Equine veterinarian medicine students and their future job

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Abstract

Equine veterinarian medicine students do not feel prepared for their future job and experience negative effects such as signs of burn-out. These effects can influence their person-job fit (PJ fit). This study investigated the relationship between the competences of the Veterinary Employability model and students' perceived PJ fit. The competences can be divided into five orientations; veterinary capabilities; professional commitment; effective relationships; psychological resources; self-awareness. Expected was that the higher the score on the competences within every orientation, the greater the perceived PJ fit. In addition, passion is added as a moderator to the relationship of the competences – and the orientations of the competences – and PJ fit. Self-reports of 54 students from various universities and origin were gathered with an online survey shared by e-mail and other social media platforms. A cross-sectional study design was used. Results showed only a positive statistically significant effect ($p < .05$) for the relationship between the competences and PJ fit. When passion was added as moderator, no statistically significant results were found ($p = .05$). No positive statistically significant effect ($p > .05$) was found for the relationship between each orientation of the competences and PJ fit, nor for these relationships and passion as moderator ($p > .05$). Passion seems to be a better predictor for PJ fit than competences. Further research should investigate the construct used in this study and their unique variance. Finding the best predictor for PJ fit could decrease the dropout of young equine veterinarians experienced by Altano Gruppe.

Keywords: equine veterinarian medicine students, Europe, competences, veterinary capability, professional commitment, effective relationships, psychological resources, self-awareness, person-job fit, passion.

Introduction

The veterinary industry has been dealing with concerns about the decreasing number of veterinarians lately. Within the first five years, 17% of young equine veterinarians quit (Bergman, 2022). They are dissatisfied with their career and their opportunities for development (Vet Futures, 2015), which contributes to a shortage of professionals (Kramer, 2018). Altano Gruppe – a national group with 21 leading horse clinics (Altano Gruppe, 2022) – struggles with retaining employees and has noticed that equine veterinarians leave the field within the first five years of their career. They assume this is caused by the 'sacrifice' – willing to put in a very high level of work and put off other activities – to develop practical skills to become a good equine veterinarian in the first two to three years. The present study is conducted in collaboration with Altano Gruppe; they think that research specifically on equine veterinarians can offer new perspectives.

At the beginning of their veterinarian career, or earlier during their education, professionals experience negative emotions. In Australia, for example, veterinarians experience a greater risk – 45.2% – of suicide when compared to the general population (Crane et al., 2017; Jones-Fairnie et al, 2008). In The Netherlands, 77% of the veterinarians feel that their education is insufficient to fulfill the new job requirements (Vos et al., 2000). Students experience the transition from university to the workplace as a challenging period, because of the rapidly changing personal and professional life (Mastenbroek, 2017; Rhind et al., 2011). In general, this challenging period is attended by elevated stress levels, negative emotions, depression, and signs of burn-out (Duijn et al., 2020). Additionally, students are less resilient because of major changes in their lives; moving out, financial conditions, new friends (Gelberg & Gelberg, 2005). The rate of dropouts during university is unknown, but it seems low according to the master's core in The Netherlands (B. Dieckmann, personal communication, May 6, 2022). Considering most veterinary studies in Europe take about six years to complete, there should be something that keeps students going. Equine veterinarian medicine students found a very specific discipline; a choice in which passion probably plays an important role (Garton, 2016).

The experienced negative effects mentioned by Duijn and colleagues (2020) can be lower when there is a better fit between the students' own competences and the demands of the job. Individuals for whom their professional needs match the job demands do better in terms of stress and performance when something changes in their job environment; going from university to the workplace. Besides, this balance reduces the ill-effects of stress and strain (Chilton et al., 2010). The present study focused on the relationship between competences that are required as equine veterinarian and the person-job fit (PJ fit). Passion

was considered as a factor, because students keep on going even when they experience stressors during education already. This leads to the following question: *"How do competences influence the person-job fit, and how does passion influence this relationship?"*

Equine veterinarians

In general, the mental health of equine veterinarian medicine students is alarming (Crane et al., 2017; Duijn et al., 2020; Jones-Fairnie et al., 2008), which raises concerns about the sustainability of the equine veterinary industry (Vet Futures, 2015). Focus on equine veterinarians is, besides the request from Altano Gruppe, interesting because they are a unique segment. Horses are different from small- and food animals; they are expensive to buy and keep (Departement Omgeving, 2018), and they often need to perform in competitions. This pressure to perform weighs heavily on the equine veterinarians too, as they are expected to heal injuries in the quickest way possible. As a lot of money is involved in this sport (Leenstra et al., 2011). In addition, horses need more care, which means more veterinarians are needed per animal. Summarizing, the demands for equine specialists ought to continue to grow (Kramer, 2018).

Previous research

Previous research mainly focused on all disciplines of veterinarians and did not consider the differences between equine veterinarians and veterinarians for small- or food animals. Likewise, Cake and colleagues (2018) completed one of the largest research projects worldwide, investigating the competences that are needed for veterinarians to build a sustainable career. Only 70 participants (5.5%) of their target group worked as equine veterinarians. They are the only ones who developed a framework for the competences that are needed for veterinarians. Competences are defined as "the professional and personal characteristics of a person influencing the ability to work and effecting the personal well-being in life" (Cake et al.). The present study sees the 18 competences as behavior of the student, divided within an orientation. Each competence is clearly defined in the glossary (Appendix A) based on the framework; the framework will be explained in heading Theoretical Framework. It is notable that very little research has been done on equine veterinarians alone.

The fact that little research has been done, may be explained by the equine sector being the smallest one. Only 14% of all veterinary medicine students choose the discipline of equine (Bergevoet et al., 2020). Research that has been completed focuses mainly on the veterinarians and not on the students. Research showed that recently graduated veterinarians experience work-life imbalance, inadequate compensation, insufficient support from employers, high work pressure and high personal expectations that cannot be met (Bergevoet

et al.) – the 'sacrifice'. Stressors are already experienced during their study (Bergevoet et al.). It seems there is a mismatch between the employees and their jobs and/or between students and their education.

To explore to what extent students feel competent and ready for the job market, a self-assessment on the competences (Cake et al., 2018) was used in this study. The target group is relatively small – for reference, only 24 students start every year in The Netherlands – so this study will focus on all equine veterinarian medicine students within Europe. As described earlier, little research has been done on equine veterinarians specifically. However, considering the consequences of the demands of equine veterinarian on the students' health, it is of enormous importance to conduct research into this field. In conclusion, this study investigated the following question: *"To what extent is a self-assessment of equine veterinarian medicine students on competences' indicative of the expected person-job fit, and in what way does passion moderate this relationship?"*

Theoretical Framework

Person-job fit

This study used the theoretical framework of Person-Environment (PE) fit (see Figure 1). This framework states that stress arises from the fit or congruence of "person" and
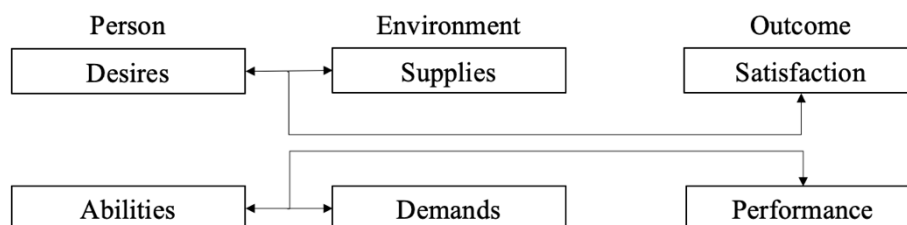

Figure 1. Person-Environment fit model (Tinsley, 2000).

"environment" (Tinsley, 2000). For example, a first-year equine veterinarian is very patient and likes to take time for the work ("the person"), but the employer expects that an equine veterinarian is efficient and treats as many horses as possible ("the environment"). This mismatch increases negative outcomes, as also seen in the field; recently started equine veterinarians experience different sources of stress (Bartram & Baldwin, 2008; Michie & Williams, 2003) caused by multiple factors (Bergevoet et al., 2020). According to the framework of PE fit, the mismatch caused by stress leads to dissatisfaction, and deficient performance. When exposed to this stress for long enough, it could lead to depression (Tinsley, 2000). On the contrary, when there is a match – the equine veterinarian is very

quick, and the employer wants as many treated horses as possible – this results in more positive outcomes; the equine veterinarian is satisfied with the work, and the work performance increases (Tinsley).

The examples given are specified on the job; the person's 'abilities' and environment 'demands'. The better these two match, the greater the performance, so-called demands-abilities fit; part of the PJ fit (Kristof-Brown et al., 2005). Demands can be defined as quantitative and qualitative job requirements, role expectations and norms of the group and organization. Abilities include capacities, skills, exercise, time, and energy the person may compile to meet the demands (Tinsley, 2000). The PJ fit also includes a fit between the needs of the person and the supplies the organization can give, needs-supplies fit (Kristof-Brown et al.). For example, an equine veterinarian works with horses, but has a lot of interaction with the owner of the horse. The equine veterinarian likes to interact with people because that gives this person energy. Needs comprise innate biological and psychological requirements, values acquired through learning and socialization, or motives to achieve desired ends (French & Kahn, 1962; Harrison, 1985). Supplies refer to extrinsic and intrinsic resources and rewards that may fulfill the person's needs, such as food, shelter, money, social involvement, and the opportunity to achieve goals (Harrison, 1978).

The present study focused on PJ fit because the job is the focus rather than the whole environment. Furthermore, to detect the problem of the dropouts as early as possibly, this study focused on the student. Mental health problems arise in the study already, and students' internships represent their future job; they experience their own abilities and desires and are introduced to the requirements and supplies of clinics already. The competences defined by Cake and colleagues (2018) can be used to describe important aspects of the job and personal qualities. Demands and supplies that are required as (equine) veterinarian can be described as those competences.

Framework for Veterinary Employability

Cake and colleagues (2018) defined the competences which are necessary for veterinarians. These competences can be divided into five orientations (see Figure 2).

Figure 2. A Framework for Veterinary Employability (Cake et al., 2018).

Each orientation consists of multiple key capabilities. For example, effective relationships consist of trustworthiness, collaboration and teamwork, empathy and respect, and relationship-centered care. Other orientations and their key capabilities can be found in Appendix A. With these competences, equine veterinarians are enabled to successfully gain and sustain employment – contribute to the profession to develop a career pathway that leads to satisfaction and success; defined by Cake and colleagues (2018) as employability. Based on the PJ fit framework and the specific competences required for an equine veterinarian, the following hypothesis was proposed:

H1: The higher the score of equine veterinarian medicine students on competences in the Veterinary Employability model, the greater their perceived person-job fit

Because multiple competences are divided into one of the five orientations, each orientation will be investigated separately. This will provide more insight into the abilities and desires of an equine veterinarian medicine student. This study focused on students and their personal views on the extent to which they possess the competences, therefore the students assess their own competences This lead to the following hypotheses:

H1a: The higher the score of equine veterinarian medicine students on effective relationships, the greater their perceived person-job fit

H1b: The higher the score of equine veterinarian medicine students on veterinary capabilities, the greater their perceived person-job fit

H1c: The higher the score of equine veterinarian medicine students on professional commitment, the greater their perceived person-job fit

H1d: The higher the score of equine veterinarian medicine students on psychological resources, the greater their perceived person-job fit

H1e: The higher the score of equine veterinarian medicine students on self-awareness, the greater their perceived person-job fit

Passion as moderator

Since students are investing a minimum of six years in their educational career, this study will incorporate passion. Passion is defined as "a strong inclination toward an activity that people like, that they find important, and in which they invest time and energy (Vallerand et al., 2003, p. 757)." Passion is not included in the framework of Veterinary Employability but it is important; passion is discussed in the PJ fit model (Kristof-Brown et al., 2005; Tinsley, 2000).

If someone has a strong inclination towards an activity and invests time and energy – passion – the desires and abilities within the person increase (Kristof-Brown et al., 2005; Vallerand, 2003). The greater the desires and abilities of the person, the more this person can handle from the job. The 'sacrifice' mentioned by Altano Gruppe, can be seen as the supplies and demands of the job within the PJ fit model. This means greater satisfaction and performance within the discipline of an equine veterinarian, results in a greater fit between the person and the job.

The present study expected that both passion and competences would have a positive effect on PJ fit. For that reason, a moderating role for passion was assumed. If someone had higher levels of passion – compared to lower levels – it was expected that more time and energy would be invested into their equine veterinarian study. This could further increase the relationship between the competences that are required as equine veterinarian and the fit between the person and the job as equine veterinarian. This study used passion as a moderating factor, which lead to the following hypothesis:

H2: The positive relationship between the competences in the Veterinary Employability model and person-job fit, will be stronger for higher levels of passion compared to lower levels of passion.

Because the competences exist of multiple orientations, hypothesis 2 was tested for each orientation. Based on the same reasoning, the following hypotheses were formulated:

H2a: The positive relationship between effective relationships and person-job fit, will be stronger for higher levels of passion as compared to lower levels of passion.

H2b: The positive relationship between veterinary capabilities and person-job fit, will be stronger for higher levels of passion as compared to lower levels of passion.

H2c: The positive relationship between professional commitment and person-job fit, will be stronger for higher levels of passion as compared to lower levels of passion.

H2d: The positive relationship between psychological resources and person-job fit, will be stronger for higher levels of passion as compared to lower levels of passion.

H2e: The positive relationship between self-awareness and person-job fit, will be stronger for higher levels of passion as compared to lower levels of passion.

No indications were found in the existing literature about possible control variables that might affect the relationships in the model. Therefore, the focus of this study was on the hypotheses mentioned above to address the general research question. First, the relationship between the competences of the Veterinary Employability model together and students' PJ fit was tested. Then, the relationships of each orientation of the competence separately and students' PJ fit were investigated. Finally, passion was added as a moderator for each relationship between the competences and PJ fit. Twelve hypotheses were set up in a conceptual model (see Figure 3).
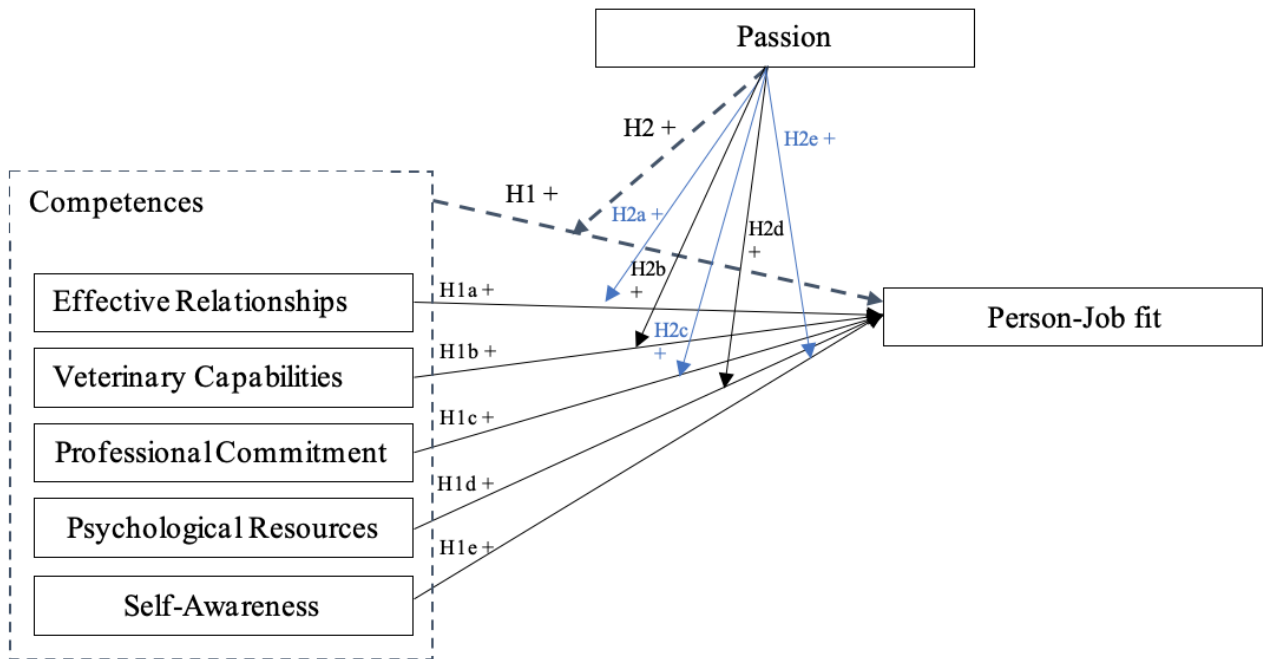
Figure 3. Scheme of the expected relationships between the five orientations of competence, passion and person-job fit.

H = Hypothesis, + = positive relationship

Method

This section provides information on the design and procedure, sample, measures, and statistical analyses that were conducted.

Research Design and Procedure

The present study used a quantitative research approach with an online survey which was created by Qualtrics (2022). An online survey was chosen because it is an easy, inexpensive, and fast way to gather participants. To quickly obtain multiple variables at a particular point in time, this study used a cross-sectional study design. The survey link was shared – with some help of Altano Gruppe – by e-mail and other social media platforms (LinkedIn, Facebook, Instagram and Whatsapp).

The ethical and scientific requirements were followed by the guidelines of the Ethical Board of Utrecht University. Participants were introduced to the aim of the study beforehand. Confidentiality and anonymity were guaranteed by the informed consent (Appendix B). To participate, informed consent forms must be signed. Additionally, by giving consent participants agreed on sharing the results of the report with Altano Gruppe.

Sample

The target group was university master's students of the equine veterinarian medicine education program within Europe. An ideal sample size was estimated 146 participants (N), based on the G*Power test version 3.1.9.2 (Faul et al., 2007), given an effect size of .15, alpha level of .05, power of .95, and six predictors. A medium effect size was chosen of .15 (Borenstein & Cohen, 1988) because there was little evidence from previous research for the strength of the relationships studied. Collecting data was challenging because of the small target group. After one month only fifteen responses were collected. A QR code was made and placed in an attractive folder (see Appendix C), to gather more participants. Data collection took two months in total; from the 1st of March to the 30th of April.

In total, a sample size of 54 was used. It was noted that this sample size is small, but the research continued because of the great social importance of the aim of this study. Most of the participants were originally from The Netherlands (42.59%) and currently studying in The Netherlands (35.19%). The majority of the students were expected to graduate in 2023 (44.44%). Further descriptive statistics can be found in Appendix D.

Measures

The questionnaires that were used were originally formulated in English, which remained unchanged because of the inclusion of international students, as well as to maintain the reliability and validity of the questionnaires. Questionnaires were chosen based on existing scales with a high degree of reliability. One scale was not completely validated (Cake et al., 2019), but it was used before and was chosen because of the competence design for veterinarians. For each scale, the reliability was calculated.

Altano Gruppe was interested in doing further research for which specific personal information was necessary, see Appendix E. Based on previous research and because of unnecessarily burden anonymity – gathering personal data which seems not necessary, age and gender were not included.

Competence. Competences were measured by the Assessment of Veterinary Employment (AVE) tool (Cake et al., 2018). The AVE tool separates the competences into five orientations. Each participant graded the different capabilities on a 5-point Likert scale from "poor" (1) to "excellent" (5) regarding their own competences. Each competence was introduced briefly to avoid misinterpretation. An example item of the orientation effective relationships is "The quality of a person to work in collaboration with third parties and inter-professional within a team." The entire scale can be found in Appendix F. Feedback from student and faculty provided strong support for the efficacy and face validity of the tool (Cake et al., 2019). This study measured the reliability and inter-item correlation of the multiple competences together (AVE tool) and for each subscale (Table 1).

Table 1. Reliability for each subscale and the average inter-item correlation

	α	IIC
Competences	.90	.33
Veterinary capabilities	.76	.45
Professional commitment	.64	.32
Effective relationships	.80	.51
Psychological resources	.76	.45
Self-awareness	.35	.22

Note. IIC = average of the inter-item correlation.

Person-job fit. To assess the PJ-fit, the Person-Job Fit Scale (PJFS) was used. The PJFS (α = .89) consists of four items developed by Saks and Ashfort (1997). Because the participants were still students, they rated how they perceived their suitability as equine veterinarians in the future. An example of an item is "There is a good match between what my job offers me and what I am looking for in a job." Items were scored on a 5-point Likert scale ranging from "to a very little extent" (1) to "to a very large extent" (5) (Appendix G). A reliability of α = .79 and an average inter-item correlation of .50 for the PJFS was measured.

Passion. Passion was assessed by the Passion Scale (Vallerand et al., 2003) and included eight items of harmonious passion (Appendix H). Parastatidou and colleagues (2012) showed a Cronbach's alpha of .88 for this scale, which makes this measurement valuable for this study (Vallerand et al.). This study referred to 'activity' as future activities to be performed as an equine veterinarian. An example of an item on harmonious passion is "This activity reflects the qualities I like about myself". Each item will be scored on a 7-point Likert scale from "not agree at all" (1) to "very strongly agree" (7). This study measured a reliability of α = .85 and an average inter-item correlation of .42 for the Passion Scale.

Control variables. No control variables were included in this study because there was no justification to include control variables at this point considering the objectives of this study. Besides, including control variables would create statistical challenge.

Statistical analysis

The data was analyzed with IBM's Statistical Program Package for Social Sciences (SPSS) version 27. The data was converted from Qualtrics into SPSS. It was checked for missing items or responses that were invalid because they did not meet the inclusion criteria– interest in equine veterinarian and studying in Europe. In total 82 responded of which 28 were

deleted because items missed (N = 27) or inclusion criterion missed (N = 1). A final dataset of 54 was used.

The variables about 'origin of their country' and 'country currently studying' were renamed. Each country was converted into a number as not all participants referred to their home country in a similar manner; The Netherlands (1), Belgium (2), Norway (3), Hungary (4), Germany (5). For practical reasons, year of graduation was recoded into 1 = 2022, 2 = 2023, 3 = 2024 and 4 = 2025 or later. Also, the first three questions of the category Veterinarian Capabilities were recoded into 1 = Poor, 2 = Fair, 3 = Good, 4 = Very good, and 5 = Excellent.

Before starting the analysis, the dataset was checked for linearity, independence, normality, and homoscedasticity (Tabachnick & Fidell, 2014). A significance level of .05 was used to define whether the relationships were statistically significant. Significant correlations indicate the linearity, which was the case for all variables apart from the variables effective relationships and self-awareness. The graph showed a non-parabolic or exponential graph, so linearity was assumed for this study. Independence for Veterinary Capability, Psychological Resource and Self-Awareness were not met, of which Self-Awareness was notable (χ_2 = .628). Because of some deviant items, independence was checked between the competences overall and PJ fit which did not meet the requirements for independence either (χ_2 = .410) (Field, 2013). This means that the PJFS and the AVE tool were not independent. Homoscedasticity was met, and normality was tested by the Shapiro-Wilk test because of the small sample size (Field, 2013). Each scale was tested for normality and almost all scales were normally distributed. The scales for PJ fit (p = .020) and Self-Awareness (p = .015) were statistically significant on the Shapiro-Wilk test. Thus, it could be concluded that the scales were not normally distributed. However, visually it appeared that all the scales were roughly normally distributed when looking at the histogram. Apart from the item: "I am still not tired of the job I am doing" seemed not normally distributed in the histogram. Outliers were checked; PJ fit, professional communication, effective relationships and passion all had one outlier. Outliers were removed, as there were no multivariate outliers after running a Mahalonobis Distance test. There was no probability below the value of .001, for that reason all responses were kept. Normality, skewness, and kurtosis were checked of which the results are shown in Appendix I.

Harman's Single Factor Test.

A survey was chosen as a single source of collecting data. Using one source might increase the risk for some common method biases. Participants scored themselves on each variable which can be biased considering that people overestimate themselves; people

perceive themselves in a more positive manner than others see them (Jacobsen & Jensen, 2015). Harman's Single Factor test was conducted to make sure that common method biases did not appear in this dataset. A total variance of 33.82% was indicated which meant that the threshold – of 50% – was not exceeded.

Principal Component Analysis.

Before the main analyses, a Principal Component Analysis (PCA) was conducted. All scales were processed at once by an oblique rotation factor analysis. Because correlations exceed a default value of .32 (Tabachnick & Fiddell, 2007), an oblique rotation was used. A PCA checks how many constructs there are and shows eigenvalues for each component. PCA was done to determine whether the items of the different scales may load on a presumed distinct component. Eight components were identified with an eigenvalue greater than one. Those eight components explain 74% of the total variance. Notable is that all items – for each orientation of the competences, passion, and PJ fit – were spread across multiple components (see Appendix J). To keep the table clear, it was decided to omit values lower than .3, because these were considered as too weak (Stevens, 2012). It can be concluded that the scales did not load on the same factor; they covered multiple constructs. The pattern matrix (Appendix J) did not reflect the original classification of the competences. The scales of this study were not completely independent.

The Kaiser-Meyer-Olkin Measure showed a middling value of .718. It could thus be concluded that the data was suitable for factor analysis. Bartlett's test of sphericity was statistically significant ($p < .001$), which allowed us to assume that none of the correlations between variables were too weak.

Regression and PROCESS macro.

After the pre-analyses were conducted, each hypothesis was analyzed. The aim of this study was to investigate how master's students score themselves on different competences, and its impact on the PJ fit, with a moderation for passion. For hypothesis 1 – total score of the competences – a linear regression was performed. To test the sub hypotheses – five orientations of the competences – a multiple regression was performed. To test hypothesis 2 and its sub hypotheses – the moderation of passion – PROCESS macro model 1 for moderation was used (Hayes, 2018). Hypothesis 2 tested the total score of the competences; the sub hypotheses tested the five orientations of the competences. An alpha level of .05 was used to test the hypotheses, as this was the level used in similar studies.

Results

All means, standard deviations, and correlations between the scales were calculated (see, Table 2) before the hypotheses were tested. Remarkably, most of the means of the scales

were approximately in the middle of the range, but PJ fit ($M = 3.69$) and effective relationships ($M = 3.60$) clearly scored above the middle of the range on a scale of five and passion ($M = 5.43$) on a scale of seven. Notable was that all correlations were strong, positively related, and statistically significantly correlated with each other ($p < .01$). Only the correlation between Self-Awareness and Effective Relationship did not correlate statistically significant. This high correlation could be explained by the dependence of the constructs as became clear from the PCA. The PCA showed that the factors did not refer to one construct but loaded on multiple constructs (Appendix J).

Table 2. Scales with range, means, standard deviations, and correlations (N = 54)

		Range	M	SD	1	2	3	4	5	6	7	8
1.	Veterinary capabilities	1-5	2.93	.73	-							
2.	Professional commitment	1-5	3.38	.64	.55**	-						
3.	Effective relationships	1-5	3.60	.65	.54**	.64**	-					
4.	Psychological resources	1-5	3.31	.74	.59**	.67**	.49**	-				
5.	Self-awareness	1-5	2.95	.74	.68**	.47**	.23	.56**	-			
6.	Competences	1-5	3.27	.56	.84**	.84**	.75**	.84**	.69**	-		
7.	PJ fit	1-5	3.69	.68	.50**	.61**	.43**	.49**	.43**	.62**	-	
8.	Passion	1-7	5.43	.82	.53**	.63**	57**	.46**	.30*	.64**	.80**	-

*Note: * p < .05, ** p < .01*

The results of the linear regression analysis for hypothesis 1 and multiple regression analysis for the sub hypotheses of hypothesis 1 are shown in table 3. An adjusted R^2 was used because of the small sample size.

Table 3. Adjusted R square, unstandardized and standardized regression coefficients, standard error, t-value, and p-value for the antecedents of the dependent variable PJ fit.

Single Regression of the total score on competences on Person-Job fit				
Adj. R^2	B	SE	β	t

Competences	.367	.746	.133	.615	5.631**
Multiples Regression of each orientation of competences on Person-Job fit					
Veterinary capabilities	.356	.155	.168	.167	.927
Professional commitment	.356	.479	.184	.452	2.607*
Effective relationships	.356	.011	.168	.010	.064
Psychological resources	.356	.031	.149	.034	.209
Self-awareness	.356	.076	.153	.083	.499

Note: Adj. R^2 = Adjusted R square; B = Unstandardized Regression Coefficients; SE = Standard Error; β = Standardized Regression; *t* = t-value; *p* = p-value. * *p* < .05, ** *p* < .01

Hypothesis 1 stated that the higher the score on competences, the greater the PJ fit. A linear regression analysis was performed with competences as the independent variable and PJ fit as the dependent variable. The results of this analysis showed that the relationship of competences and PJ fit was statistically significant (b = .746, *t* = 5.631, 95% CI [.480, 1.012], *p* < .001), which supported hypothesis 1.

The five sub hypotheses considered the different orientations of the competences. All sub hypotheses were tested at once with a multiple regression analysis in which the different competences were the independent variables and PJ fit the dependent variable. Hypothesis 1a stated that the higher score on veterinary capabilities, the greater the PJ fit. The results showed that the relationship of veterinary capabilities and PJ fit was not statistically significant (b = .155, *t* = .927, 95% CI [-.182, .492], *p* > .005). Therefore, hypothesis 1a was rejected.

Hypothesis 1b stated that the higher the score on professional commitment, the greater the PJ fit. The results showed that the relationship of professional commitment and PJ fit was not statistically significant (b = .479, *t* = 2.607, 95% CI [.110, .848], *p* > .005), thus rejecting hypothesis 1b.

Hypothesis 1c stated that the higher the score on effective relationships, the greater the PJ fit. The results showed that the relationship of effective relationships and PJ fit was not

statistically significant (b = .011, t = .064, 95% CI [-.328, .349], p > .005), thus rejecting hypothesis 1c.

Hypothesis 1d stated that the higher the score on psychological resources, the greater the PJ fit. The results showed that the relationship of psychological resources and PJ fit was not statistically significant (b = .031, t = .209, 95% CI [-.269, .331], p > .005). Therefore, hypothesis 1d was rejected.

Hypothesis 1e stated that the higher the score on self-awareness, the greater the PJ fit. The results showed that the relationship of self-awareness and PJ fit was not statistically significant (b = .076, t = .499, 95% CI [-.231, .384], p > .005), thereby rejecting hypothesis 1e.

Following the regression analyses, the moderation of passion was added to each linear relation. Table 4 shows the results of the relationship between the competences – in general and as specific orientations – and the PJ fit, moderated by passion. Passion overruled the competences; passion as main effect was statistically significant and overruled all the competences for PJ fit prediction. Table 2 shows the correlation between passion and PJ fit which was .80 and thus higher than all the competences. Hypothesis 2 stated that the positive relationship between competences and PJ fit would be stronger when passion is high. The results did not show a significant interaction effect (Competences*Passion, p > .05), which meant that the relationship between competences and PJ fit was not influenced by passion. For that reason, hypothesis 2 was rejected.

Table 4. *Moderation analysis with passion as moderator, PJ fit as the dependent variable and the competences and their orientations of the Veterinary Employability model as independent variables. (N = 54)*

	b	SE	t	p	LLCI	ULCI
PJ fit (R^2 = .667, F (3, 50) = 33.377, p = .000)						
Competences	.607	.513	1.184	.242	-.423	1.636
Passion	.801	.302	2.653	.011*	.1946	1.4071
Competences*Passion	-.074	.093	-.793	.432	-.261	-.113
PJ fit (R^2 = .807, F (3, 50) = 31.270, p = .000)						
Veterinary Capabilities	.124	.594	.209	.835	-1.068	1.317

	b	SE	t	p	LLCI	ULCI
Passion	.633	.316	2.003	.051	-.002	1.267
Veterinary Capabilities*Passion	-.005	.106	-.046	.964	-.218	2.08

PJ fit (R^2 = .819, F (3, 50) = 34.124, p = .000)

	b	SE	t	p	LLCI	ULCI
Professional Commitment	.608	.400	1.519	.135	-.196	1.413
Passion	.825	.250	3.300	.001*	.323	1.328
Professional Commitment*Passion	-.081	.075	-1.084	2.84	-.230	.068

PJ fit (R^2 = .648, F (3, 50) = 30.684, p = .000)

	b	SE	t	p	LLCI	ULCI
Effective Relationships	.187	.402	.465	.644	-.620	.993
Passion	.845	.284	2.97	.005*	.274	1.415
Effective Relationships*Passion	-.046	.077	-.594	.555	-.200	.109

PJ fit (R^2 = .673, F (3, 50) = 34.336, p = .000)

	b	SE	t	p	LLCI	ULCI
Psychological Resources	.657	.401	1.638	.108	-.149	1.463
Passion	.918	.245	3.750	.001*	.426	1.409
Psychological Resources*Passion	-.100	.075	-1.330	.190	-.251	.051

PJ fit (R^2 = .827, F (3, 50) = 35.917, p = .000)

	b	SE	t	p	LLCI	ULCI
Self-Awareness	.174	.530	.329	.744	-.891	1.239
Passion	.605	.280	2.164	.035*	.044	1.167
Self-Awareness*Passion	.003	.095	.028	.978	-.189	.194

Note: b = regression coefficient, SE = Standard Error, *t* = t-value, *p* = p-value, LLCI = lower level of confidence interval, ULCI = upper level of confidence interval, Bootstrap sample: 5000

*p < .05

Hypothesis 2a stated that the positive relationship between Professional Commitment and PJ fit would be stronger for higher levels of passion compared to lower levels. The results showed no statistically significant interaction effect (Veterinary Capabilities*Passion, p > .05) which meant that the relationship between veterinary capabilities and PJ fit was not influenced by passion. Therefore, hypothesis 2a was rejected.

Hypothesis 2b stated that the positive relationship between Professional Commitment and PJ fit would be stronger for higher levels of passion compared to lower levels. The results

showed no statistically significant interaction effect (Professional Commitment*Passion, p >
.05) which means that the relationship between veterinary capabilities and PJ fit was not
influenced by passion. For that reason, hypothesis 2b was rejected.

Hypothesis 2c stated that the positive relationship between effective relationships and
PJ fit would be stronger for higher levels of passion compared to lower levels. The results
showed no statistically significant interaction effect (Effective Relationships*Passion, p >
.05) which meant that the relationship between effective relationships and PJ fit was not
influenced by passion. Therefore, hypothesis 2c was rejected.

Hypothesis 2d stated that the positive relationship between psychological resources
and PJ fit would be stronger for higher levels of passion compared to lower levels. The results
showed no statistically significant interaction effect (Psychological Resources*Passion, p >
.05) which meant that the relationship between psychological resources and PJ fit was not
influenced by passion. For that reason, hypothesis 2d was rejected.

Hypothesis 2e stated that the positive relationship between self-awareness and PJ fit
would be stronger for higher levels of passion compared to lower levels. The results showed
no statistically significant interaction effect (Self-Awareness*Passion, p > .05) which meant
that the relationship between self-awareness and PJ fit was not influenced by passion. Thus,
hypothesis 2e was rejected.

Discussion

The present study tried to answer the question "*To what extent is a self-assessment of equine
veterinarian medicine students on competences' indicative of the expected person-job fit, and
in what way does passion moderate this relationship?*" The aim of this study was to analyze
whether the competences in the Veterinary Employability model and its orientations had a
positive relationship with PJ fit. Passion was added as a moderator to check whether the
relationship between the competences and the PJ fit was influenced by passion.

Theoretical and literature-based explanations

Only the first hypothesis was confirmed by statistically significant results. The sub
hypotheses were rejected; none of the orientations of the competences showed a statically
significant effect on PJ fit. All correlations were positive and strong, but it was assumed they
were not stable or robust enough to hold up with a relatively small target group within the
regression.

Hypotheses 2 and 2a to 2e were rejected. There was no moderation effect of passion
on the relationship between the competences – the orientations – and the PJ fit. According to

Table 2, passion correlated very high with PJ fit. This means that passion is a better predictor of PJ fit than the competences all together or by each orientation. To see to what extent PJ fit can be explained by passion, a linear regression was done. Results showed that 64% of the variance of the PJ fit could be explained by passion. This high level of variance can explain the rejected hypothesis; passion overruled the competences of the Veterinary Employability model.

Previous research also showed correlations between harmonious passion and PJ fit (Liu & Photchanachan, 2021; de Mol et al., 2018). These studies were not focused on (equine) veterinarians; they showed that PJ fit had a positive impact on work passion. Liu and Photchanachan mentioned that weakening of passion reduces the value of individuals. On the other hand, the higher the level of passion, the more you use your signature strengths (Forest et al., 2012). More use of signature strengths increases optimal functioning – higher performance – which is met as well by PJ fit (Forest et al., Kristof-Brown et al., 2005). Specific signature strengths can be beneficial for certain jobs; the signature strengths are woven in the competences (Cake et al. 2018, Peterson & Park, 2011). It seems that the use of competences was more important than possessing any of the competences, which was determined by passion. This could mean that passion is more important than the competences itself.

Limitations

The findings of this study should be seen in the light of some limitations. First, this study used a small sample size (Field, 2013) – of which we were aware – however it did suffice as an accurate representation of the population. Nonetheless, the small sample size influenced the power of this study which will have contributed to the minimal significant effects that are found. Additionally, a significant level of .05 was used to test the hypotheses in this study. As multiple testing can cause errors, the significant level should have been adjusted. Multiple testing can be corrected by the Bonferroni-method. However, it was decided against as previous studies learned that Bonferroni-method could potentially bring along other difficulties (Perneger, 1998).

The variables showed high correlations. No conclusions can be drawn about causality between the variables, because a cross-sectional design was used in this study (Field, 2013). The high correlations can indicate that the variables partly measure the same. Taking a closer look at the definition of the constructs it becomes clear that there is similarity between passion and PJ fit; both include personal preferences for an activity which in this study was referred to as the job of an equine veterinarian. Competences contain multiple personal

characteristics while passion too can be seen as a personal characteristic. Competences and PJ fit have a similar impact; the ability to work – performance – and personal well-being – satisfaction (Cake et al., 2018; Kristof-Brown, 2005). Besides, the PCA showed that most scales do not load homogeneously on the same construct (see Appendix J). All variables were loaded on different constructs but not within their own construct. Definitions of the variables are not similar, but the items of the different scales showed some overlap. Overlap can cause multicollinearity – which was the case according to the high correlations between the independent variables. This can result in less reliable statistical inferences (Baarda & de Goede, 2006).

Further, because a Harman's Single Factor Test was done, it is less likely this study was affected by the common method bias. additionally, the questions were all formulated with a positive tendency, which can influence the results by response acquiescence bias. A mix of positively and negatively stated items is recommended (Guyatt, 1999). On the other hand, negative items can negatively impact the reliability and validity of scales (Weems & Onwuegbuzie, 2001). Taken this all together, results should be interpreted carefully.

Post hoc results, future research & practical implications

Interesting findings for practical implications were the low scores (Field, 2013) on veterinary capabilities and self-awareness, while the other scores were above average compared to the theoretical scale (Baarda & de Goede, 2006). This implies that education does not prepare students for the workplace. Further research could focus on what students need to master veterinary capabilities and to improve their self-awareness by doing interviews. Interviews can help to obtain more information, accompanied by focus groups to extend the study (Baarda & de Goede). Exploring what students need can help to improve these competence orientations and find a fit between the student and their future job as equine veterinarian. Because little research is done, it might be good to firstly focus on the diagnostics with a follow-up study.

Because this study showed multicollinearity, future research should explore the constructs and their differences. A stepwise analysis could be interesting to explore the best predictor of the competences. Furthermore, the scales could be checked for unique variance. The perceived PJ fit could become greater, resulting in lower dropout rates for young equine veterinarians.

Results showed that students are very passionate about their future job; they see themselves as a fit for the job as an equine veterinarian. All correlations were positive and strong, but most hypotheses were rejected. This is explained by the probability that they were

not stable or robust enough to hold up with a relatively small target group within the regression. Future research should try to gather more participants, which could be done by ambassadors in each country within Europe. Alternatively, different researchers in various countries in Europe could collaborate and gather students within their own country and share their data. Importantly, the informed consent should then contain that data is shared with the researchers who collaborated on the future research. By increasing the target group, results will be more valid and reliable. Because this study found minimal statistically significant results, future research is even more important to find the fit between the student's own competences and the demands of the job.

Conclusion

In conclusion, this research contributed to the understanding of the competences that are required for equine veterinarian medicine students and their PJ fit in their future job as equine veterinarian, and the role of passion as moderator. Twelve hypotheses were tested on a small target group; only one hypothesis was confirmed. There was a positive statistically significant relationship between the competences of the Veterinary Employability model and the PJ fit. It cannot be said that each orientation of the competences of the Veterinary Employability model had a positive statistically significant effect on the PJ fit. In addition, no moderation of passion was found, meaning that passion did not moderate the positive relationship between the competences and PJ fit – nor for each orientation of the competences and PJ fit. According to the results, passion had a high correlation with PJ fit which probably overruled the competences. This means that passion is a better predictor of PJ fit than the competences. Future research should discover the constructs – competences of the Veterinary Employability model, PJ fit and passion – and their unique variance. Further research is important to understand what the best predictor is for PJ fit; PJ fit could decrease the dropout of young equine veterinarians as experienced by Altano Gruppe.

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STUDENTS' COMPETENCES, PERSON-JOB FIT AND PASSION

Appendices

Appendix A – Glossary competences of the Veterinarian Employability model

Orientation	Competence	Definition
Effective relationships	Trustworthiness	Trustworthiness is the quality of a person that inspires trust within client-practitioner relationships and veterinary teams.
	Collaboration and Teamwork	The quality of a person to work in collaboration with third parties and inter-professional within a team.
	Empathy and Respect	Empathy describes the ability to appreciate, and respond to, the feelings of others. Respect is defined as an admiration for someone, or something elicited by their abilities, qualities or achievements.
	Relationship-centered care	Relationship-centered care is about involving the client in a shared decision-making process, taking into account their perspectives and the human-animal bond, in order to produce the optimal outcomes for the animal and build a trusting and long-lasting relationship that facilitates care.
Veterinary capabilities	Effective communication	Being able to both transmit and receive accurate information is vital element of all interactions with clients and colleagues.
	Application of expertise	The ability to apply good technical knowledge and skills, or even discipline-specific expertise, in daily practice.
	Problem solving	Providing excellent clinical care for patients is the ability to effectively solve problems. An effective, clinical problem solver is also able to manage non-clinical problems, such as managing staff of dealing with financial issues.
	Managing workflow	The capability of managing workflow describes a veterinarian who can manage priorities to use time efficiently and productively and is independent and self-organized in their work.
Professional commitment	Sustainable engagement	Ensuring an approach that is sustainable by finding the balance between work and other (like personal) priorities.
	Commitment	Commitment describes dedication to the greater veterinary 'mission', and taking responsibility for contributing to this mission.
	Diligence	Diligence means a veterinarian who is hard-working, persistent, and reliable, and gives careful attention to detail and quality assurance.
	Continual learning	Continual learning describes not only the process of lifelong learning and inquiry, but also the attitude and mindset of being keen to learn.
Psychological resources	Emotional competence	Emotional competence is defined as the capacity to navigate emotional situations and self-regulate emotional responses.
	Adaptability	Adaptability means the ability to be flexible and adjust to changing factors, conditions, or environments.
	Resilience	Resilience is characterized as the capacity to recover quickly from difficulties and challenges.
	Motivation	Motivation is the combination of the reasons for doing something, and the willingness to perform well or succeed in doing it.
Self-awareness	Reflective self-evaluation	It is expected of professionals that they monitor the quality of what they do; continually strive for improvement and

		evidence-based best practice; learn from their past experiences and mistakes; are aware of their own strengths, weakness, and limitations.
	Self-confidence and identity	Self-confidence and identity is self-assurance in relation to one's ability to function as a veterinarian in context of the workplace.

STUDENTS' COMPETENCES, PERSON-JOB FIT AND PASSION

Appendix B - Informed Consent

Dear student,

First of all, thank you for participating! The aim of this study is to create a better understanding of the core competences required for a career as equine veterinarian. I (Kiki) do this study for my master's thesis in Social, Health-, and Organizational Psychology at Utrecht University in The Netherlands.

What would I like you to do?

The following section will pose different kinds of questions on which you are asked to answer truthfully. Be aware that there is no right or wrong.

Why should you participate?

In the first five years, a lot of vets dropout, which creates a social problem. Altano Gruppe (an organization with multiple horse clinics) would like to know what is important for you in your future working environment. Which can help to reduce this outflow and give clinics a better idea of what young vets need. So, please fill in my survey!

Good to know.

To participate you should be at least 18 years. Filling in the questionnaire takes approximately 10 minutes. Your responses will be kept anonymous and confidential throughout the whole study. Your responses will only be used for this study, but the results will be shared with Altano Gruppe. Your participation is completely voluntary, which means that you can stop whenever you want without any consequences. If you would like to see the final product of this study, please let me know and I will send my thesis to you!

In case you have any questions, please do not hesitate, you can always contact me (k.c.vantoor@students.uu.nl).

Important!

I ask you to agree on the following:

"I am at least 18 years old. I have read the information above, and I am informed about this research. I know I have the right to stop whenever I want without any consequences. I know the researcher will collect the data anonymously and handle my data confidentially."

If you agree to participate in this research, please click on "I consent to participate in this research" button. If you do not like to participate in this research, please close this window.

STUDENTS' COMPETENCES, PERSON-JOB FIT AND PASSION

Appendix C - Folder

STUDENTS' COMPETENCES, PERSON-JOB FIT AND PASSION

Appendix D – Demographic descriptive statistics

Category	*M*	*SD*	Subcategory	N	%
Country of Origin	-	-	The Netherlands	23	42.59
			Belgium	13	24.07
			Norway	1	1.85
			Hungary	1	1.85
			Germany	16	29.63
Country currently studying	-	-	The Netherlands	19	35.19
			Belgium	18	33.33
			Norway	0	0.00
			Hungary	1	1.85
			Germany	16	29.63
Year of Graduation	2023	.83	2022	11	20.37
			2023	24	44.44
			2024	16	29.63
			2025 or later	3	5.56

STUDENTS' COMPETENCES, PERSON-JOB FIT AND PASSION

Appendix E – Inclusion criteria

Different questions will be asked about the demographics of the participant.

Are you a veterinary student with interest in equine medicine?

- Yes, I am a veterinary student with interest in equine medicine

- No, I am a veterinary student but have no interest in equine veterinarian

What year do you expect to graduate as a veterinarian?

- 2022

- 2023

- 2024

- 2025 or later

What is your country of origin?

- (Fill in country)

In which country are you currently studying?

- (Fill in country)

STUDENTS' COMPETENCES, PERSON-JOB FIT AND PASSION

Appendix F - Scale for capabilities within veterinarians

I would like you to indicate to what extent you think you master each capability. Capabilities are defined as the personal and professional characteristics of a person influencing the ability to work and effecting the personal well-being in life. You will grate 18 different capabilities on a scale from 1 till 5 regarding your current personal status of the capabilities. Each capability will be introduced briefly to avoid misinterpretation.

Veterinary capabilities

I would like you to grade four capabilities related to the task. These capabilities need to be graded based on your professional and personal qualities regarding these subjects at this moment (the current situation, not what you are aiming for).

Effective communication

Being able to both transmit and receive accurate information is vital element of all interactions with clients and colleagues. How would you rate your effective communication?

Application of expertise

the ability to apply good technical knowledge and skills, or even discipline-specific expertise, in daily practice. How would you rate your application of expertise?

Problem solving

Providing excellent clinical care for patients is the ability to effectively solve problems. An effective, clinical problem solver is also able to manage non-clinical problems, such as managing staff of dealing with financial issues. How would you rate your problem solving?

Managing workflow

The capability of managing workflow describes a veterinarian who can manage priorities to use time efficiently and productively and is independent and self-organized in their work. How would you rate your managing workflow?

Professional commitment

We would like you to grade four of capabilities related to the mission of the profession. These capabilities need to be graded based on your professional and personal qualities regarding these subjects at this moment (the current situation, not what you are aiming for).

Sustainable engagement

Ensuring an approach that is sustainable by finding the balance between work and other (like personal) priorities. How would you rate your sustainable engagement?

Commitment

Commitment describes dedication to the greater veterinary 'mission', and taking responsibility for contributing to this mission. How would you rate your commitment?

Diligence

Diligence means a veterinarian who is hard-working, persistent, and reliable, and gives careful attention to detail and quality assurance. How would you rate your diligence?

Continual learning

Continual learning describes not only the process of lifelong learning and inquiry, but also the attitude and mindset of being keen to learn. How would you rate your continual learning?

Effective relationships

We would like you to grade four of capabilities related to others. These capabilities need to be graded based on your professional and personal qualities regarding these subjects at this moment (the current situation, not what you are aiming for).

Trustworthiness

Trustworthiness is the quality of a person that inspires trust within client-practitioner relationships and veterinary teams. How would you rate your trustworthiness?

Collaboration and Teamwork

The quality of a person to work in collaboration with third parties and inter-professional within a team. How would you rate your collaboration and teamwork?

Empathy and Respect

Empathy describes the ability to appreciate, and respond to, the feelings of others. Respect is defined as an admiration for someone, or something elicited by their abilities, qualities or achievements. How would you rate your empathy and respect?

Relationship-centered care

Relationship-centered care is about involving the client in a shared decision-making process, taking into account their perspectives and the human-animal bond, in order to produce the

optimal outcomes for the animal and build a trusting and long-lasting relationship that facilitates care. How would you rate your relationship-centered care?

Psychological resources

We would like you to grade four capabilities related to yourself. These capabilities need to be graded based on your professional and personal qualities regarding these subjects at this moment (the current situation, not what you are aiming for).

Emotional competence

Emotional competence is defined as the capacity to navigate emotional situations and self-regulate emotional responses. How would you rate your emotional competence?

Adaptability

Adaptability means the ability to be flexible and adjust to changing factors, conditions, or environments. How would you rate your adaptability?

Resilience

Resilience is characterized as the capacity to recover quickly from difficulties and challenges. How would you rate your resilience?

Motivation

Motivation is the combination of the reasons for doing something, and the willingness to perform well or succeed in doing it. How would you rate your motivation?

Self-awareness

We would like you to grade two capabilities related to the process. These capabilities need to be graded based on your professional and personal qualities regarding these subjects at this moment (the current situation, not what you are aiming for)

Reflective self-evaluation

It is expected of professionals that they monitor the quality of what they do; continually strive for improvement and evidence-based best practice; learn from their past experiences and mistakes; are aware of their own strengths, weakness, and limitations. How would you rate your reflective self-evaluation?

Self-confidence and identity

Self-confidence and identity is self-assurance in relation to one's ability to function as a

veterinarian in context of the workplace. How would you rate your self-confidence and identity?

STUDENTS' COMPETENCES, PERSON-JOB FIT AND PASSION

Appendix G – Person-Job Fit Scale

1. I fit my job well.

2. This job fits all my wishes and desires.

3. I am still not tired of the job I am doing.

4. There is a good match between what my job offers me and what I am looking for in a job.

STUDENTS' COMPETENCES, PERSON-JOB FIT AND PASSION

Appendix H – Passion Scale

1. This activity is in harmony with the other activities in my life
2. The new things that I discover with this activity allow me to appreciate it even more
3. This activity reflects the qualities I like about myself
4. This activity allows me to live a variety of experiences
5. My activity is well integrated in my life
6. My activity is in harmony with other things that are part of me
7. I spend a lot of time doing this activity
8. This activity is a passion for me

STUDENTS' COMPETENCES, PERSON-JOB FIT AND PASSION

Appendix I – Skweness and Kurtosis

	Shapiro-Wilk	Skewness	Kurtosis
Competences	.85	-.15	.09
Veterinary capabilities	.27	.23	-.60
Professional commitment	.11	-.41	1.29
Effective relationships	.24	-.34	.12
Psychological resources	.21	-.35	.47
Self-awareness	.02	-.09	-.57
PJ fit	.02	-.74	.98
Passion	.14	-.70	.75

Note. For skewness: (-) means that the distribution was left-skewed; (+) means the distribution was right-skewed. For kurtosis a value of 3 is normal distributed, a value of less than 3 means that the distribution was more light-tailed compared to the normal distribution; tends to produce fewer and less extreme outliers than the normal distribution.

Appendix J - Pattern Matrix

	1	2	3	4	5	6	7	8
Effective Communiction			.300	.585				
Application of expertise				.709				
Problem solving				.579				
Managing workflow		.630						
Sustainable engagement					.769			
Commitment	.698							
Diligence			.581					
Continual learning		.666						
Trustworthiness			.682					
Collaboration and Teamwork			.625					
Empathy and Respect		.319	.670					
Relationship-centered care			.621	.403				
Emotional competence	.321				.639			
Adaptability		.408			.573			
Resilience					.584			
Motivation	.444							.632
Reflective self-evaluation								.853
Self-confidence and identity				.772				
PJ fit item 1	.497					-.412		
PJ fit item 2						-.582	.326	
PJ fit item 3	.675						.316	
PJ fit item 4						-.677		
Passion item 1							.658	
Passion item 2	.496						.375	
Passion item 3	.350	-.342				-.403		
Passion item 4							.189	
Passion item 5						-.450	.583	
Passion item 6	.315						.696	
Passion item 7						-.806		

Passion item 8	.771