinary work, beyond the early vocational identity and love of animals typically stated in existing literature. Rather, the major motivations for pursuing a veterinary career may best be represented as an intrinsic passion for animal care and for learning through solving varied challenges. People- and community-oriented social purpose are also important motivations, which may become stronger in older, experienced veterinarians.

These findings have implications for educational and workplace interventions around the work satisfaction and wellbeing of veterinarians. Veterinary career motivations should not be viewed as one-dimensional or fixed by prior experiences. Rather, they are broad and multifactorial and vary between different people, most notably in distinct gender differences but also for veterinarians pursuing different career paths. A strong sense of vocational identity is expressed by many veterinarians but is not necessary or predictive. Importantly, the career motivations of veterinarians are shown to be largely intrinsically oriented and autonomously regulated, thus likely to be supportive of work satisfaction and wellbeing. This points to the value of appreciating and enabling the motivations underpinning veterinary work. Raised awareness and facilitation of an individual's particular set of motivations potentially supports the fulfillment and satisfaction they gain from work, with positive effects on mental health and wellbeing as well as flow-on benefits to work engagement and performance.[18,30] The veterinary career motivations questionnaire developed and provisionally validated in this study may facilitate awareness by providing insights into the motivation patterns of individuals and demographic groups.

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COMPETING INTERESTS

None declared

ETHICS APPROVAL

This study was approved by the University of Adelaide Human Research Ethics Committee (H-2015-257, H-2016-206, H-2017-073)

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Table 1: Items of the final veterinary career motivations questionnaire with subscale reliability (Cronbach's alpha) and factor loadings from exploratory factor analysis, mean ratings (max.=5) by career stage cohort and gender, and percentage agreement (*i.e.*, score 4-5/5).

	alpha		Loading		Mean (SD)				% agree
					Experienced	New grad.	Males	Females	
Survey sample	**1,2**	**3**	**1,2**	**3**	**1,3**	**2**	**1-3**	**1-3**	**1-3**
I am motivated to be a veterinarian because… ***N=***	*359*	*751*	*359*	*751*	*1057*	*53*	*341*	*768*	*1110*
Vocational Identity	0.94	0.87							
I've always wanted to be a veterinarian			0.94	0.85	3.93 (1.27)	3.42 (1.34)**	3.57 (1.36)	4.05 (1.21)**	69
It was a childhood dream to become a veterinarian			0.93	0.88	3.63 (1.51)	3.17 (1.58)*	3.10 (1.51)	3.84 (1.46)**	60
It is all I ever wanted to be			0.89	0.87	3.39 (1.42)	3.00 (1.43)	2.98 (1.63)	3.55 (1.41)**	52
Challenge & Learning	0.75	0.87							
I like the challenge of veterinary work			0.78	0.73	4.09 (0.85)	4.26 (0.83)	4.16 (0.84)	4.08 (0.86)	78
I like learning new things			0.76	0.68	4.46 (0.70)	4.70 (0.50)*	4.44 (0.68)	4.49 (0.69)	91
I like solving problems			0.64	0.66	4.40 (0.69)	4.60 (0.63)*	4.44 (0.69)	4.40 (0.69)	89
I like the variety of veterinary work			0.47	0.58	4.05 (0.81)	4.42 (0.75)**	4.07 (0.81)	4.07 (0.82)	78
Animal Orientation	0.85	0.89							
I like working with animals			0.82	0.76	4.40 (0.75)	4.58 (0.66)	4.20 (0.84)	4.51 (0.69)**	88
I want to help animals			0.81	0.82	4.27 (0.81)	4.53 (0.67)*	3.98 (0.87)	4.41 (0.75)**	84
I like interacting with animals			0.77	0.86	4.37 (0.76)	4.75 (0.52)**	4.12 (0.82)	4.51 (0.69)**	88
I love animals			0.70	0.81	4.14 (0.96)	4.57 (0.75)**	3.74 (1.05)	4.35 (0.85)**	77
I want to prevent animal suffering			0.63	0.54	4.19 (0.91)	4.57 (0.64)**	3.93 (0.98)	4.33 (0.84)**	81
People Orientation	0.82	0.76							
I like working with people			0.85	0.87	3.61 (1.00)	3.75 (1.04)	3.68 (1.00)	3.59 (0.99)	57
I like interacting with clients			0.83	0.85	3.57 (1.05)	3.87 (1.06)*	3.63 (1.08)	3.56 (1.03)	58
I want to help people			0.64	0.61	3.79 (0.95)	4.08 (1.00)*	3.74 (0.94)	3.84 (0.96)	65
Social Purpose	0.84	0.83							
I want to contribute to society			0.91	0.77	3.95 (0.94)	4.26 (0.96)*	3.90 (0.95)	4.00 (0.93)	72
I can make a difference to society			0.76	0.82	3.60 (0.99)	4.11 (0.99)**	3.61 (1.04)	3.63 (0.97)	55
I can contribute to the community			0.69	0.87	3.75 (0.94)	4.02 (1.11)*	3.79 (0.93)	3.75 (0.96)	62
Career Affordances	0.71	0.63							
It provides a decent income			0.70	0.61	3.01 (1.11)	2.58 (1.01)*	3.23 (1.11)	2.87 (1.08)**	33
It is a respected profession			0.60	0.42	3.48 (1.01)	3.70 (1.03)	3.54 (1.06)	3.47 (0.98)	53
There are lots of career opportunities as a veterinarian			0.59	0.55	3.26 (1.10)	4.00 (0.88)**	3.52 (1.14)	3.20 (1.07)**	44
It offers job security			0.54	0.59	3.57 (1.03)	3.49 (1.03)	3.63 (1.08)	3.54 (1.00)	57

Independent *t*-test * $P < 0.05$, ** $P < 0.005$

Table 2: Multiple linear regression analysis (unstandardised ß coefficient estimates) for the effect of demographic factors within motivation subscales, including practice with a large animal component (*i.e.*, production animal, equine, or mixed practice; *N*=249) and non-clinical practice (*i.e.*, industry, government, research, academia; *N*=148). Statistically significant effects are highlighted in bold.

Factor	Age			Gender			Practice type						Model
	Years			*Female*			*Large animal*			*Non-clinical*			
	ß	F	*P*	ß	F	*P*	ß	F	*P*	ß	F	*P*	R
Vocational Identity	**0.025**	50.90	0.031	**2.053**	4.65	<0.001	-0.163	0.318	0.573	-0.404	1.32	0.573	0.23
Challenge & Learning	**0.020**	2.17	0.004	0.258	8.34	0.141	**0.398**	5.09	0.024	**0.539**	6.34	0.012	0.14
Animal Orientation	0.019	84.47	0.052	**2.222**	3.79	<0.001	-0.505	4.30	0.052	-0.181	0.38	0.539	0.30
People Orientation	**0.033**	2.18	<0.001	0.289	17.5	0.140	-0.028	0.02	0.888	**-0.490**	4.21	0.040	0.14
Social Purpose	**0.020**	3.69	0.008	0.366	6.98	0.055	0.044	0.05	0.818	**0.959**	16.99	<0.001	0.17
Career Affordances	0.016	7.47	0.080	**-0.610**	3.07	0.006	0.239	1.13	0.288	**1.084**	15.80	<0.001	0.19

Table 3: Bivariate correlations between motivation subscales (*N*=1108) and global correlates (†survey 1 and 2 only, *N*=352).

	1	2	3	4	5	6	7
1. Vocational Identity	-						
2. Challenge & Learning	0.170**	-					
3. Animal Orientation	0.407**	0.292**	-				
4. People Orientation	0.107**	0.361**	0.182**	-			
5. Social Purpose	0.118**	0.369**	0.263**	0.582**	-		
6. Career Affordances	0.071*	0.352**	0.155**	0.380**	0.425**	-	
7. Global Motivation†	0.130*	0.535**	0.264**	0.418**	0.429**	0.395**	-
8. Global Satisfaction†	0.183**	0.546**	0.255**	0.433**	0.387**	0.440**	0.819**

Pearson's correlation * $P < 0.05$, ** $P < 0.005$.