

Holt, Susan L. ORCID: <https://orcid.org/0000-0003-1911-8300> , Farrell, Mary and Corrigan, Richard (2023) Veterinary nursing students' experience in the clinical learning environment and factors affecting their perception. *Journal of Veterinary Medical Education* .

Downloaded from: <http://insight.cumbria.ac.uk/id/eprint/7077/>

Usage of any items from the University of Cumbria's institutional repository 'Insight' must conform to the following fair usage guidelines.

Any item and its associated metadata held in the University of Cumbria's institutional repository Insight (unless stated otherwise on the metadata record) may be copied, displayed or performed, and stored in line with the JISC fair dealing guidelines (available [here](#)) for educational and not-for-profit activities

provided that

- the authors, title and full bibliographic details of the item are cited clearly when any part of the work is referred to verbally or in the written form
 - a hyperlink/URL to the original Insight record of that item is included in any citations of the work
- the content is not changed in any way
- all files required for usage of the item are kept together with the main item file.

You may not

- sell any part of an item
- refer to any part of an item without citation
- amend any item or contextualise it in a way that will impugn the creator's reputation
- remove or alter the copyright statement on an item.

The full policy can be found [here](#).

Alternatively contact the University of Cumbria Repository Editor by emailing insight@cumbria.ac.uk.

1 **GBManuscript Type**

2 Educational Research Report

3

4 **Title**

5 Veterinary Nursing students' experience in the clinical learning environment and
6 factors affecting their perception

7

8 **Primary Author**

9 Susan L Holt^{1*}

10 MRes B.Sc. (Hons) RVN PGCHE FHEA

11 Susan.holt@bristol.ac.uk*

12 Lecturer and Programme Tutor

13 Veterinary Nursing Department

14 Vet School

15 University of Bristol

16 Langford House

17 Langford

18 Bristol

19 BS40 5DU

20 07845 215285

21 ORCID iD: 0000-0003-1911-8300

22

23 **Second Author**

24 Dr Mary Farrell²

25 PhD, B.Sc. (Hons) PGCHE SFHEA

26 Mary.farrell@cumbria.ac.uk

27 Lecturer, Zoology

28 Institute of Science, Natural Resources and Outdoor Studies

29 University of Cumbria

30 Fusehill St

31 Carlisle

32 CA1 2HH

33

34 **Third Author**

35 Dr Richard H Corrigan³

36 PhD, MA, MSc, PGDip, PGCE, BA, Adv Dip (Couns), GMBPsS, MBACP

37 richard.corrigan@cumbria.ac.uk

38 Lecturer in Psychology and Counselling

39 Institute of Health

40 University of Cumbria

41 Fusehill St

42 Carlisle

43 CA1 2HH

44 *Corresponding Author

45 **Key Words**

46 Clinical learning environment, student veterinary nurse training, veterinary training
47 practice, clinical supervisor, veterinary nursing.

48 **Abstract**

49 Student veterinary nurses (SVNs) spend a significant proportion of their training time
50 within the clinical learning environment (CLE) of a veterinary practice. These clinical
51 experiences are vital for building practical and professional skills. To evaluate the
52 current satisfaction of SVNs in the CLE, a cross-sectional survey design was used
53 incorporating a previously validated instrument. To provide understanding of factors
54 that may affect the SVN satisfaction, additional validated tools were added across
55 factors including resilience, wellbeing, personality and work place belonging. A total of
56 171 SVNs completed the survey. In addition two open questions were included to
57 provide greater depth of understand of the SVN experiences. Results showed that
58 70.76% of respondents were satisfied/very satisfied with the CLE. Significant factors
59 that affected the satisfaction scores included, depression, anxiety and stress
60 ($p<0.001$), Psychological sense of organisational membership ($p<0.001$),
61 agreeableness ($p=0.022$) and emotional stability ($p=0.012$). The qualitative data
62 demonstrated shared SVN factors that are considered to contribute to clinical learning
63 and those that detract from clinical learning. Educational facilities and training
64 veterinary practices can support the SVN within the CLE by creating a greater sense
65 of belonging, considering the SVN individual personality and wellbeing and including
66 the SVN in discussion around learning support needs.

67 Introduction

68 For nursing students, the clinical learning environment (CLE) is acknowledged as a
69 vital component of the curriculum.¹⁻³ Student veterinary nurses (SVNs) in the UK are
70 required to undertake a minimum of 1800 hours working within an approved veterinary
71 training practice (TP),^{3,4} which represents a significant element of the training required
72 for SVNs, prior to professional registration.

73 Positive experiences in the CLE are vital to ensure the appropriate development of
74 professional behaviours, clinical reasoning and performance of clinical skills in nursing
75 students.⁵⁻⁹ Assessing this environment via student feedback is key to maintaining a
76 student-centred approach and achieving appropriate learning outcomes.^{8,10,11}

77 Various reports have highlighted that the clinical environment is complex and
78 dynamic.¹²⁻¹⁴ Socio-cultural factors can be difficult to manage in the CLE, and have
79 been found to cause negative experiences for human and veterinary nursing
80 students.^{6,12,15-17} Challenges within the CLE can include poor relationships between
81 staff and students, ineffective communication to students, unclear expectations, busy
82 caseloads, incivility and bullying.^{7,17-25}

83 Whilst there is a plethora of published research around the perception of the CLE for
84 human nursing students,^{6,12,25-30} only one report for SVN experiences could be
85 identified.¹⁷ However, the two professions' practical training can be considered
86 comparable, as evidenced by the RCVS Standards Framework for Veterinary Nurse
87 Education and Training, which adopted the structure and format of the Nursing and
88 Midwifery Council Standards of Proficiency for Registered Nurses.^{3,9}

89 Research has demonstrated the negative impacts of an inadequate CLE can include
90 reduced learning opportunities and confidence, poor mental health and dissatisfaction
91 among human nursing students, leading to increased attrition.^{5,12,16,31} It is therefore
92 important to ensure that the CLE is managed positively to build confidence and
93 encourage student engagement with learning opportunities.¹² Research involving a
94 range of health profession training environments has shown that identifying areas of
95 concern can lead to the development of appropriate improvement strategies.³²⁻³⁴
96 These have included changes to communication and feedback within clinical
97 supervisor training,³³ and the development of strategies to improve working
98 relationships between the student, clinical supervisor and education provider.^{34,35}

99 Within the RCVS Standards Framework for Veterinary Nurse Education and Training
100 ³, there are six sets of standards that govern the responsibilities of Accredited
101 Education Institutes (AEIs) and TPs towards SVNs that must be adhered to. These
102 are designed to ensure the student will have a positive clinical learning experience,
103 tailored to their specific needs, within the socio-cultural landscape of the TP. Some of
104 these directly relate to the CLE and include the requirement to gather student
105 feedback.

106 Practical training in human nursing is reported to be much more stressful than purely
107 academic learning, and the ability to cope varies based on individual and contextual
108 characteristics.^{36,37} Factors that have been shown to impact the individual student's
109 experience in the CLE include their perceived sense of belonging in the work place,

110 personality, resilience, stress, anxiety and depression.^{1,25,36,38–40} Creating a sense of
111 belonging in the workplace has been demonstrated to mitigate anxiety, depression
112 and burnout and has been strongly correlated with CLE satisfaction, which positively
113 influences student retention.^{38,39,41} Providing a sense of belonging, security and
114 psychological safety is key for student engagement in learning opportunities in the
115 CLE.^{42,43} Students with high resilience have been reported to adopt self-regulatory
116 coping strategies, whilst students with low resilience adopt self-blame strategies.²⁵
117 Offering early interventions that afford students a greater sense of belonging in the
118 CLE have been recommended to support resilience.²⁵

119 Research has found that the four personality domains of emotional stability,
120 extraversion, agreeableness and conscientiousness promote a professional quality of
121 life for mental health care workers, alongside workplace belonging; while lower
122 emotional stability (neuroticism) was a strong predictor of developing secondary
123 traumatic stress.³⁹ Therefore, there are convincing reasons to suppose that SVN
124 perceptions of the CLE are also interrelated with work place belonging, personality,
125 resilience and wellbeing factors and exploring this will be beneficial in developing the
126 best strategies for signposting appropriate support.

127 Utilising validated instruments to evaluate experiences alongside factors relating to
128 individual characteristics in mixed-method design has been widely utilised in health
129 worker research.^{1,16,21,28,36,39} To this end, an instrument, the Student Veterinary Nurse
130 Clinical Learning Environment Inventory (SVN CLEI) has recently been developed and
131 validated to assess the perception of satisfaction of SVNs regarding the CLE.⁹
132 Considering the importance of the CLE in providing nursing students with the practical
133 and professional training required for the role, the limited research relating to SVN
134 experiences and perceptions, and the RCVS requirements for tailored support, it is
135 important that the VN profession empirically investigates the current student
136 experience in the CLE. In the UK, gathering student feedback conforms with the RCVS
137 Standards Framework for Veterinary Nurse Education and Training, standard 3.18.

138 Using the SVN CLEI, alongside other validated instruments investigating workplace
139 belonging, resilience, personality, and psychological wellbeing with additional open
140 questioning will aim to facilitate an initial understanding of current SVNs and their
141 perceived experiences in the CLE in the UK. Conducting this novel research for SVNs
142 will allow identification of any factors that correlate with, or differentiate from, the
143 student satisfaction of the CLE, as reported in other professions.^{29,38,39,41,44} Findings
144 may guide targeted recommendations for TPs and AEs and inform future research.
145 Investigating factors which affect satisfaction during clinical training can be beneficial
146 to identify tailored support for a successful student transition.⁴⁵ This study's aims are
147 to gain an understanding of current student satisfaction levels within the CLE and
148 identify personal factors that may impact on the level of perceived satisfaction.

149 **Methodology**

150 A cross-sectional, mixed methods design was achieved using a self-administered
151 psychometric survey comprised of five validated instruments and two open questions.
152 This method is appropriate for a novel area of enquiry and serves as an accessible
153 way to collate data and determine covariation and temporal difference to allow
154 targeting of recommendations and further research.^{44,45}

155 The first section of the survey contained demographical questions including student
156 status; full-time or work-based pathway; equine or small animal practice type and
157 geographical region.

158 The middle section of the survey was comprised of five validated instruments:

159 1. 25 Item Student Veterinary Nurse Clinical Learning Environment Inventory (SVN
160 CLEI).⁹ This reports a Cronbach's Alpha of $\alpha = 0.953$ with an explained variance of
161 61.004%. This inventory measures the student's perception across three key factors
162 (clinical supervisor support of learning, pedagogical atmosphere of the practice and
163 opportunities for engagement) that determine the socio-cultural experience of SVNs.

164 Cumulative means of items within the SVN CLEI were calculated and then divided
165 into three categorical subgroups as listed below. This method has been used to
166 facilitate data analysis in previously published research.⁴⁶⁻⁴⁸

- 167 • **Dissatisfied/Very Dissatisfied:** Mean Average: 1-2.6 (SVN CLEI Total
168 Score: 25-65)
- 169 • **Neutral:** Mean Average: 2.61-3.40 (SVN CLEI Total Score: 66-85)
- 170 • **Satisfied/Very Satisfied:** Mean average: 3.41-5 (SVN CLEI Total Score: 86-
171 125)

172 2. 10 Item Personality Inventory (TIPI)⁴⁶ reports a convergent and discriminant validity
173 mean of $r = 0.77$ and a test-retest reliability mean of $r = 0.72$. This inventory identifies
174 the self-reported personality traits across the big five personality domains of:
175 extraversion, agreeableness, conscientiousness, emotional stability, and openness,
176 using two questions per trait. The score for each trait is derived from the mean average
177 of the two items per trait with one item reverse scored for each trait. Final ordinal
178 scores range from one to seven, with higher scores indicating greater levels of the
179 measured trait.⁴⁹

180 3. Six Item Brief Resilience Scale (BRS)⁴⁷ reported a Cronbach's Alpha range of $\alpha =$
181 0.80-0.91 with an explained variance range of 55-67%. This scale consists of six
182 questions to ascertain self-perceived level of resilience. Final scores are derived from
183 mean averages, with application of reverse scoring for items 2, 4 and 6. Total scores
184 are then divided into the categories of low resilience (1-2.99), normal resilience (3-4.3)
185 and high resilience (4.31-5.0).⁵⁰

186 4. 21 Item Depression, Anxiety and Stress Scale (DASS-21)⁴⁸ is a set of three self-
187 reported scales designed to measure the emotional states of depression, anxiety, and
188 stress. The reported Cronbach's Alpha and explained variance for each of the scales
189 is; depression $\alpha = 0.91/50.4\%$, anxiety $\alpha = 0.81/74\%$ and stress $\alpha = 0.89/77.4\%$.⁵¹
190 Each of the three DASS-21 scales contains seven items. Scores for depression,
191 anxiety and stress are calculated by summing the scores for the relevant items and
192 multiplying them by two.⁵¹ For the DASS-21, there are recommended cut-off scores
193 for conventional severity category labels (normal to extremely severe). (Table 1).

194 Table 1: Depression, Anxiety Stress categories relating to DASS-21 scores.⁵¹

195 5. 18 Item Psychological Sense of Organisational Membership (PSOM)⁴² measures
196 the sense of being personally liked, accepted, included, respected, and valued by

197 managers, employees and the organisation. The PSOM scale reported a Cronbach's
198 Alpha of $\alpha = 0.94$ with an explained variance of 45%. The scale results in a possible
199 range of scores from 18-90, (scale midpoint of 54), with higher scores indicating a
200 greater sense of belonging.⁵²

201 The final part of the survey consisted of two open questions, inviting responses relating
202 factors that had contributed to learning and factors that had detracted from learning in
203 the CLE.

204 *Participants and sampling*

205 The survey was generated using the survey tool Online Surveys (Jisc® Online
206 Surveys, Bristol, BS1 6NB UK, onlinesurveys.ac.uk) and was available from 7th
207 January 2022 to 6th April 2022. Non-random convenience and snowball sampling of
208 SVNs was achieved through Facebook® sites, specific to the VN profession such as
209 "VetNurse Chatter", alongside email contact with Veterinary Nursing (VN) course
210 providers and practice groups across the UK. The British Veterinary Nursing
211 Association (BVNA) and the VN Times also shared the survey on social media
212 platforms. Inclusion criteria restricted participants to current UK based SVNs, who
213 were currently in a CLE and had spent at least eight weeks working there, to ensure
214 they had enough time to develop informed opinions about their experiences.
215 Convenience sampling allowed access to a broader range of student cohorts, included
216 the breadth of student status' and protected against the attrition of a probability
217 sample.⁵³ Snowball sampling allows an increase of participants for researchers by
218 asking professional contacts and respondents to share the study with appropriate
219 acquaintances that fit the criteria.⁵⁴ This allowed the authors to quickly achieve the
220 required sample for a robust evaluation. Using this method of data collection was also
221 considered most appropriate, as it did not breach any data protection rights of students
222 by the direct use of institutional databases.

223 Although there are currently 6,027 SVNs enrolled with the RCVS, only 3,905 are work
224 based students with 2,122 studying a higher education course (Personal
225 communication, Email, 08/09/2022, Andrew Grainger, RCVS). Higher education
226 students will only spend approximately one quarter of their full-time course in clinical
227 placement, and so much less than 2,122 would have been eligible to take part.
228 However, the exact eligible figure is not available. The inclusion criteria requiring
229 students to be currently in clinical placement, for at least eight weeks, therefore
230 reduced the total population size for this study.

231 *Data Analysis*

232 Descriptive analysis included frequencies and scale scores with standard deviation
233 (SD) reported where appropriate. The Likert data were inferentially analysed using
234 SPSS version 26.0 (SPSS Inc., Chicago, IL, USA). Significance was set at $p < 0.05$.

235 Kruskal Wallis tests with Dunn's pairwise comparison and Bonferroni correction were
236 conducted to identify if a significant difference existed between SVN CLEI categories
237 of satisfaction when compared with TIPI scale scores and PSOM scale scores.

238 Pearson's Chi-Squared tests were conducted to identify if a significant relationship
239 existed between the SVN CLEI categories of satisfaction and demographic categories,
240 BRS categories and the three DASS-21 subdomain categories.

241 Qualitative data gathered from the two open questions were analysed following a six
242 stage thematic analysis approach, which is detailed by Braun and Clarke and
243 described as Phases of Thematic Analysis.⁵⁵ The research team analysed the data
244 independently and final themes were rigorously discussed and agreed by all.

245 *Ethical Considerations*

246 A favourable ethical opinion was received from the University of Bristol Faculty of
247 Health Sciences Research Ethics Committee (Code 9503).

248 **Results**

249 A total of 171 SVNs completed the survey in full. There was no reason to remove any
250 individual submission.

251 *Demographics*

252 In summary, most respondents were work based, employed SVNs, 66.08% ($n=113$)
253 with 33.92% ($n=58$) being full time students on a placement for a Higher Education
254 (HE) course. The majority of respondents were studying the small animal pathway,
255 97.08% ($n=166$), with 2.92% ($n=5$) studying the equine pathway (see Table 2 for full
256 demographic results). The South-West region had the largest single representation of
257 respondents with 25.73% ($n=44$), Northern Ireland had the smallest representation
258 with 2.34% ($n=4$), see Figure 1 for full break down of regions).

259 Table 2: Respondent related demographics

260 Figure 1: Geographical location of veterinary practices

261 Pearson's Chi-Squared tests were conducted to assess whether the demographic
262 factors of status, pathway, region, and age were significantly associated to SVN CLEI
263 level of satisfaction. No significant relationships were found.

264 *Student Veterinary Nurse Clinical Learning Environment Inventory (SVN CLEI)*

265 The SVN CLEI scoring from this study showed a range of perceived satisfaction
266 scores, with the total SVN CLEI score ranging from 34-125. Factor 1 ranged from 12-
267 50, Factor 2 from 17-60 and Factor 3 from 3-15. (Table 3). SVN CLEI totals showed
268 that 10.53% ($n=18$) of SVNs were dissatisfied/very dissatisfied, 18.71% ($n=32$) were
269 neutral and 70.76% ($n=121$) were satisfied/very satisfied.

270 Table 3: SVN CLEI final scoring

271 *Ten Item Personality Inventory (TIPI)*

272 Mean and standard deviations were calculated as follows; Extraversion $M = 4.16$, SD
273 $= 1.50$, Agreeableness $M = 5.30$, $SD = 1.00$, Conscientiousness $M = 5.88$, $SD = 0.87$,
274 Emotional Stability $M = 4.34$, $SD = 1.29$, Openness $M = 5.38$, $SD = 0.96$.

275 A Kruskal-Wallis test established that there was a statistically significant difference in
276 Agreeableness median scores relative to categorical subgroup SVN CLEI satisfaction
277 ($\chi^2(2) = 7.644, p < 0.022$). Pairwise comparisons were conducted using Dunn's
278 procedure with a Bonferroni correction. The post hoc tests revealed a significant
279 difference in median scores between those in the Neutral subgroup (5.00) and those
280 in the Satisfied/Very Satisfied subgroup (5.50) ($p = 0.019$).

281 There was also a statistically significant difference in Emotional Stability median
282 scores relative to subgroup SVN CLEI satisfaction ($\chi^2(2) = 8.776, p = 0.012$). Pairwise
283 comparisons were conducted using Dunn's procedure with a Bonferroni correction.
284 The post hoc tests revealed a significant difference in median scores between those
285 who were in the Dissatisfied/Very Dissatisfied subgroup (3.25) and those in the
286 Satisfied/Very Satisfied subgroup (4.50) ($p = 0.013$).

287 There were no significant differences regarding Extraversion, Conscientiousness or
288 Openness.

289 *Brief Resilience Scale (BRS)*

290 38.60% ($n=66$) of respondents demonstrated low resilience, 56.73% ($n=97$) revealed
291 normal resilience and 4.67% ($n=8$) demonstrated high resilience.

292 Pearson's Chi-Squared tests were conducted to assess whether BRS scores were
293 significantly related to SVN CLEI satisfaction subgroup. No significant relationships
294 were found.

295 *Depression, Anxiety and Stress Scale -21 (DASS-21)*

296 Depression scores ranged from severe at 5.26% ($n=9$) to normal at 55.56% ($n=95$).
297 Anxiety scores ranged from mild at 9.94% ($n=17$) to normal at 44.44% ($n=76$) and
298 stress scores ranged from extremely severe at 2.34% ($n=4$) to normal at 54.97%
299 ($n=94$) (Table 4).

300 Table 4: Frequency and scale results for DASS-21 scores

301 A Pearson's Chi-Squared test was conducted to assess whether DASS Depression
302 Score and SVN CLEI satisfaction subgroup were related. There was significant
303 evidence of an association, ($\chi^2(8) = 44.586, p < 0.001$).

304 A Pearson's Chi-Squared test was conducted to assess whether DASS Anxiety Score
305 and SVN CLEI satisfaction subgroup were related. There was significant evidence of
306 an association, ($\chi^2(8) = 42.321, p < 0.001$).

307 A Pearson's Chi-Squared test was conducted to assess whether DASS Stress Score
308 and SVN CLEI satisfaction subgroup were related. There was significant evidence of
309 an association, ($\chi^2(8) = 30.199, p < 0.001$).

310 *Psychological Sense of Organizational Membership (PSOM)*

311 Scores ranged from 29-90 ($M = 67.26; SD = 15.63$). There were 78.95% ($n=135$) of
312 respondents scoring above the scale mid-point and 21.05% ($n=36$) scoring on or
313 below the scale mid-point.

314 A Kruskal-Wallis test established that there was a statistically significant difference in
315 PSOM Median scores relative to SVN CLEI satisfaction subgroup ($\chi^2(2) = 61.877, p$
316 < 0.001). Pairwise comparisons were conducted using Dunn's procedure with a
317 Bonferroni correction. The post hoc tests revealed a significant difference in median
318 scores between those who were Neutral subgroup (57.00) and Dissatisfied/Very
319 Dissatisfied subgroup (40.00) ($p = 0.011$), between those in the Satisfied/Very satisfied
320 subgroup (75.00) and those who were Dissatisfied/Very Dissatisfied subgroup (40.00)
321 ($p < 0.001$) and between those who were in the Neutral subgroup (57.00) and those
322 who were in the Satisfied/Very satisfied subgroup (75.00) ($p < 0.001$).

323 *Qualitative Data*

324 Four themes were identified from the data relating to factors that detracted from the
325 students' learning experience in the CLE: clinical supervisor barriers, negative TP
326 factors, inter-personal barriers, and challenges outside the CLE. Figures 2 and 3.

327 Figure 2: Factors that detracted from clinical learning part 1

328 Figure 3: Factors that detracted from clinical learning part 2

329 Three themes were identified from the data relating to factors that contributed to the
330 student's learning experience in the CLE: inter-personal support, positive TP factors
331 and support outside the CLE. Figures 4 and 5.

332 Figure 4: Factors that Contributed to clinical learning part 1

333 Figure 5: Factors that contributed to clinical learning part 2

334 **Discussion**

335 The sample population was derived from a heterogenous sample of SVNs from across
336 the UK. Therefore, it accounted for the usual variance in learning between SVNs,
337 making it an appropriate and representative sample for the study aim.⁵⁶ There are
338 substantially less equine practices and equine course places than small animal in the
339 UK, which is evident in the RCVS lists of approved courses and TPs.⁵⁷⁻⁵⁹ The
340 proportion of equine practices and equine students represented in the study is in line
341 with their market share.⁹ Participant gender was not included in the survey questions
342 due to the small percentage of males reported in the profession, (2.7%),⁶⁰ which would
343 not give rise to meaningful comparisons. The sampled population of SVNs ($n=171$)
344 represented 2.84% of the total population of SVNs in the UK as at 8/9/2022 ($n=6,027$),
345 although the final eligible total would have been reduced due to the inclusion criteria,
346 as previously detailed.

347 *SVN CLEI*

348 The majority of participants reported themselves to be Satisfied/Very Satisfied with
349 their clinical learning experiences in practice. However, almost 30% felt Neutral or
350 Dissatisfied/Very Dissatisfied. In human nursing students, overall satisfaction has
351 been strongly related to the clinical learning experience and this can be the deciding
352 factor on whether a student continues on the nursing programme,^{61,62} and by
353 extension the same is likely to be true for SVNs. Only by measuring student
354 experiences using appropriate methods, such as the SVN CLEI, can effective remedial

355 action be identified and taken. It is recommended that the factors that have affected
356 their perception should be explored and addressed through support meetings with the
357 TP and AEI to facilitate feedback and ensure reasonable adjustments and support are
358 applied where required.

359 *TIP*

360 Research has previously linked personality type with job and training satisfaction.^{63–}
361⁶⁵ However, prior to this study this has not been investigated in relation to SVNs. Those
362 with high agreeableness and emotional stability were significantly more likely to be
363 Satisfied or Very Satisfied with their SVN CLEI experience. Research has shown that
364 a student who is less neurotic (more emotionally stable) and more agreeable is likely
365 to have a more positive outlook that affects all aspects of life, including the
366 workplace,⁶³ which supports the findings of this study. Therefore, there may be value
367 in developing interventions/strategies for SVNs, that will encourage an appreciation of
368 how their personality traits can affect and impact their ability to engage positively with
369 their learning environment and opportunities. In turn, interventions could then be
370 developed to help those with different personality types to develop greater coping and
371 integration skills within their placement. This should be offered within a supportive and
372 non-judgemental framework.

373 In this study, the traits of openness, extraversion and conscientiousness did not
374 demonstrate a significant difference between satisfaction levels. In previous studies,
375 openness has not been found to affect work place satisfaction and findings here
376 corroborate this.^{66–68} However, in previous studies extraversion and
377 conscientiousness have been positively linked with work place satisfaction.^{66–68} The
378 mean scores reported here for SVN extraversion and conscientiousness vary from the
379 general population normative data reported in other research,⁴⁹ with this study finding
380 that SVNs have lower extraversion and higher conscientiousness scores overall. This
381 may have impacted the results seen here, when compared to general population
382 norms. In addition, the aforementioned studies have reported “work-place” satisfaction
383 as linked with these traits. However, SVNs may have a different relationship with their
384 working environment when compared to other employees, which may not allow for
385 these personality traits’ protective factors to impact level of CLE satisfaction. Research
386 has shown that higher pay and work status can increase job satisfaction.⁶⁹ However,
387 SVNs status and pay is less than that of veterinary surgeons, RVNs and managerial
388 staff, which may in turn reduce the positive impact of some personality traits on their
389 level of satisfaction. However, further study is required to explore these factors in more
390 detail.

391 *BRS*

392 Whilst there was no association found between SVN CLEI satisfaction subgroup and
393 resilience, it is important to consider that low resilience was reported by 38.6% of
394 respondents in the current study. No research could be identified that had studied this
395 specific relationship in human nursing students. Research involving human nursing
396 students revealed a link between resilience and protective factors for maintaining
397 psychological well-being and decreasing attrition, and have found that resilience is an
398 important consideration for these students in the CLE.^{36,70,71} Studies in human nursing
399 students have led to recommendations for clinical educators to build student
400 resilience, such as reframing negative experiences to positive learning opportunities,

401 facilitating students to recognize personal biases to broaden perspectives, clarifying
402 new experiences and maintaining an environment of trust and respect.^{29,72} There is no
403 reason to believe that these strategies cannot be equally applied to the roles of the
404 clinical supervisor, TP team and the AEI when supporting SVNs. These suggestions
405 also link with the identification of personality domains and increasing students' self-
406 awareness and supporting them to recognize personal biases. Further research is
407 needed to examine the impact of resilience on attrition, well-being and satisfaction
408 specifically for SVNs.

409 *DASS-21*

410 All three DASS-21 subcategories demonstrated a significant association with the
411 categories of CLE satisfaction subgroups. This study reported that 33%-45% of SVNs
412 are experiencing moderate to extremely severe levels in each of the subscales,
413 depression, anxiety and stress. This highlights that there is a large proportion of
414 current SVNs who are experiencing poor mental health, which should be considered
415 when tailoring support. A negative correlation between these factors and CLE
416 satisfaction has been reported in human nursing students and they have also been
417 reported to have higher levels of stress, anxiety and depression than students studying
418 other programmes.^{1,40,73-75} In addition, protective strategies become even more
419 important when considering the SVNs are likely to experience higher levels of stress,
420 anxiety and depression than their non-nursing counterparts. In relation to students with
421 long term mental health diagnoses, there is a legal, ethical and moral obligation to
422 ensure these students receive the support they require to feel satisfied with their
423 clinical learning experiences and to subsequently develop clinical and professional
424 competence.⁷⁶ It has been suggested that identifying students at risk of poor mental
425 health using screening tools can facilitate effective support structures during nursing
426 studies.⁷⁷ However, it must be clear that these would not be used as part of the
427 selection process, but merely to ensure appropriate support of students entering the
428 programme in line with the Equality Act (2010). Encouraging students to appreciate
429 their own state of well-being and identify strategies to build resilience through tools
430 such as Wellness Recovery Action Plans (WRAP) can also be beneficial and build
431 self-reliance.⁷⁸

432 *PSOM*

433 There was a significant difference across all CLEI satisfaction subgroups when
434 compared with the mean PSOM scale scores; PSOM scores rose with increasing
435 levels of satisfaction. These findings echo those of studies in human nursing students,
436 demonstrating the importance of developing PSOM, psychological safety and a sense
437 of belonging for nursing students.^{41,42,79,80} Human nursing students reported that
438 feeling like they belong in the work place enabled them to engage in learning
439 opportunities and negotiate their learning needs.⁴² Appreciating students as
440 stakeholders in creating an appropriate CLE, rather than mere consumers, can
441 support the sense of belonging and connectedness.⁷⁹ However, the CLE presents
442 multiple challenges in creating a positive PSOM, and there needs to be a cultural
443 change that fosters participation, continuity, high quality inter-personal relationships
444 and values contributions from team members across all levels.⁸⁰ For the SVN, the TP
445 must first appreciate the anticipatory fear that can proceed entering the TP for the first
446 time.^{81,82} There are multiple actions the TP could take to help settle in a new student
447 and foster a positive sense of belonging and connection. Firstly, contacting the student

448 ahead of the start date and offering an induction meeting, to include practice
449 orientation and key staff introductions.⁸³ Ensuring an induction process on
450 commencement, which is communicated clearly to the student, will set up expectations
451 for both the TP and student, providing guidance in the initial weeks to help settle
452 nerves.⁸³ Assigning a “buddy” in addition to the clinical supervisor, who is either
453 another more experienced student or newly qualified RVN can support a sense of
454 belonging.⁸³ Senior staff should be involved in the student training plans and ensure
455 all staff are clear on their responsibilities towards students, whilst encouraging positive
456 interpersonal interactions through example and zero tolerance policies for incivility, in
457 line with the RCVS Standards Framework.³ Overall, the TP should practice evidence
458 based medicine and have clear protocols in place that are followed by the whole team,
459 to provide the student with the ability to translate classroom to clinic teaching and avoid
460 confusion.⁸⁴

461 *Qualitative data*

462 Themes identified highlighted a shared experience about the common challenges
463 faced by SVNs in the CLE. Themes derived from comments relating to factors that
464 detract from learning included: clinical supervisor barriers, negative TP factors and
465 inter-personal barriers. There are some key strategies that TPs can consider to
466 mitigate these factors.

467 Firstly, clinical supervisors should be carefully chosen. Selection should not only be
468 limited to clinical experience, but also require that evidence of qualities that will support
469 learning such as positive interpersonal skills, enthusiasm for the profession and
470 support of the learning environment should be selected.⁸⁵ Clinical supervisors who feel
471 “forced” into the position have reported having less confidence in their abilities to
472 undertake this role.⁸⁶ This may contribute to the opinions seen in this report around
473 clinical supervisors lacking in experience and engagement with training. More support
474 from experienced clinical supervisors and the AEI have also been reported as
475 beneficial for those new to the role.⁸⁵

476 The TP must ensure that the appropriate training time (three hours per week) is
477 allocated, so that students have sufficient time to log their clinical experiences and
478 have protected tutorial time with the clinical supervisor, as required by the RCVS
479 Standards Framework.³ Due to ever changing clinical demands, it is important that this
480 time is built into the nursing rota. SVNs should be given clear guidance and
481 expectations around their workload in line with their stage of learning, they should be
482 considered in a super-numerary capacity to the nursing team, to ensure they are not
483 placed under the equal demands of the registered veterinary nurse. Alongside this,
484 the number of SVNs in the TP should be carefully considered to ensure that all
485 students have access to the appropriate clinical caseload and qualified staff to support
486 their training and development. Considering these factors will provide evidence for the
487 AEI quality assurance TP visits and thus, compliance with the requirements of the
488 RCVS Standards Framework.³

489 Positive inter-personal experiences in the CLE are key for creating factors that
490 enhance learning.⁷¹ A strong and supportive team is reported to be an essential factor
491 that enables nurses to thrive in challenging environments.⁸⁷ Overall, encouraging a
492 strong team morale, positive attitudes within the workplace and civility may require a
493 cultural shift in some TPs, but will be in the best interests of the whole practice team,

494 not just the student. The factors outside the CLE that were reported to detract from
495 learning are likely to be discussed more readily in a supportive team. This will allow
496 signposting to additional support from the associated AEI, such as financial bursaries,
497 well-being and counselling services. In addition a general medical practitioner, (GP)
498 appointment can also be recommended for mental and physical health needs.

499 *Future research*

500 To further explore the experiences of SVNs and the impact this has on individuals, the
501 use of interviews for the collection of qualitative data will add greater depth of
502 understanding to some of the factors highlighted here. This should be focussed on the
503 socio-cultural elements of the CLE, which are easier to measure with qualitative data
504 derived from interviews.

505 *Limitations*

506 The self-reported nature of this study is a limitation due to the social desirability effect,
507 which can cause participants to report what they feel to be socially accepted or
508 preferred, rather than their honest opinion.⁸⁸ However, this has been reported to have
509 a marginal effect when assessing well-being.⁸⁹ The selection of validated, abbreviated
510 instruments, including the TIPI, BRS and DASS-21, allowed multiple factors to be
511 investigated in this exploratory research for breadth and depth, whilst maintaining
512 brevity to encourage participation. However, the authors recognise that using these
513 abbreviated scales could reduce the reliability of the data collected, compared to the
514 full scale versions. The convenience sampling approach will also have introduced
515 selection bias. The lead researcher is based in the South-West and due to the
516 convenience sampling methods, this would explain the higher proportion of
517 respondents from this region.

518 **Conclusion**

519 The CLE is a complex sociocultural landscape, and it can be challenging to manage
520 to maintain positive learning experiences. When nursing students have a positive CLE
521 experience, they are more likely to be engaged with the learning opportunities
522 provided and develop appropriate professional and clinical skills for their future career.
523 This study demonstrates that there are factors such as personality type, well-being,
524 and a sense of belonging that affect SVN satisfaction with the CLE. Therefore, taking
525 time to understand factors such as personality type and well-being indicators for each
526 SVN, alongside careful planning to increase the sense of workplace belonging, could
527 increase the overall satisfaction of the CLE and in turn, increase learning engagement
528 and reduce attrition. Considering the importance of this environment in training, this
529 should be a priority for TPs and AEIs, which should begin with getting to know the
530 individual student and gathering timely and regular feedback. Ensuring the student is
531 appreciated as a stakeholder, rather than consumer, will support a student-centred
532 approach and facilitate co-creation of a tailored training plan.

533 **Conflict of Interest**

534 The authors report no conflict of interest

535 **Acknowledgements**

536 The authors extend grateful thanks to the BVNA and the VN Times for sharing the
537 survey on their social media platforms, this had a significant impact on participation
538 rate. The authors also hugely appreciated the time taken by the SVNs in completing
539 the survey, especially with their busy schedules.

540 **Data Access Statement**

541 Supporting data are available to bonafide researchers only, applying via a link via the
542 dataset's record at DOI: 10.5523/bris.3b54l8re2smo52eoqxc87359gs. The process for
543 applying for this restricted dataset is available at:

544 <https://www.bristol.ac.uk/staff/researchers/data/accessing-research-data/>.

545

546 Requests for access will be directed to the Research Data team at Bristol, who will
547 assess the motives of potential data re-users before granting access to the data. No
548 authentic request for access will be refused and re-users will not be charged for any
549 part of this process.

550

551 **References**

- 552 1. Admi H, Moshe-Eilon Y, Sharon D, Mann M. Nursing students' stress and satisfaction in clinical
553 practice along different stages: A cross-sectional study. *Nurse Educ Today* [Internet]. 2018 Sep
554 1 [cited 2021 Oct 30];68:86–92. Available from:
555 <https://www.sciencedirect.com/science/article/pii/S0260691718302272>
- 556 2. Nursing and Midwifery Council. Realising professionalism standards for education and training.
557 Part 2: Standards for student supervisions and assessment. [Internet]. 2018 [cited 2020 Dec 2].
558 Available from: [https://www.nmc.org.uk/globalassets/sitedocuments/education-
559 sthttps://www.nmc.org.uk/globalassets/sitedocuments/education-standards/student-
560 supervision-assessment.pdf](https://www.nmc.org.uk/globalassets/sitedocuments/education-sthttps://www.nmc.org.uk/globalassets/sitedocuments/education-standards/student-supervision-assessment.pdf)
- 561 3. Royal College of Veterinary Surgeons. RCVS Standards Framework for Veterinary Nurse
562 Education and Training [Internet]. 2021 [cited 2021 Jan 9]. Available from:
563 <https://www.rcvs.org.uk/news-and-views/publications/vn-standards-framework/>
- 564 4. Royal College of Veterinary Surgeons. Record of Veterinary Nurse Training [Internet]. 2018
565 [cited 2021 Apr 9]. Available from: [https://www.rcvs.org.uk/document-library/record-of-
566 veterinary-nurse-training/](https://www.rcvs.org.uk/document-library/record-of-veterinary-nurse-training/)
- 567 5. O'Mara L, McDonald J, Gillespie M, Brown H, Miles L. Challenging clinical learning
568 environments: Experiences of undergraduate nursing students. *Nurse Educ Pract*.
569 2014;14(2):208–13.
- 570 6. Arkan B, Ordin Y, Yilmaz D. Undergraduate nursing students' experience related to their clinical
571 learning environment and factors affecting to their clinical learning process. *Nurse Educ Pract*.
572 2018;29:127–32.
- 573 7. Parvan K, Hosseini F, Bagherian S. The relationship between nursing instructors' clinical
574 teaching behaviors and nursing students' learning in Tabriz university of medical sciences in
575 2016. *Educ Health*. 2018 Jan 1;31(1):32.
- 576 8. Ramsbotham J, Dinh H A, Truong H, Huong N, Dang T, Nguyen C, et al. Evaluating the learning
577 environment of nursing students: A multisite cross-sectional study. *Nurse Educ Today*.
578 2019;79:80–5.
- 579 9. Holt SL, Farrell M, Corrigan RH. Developing the SVN CLEI: A Novel Psychometric Instrument for
580 Evaluating the Clinical Learning Environment of Student Veterinary Nurses in the UK. *J Vet Med*
581 *Educ* [Internet]. 2022 Jan 25 [cited 2022 Feb 21];e20210136. Available from:
582 <https://jvme.utpjournals.press/doi/abs/10.3138/jvme-2021-0136>
- 583 10. Newton JM, Jolly BC, Ockerby CM, Cross WM. Student centredness in clinical learning: the
584 influence of the clinical teacher. *J Adv Nurs* [Internet]. 2012 [cited 2022 Jun 1];68(10):2331–40.
585 Available from: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2648.2012.05946.x>
- 586 11. Phillips KF, Mathew L, Aktan N, Catano B. Clinical education and student satisfaction: an
587 integrative literature review. *Int J Nurs Sci*. 2017;4(2):205–13.
- 588 12. Jamshidi N, Molazem Z, Sharif F, Torabizadeh C, Najafi Kalyani M. The challenges of nursing
589 students in the clinical learning environment: A qualitative study. *Sci World J*. 2016;2016.

- 590 13. Harrison-White K, Owens J. Nurse link lecturers' perceptions of the challenges facing student
591 nurses in clinical learning environments: A qualitative study. *Nurse Educ Pract.* 2018;32:78–83.
- 592 14. Nordquist J, Hall J, Caverzagie K, Snell L, Chan MK, Thoma B, et al. The clinical learning
593 environment. *Med Teach* [Internet]. 2019 Apr 3 [cited 2022 Nov 1];41(4):366–72. Available
594 from: <https://doi.org/10.1080/0142159X.2019.1566601>
- 595 15. Chan D. Development of an innovative tool to assess hospital learning environments. *Nurse*
596 *Educ Today.* 2001;21(8):624–31.
- 597 16. Chuan OL, Barnett T. Student, tutor and staff nurse perceptions of the clinical learning
598 environment. *Nurse Educ Pract.* 2012;12(4):192–7.
- 599 17. Silverwood. Bullying a serious problem in profession, say VN graduates [Internet]. *VetTimes*
600 *Online: RCVS;* 2021 Sep [cited 2021 Sep 24]. Available from:
601 <https://www.vettimes.co.uk/news/bullying-a-serious-problem-in-profession-say-vn-graduates/>
- 602 18. Chuan OL, Barnett T. Student, tutor and staff nurse perceptions of the clinical learning
603 environment. *Nurse Educ Pract.* 2012;12(4):192–7.
- 604 19. O'Mara L, McDonald J, Gillespie M, Brown H, Miles L. Challenging clinical learning
605 environments: Experiences of undergraduate nursing students. *Nurse Educ Pract.*
606 2014;14(2):208–13.
- 607 20. Sundler AJ, Björk M, Bisholt B, Ohlsson U, Engström AK, Gustafsson M. Student nurses'
608 experiences of the clinical learning environment in relation to the organization of supervision:
609 a questionnaire survey. *Nurse Educ Today.* 2014;34(4):661–6.
- 610 21. Salamonson Y, Everett B, Halcomb E, Hutchinson M, Jackson D, Mannix J, et al. Unravelling the
611 complexities of nursing students' feedback on the clinical learning environment: A mixed
612 methods approach. *Nurse Educ Today.* 2015;35(1):206–11.
- 613 22. Jamshidi N, Molazem Z, Sharif F, Torabizadeh C, Najafi Kalyani M. The challenges of nursing
614 students in the clinical learning environment: A qualitative study. *Sci World J.* 2016;2016.
- 615 23. Arkan B, Ordin Y, Yılmaz D. Undergraduate nursing students' experience related to their clinical
616 learning environment and factors affecting to their clinical learning process. *Nurse Educ Pract.*
617 2018;29:127–32.
- 618 24. Ramsbotham J, Dinh H, Truong H, Huong N, Dang T, Nguyen C, et al. Evaluating the learning
619 environment of nursing students: A multisite cross-sectional study. *Nurse Educ Today.*
620 2019;79:80–5.
- 621 25. Ching SSY, Cheung K, Hegney D, Rees CS. Stressors and coping of nursing students in clinical
622 placement: A qualitative study contextualizing their resilience and burnout. *Nurse Educ Pract*
623 [Internet]. 2020 Jan 1 [cited 2022 Jun 4];42:102690. Available from:
624 <https://www.sciencedirect.com/science/article/pii/S1471595318302580>
- 625 26. Ali GEN, Ali NM. Clinical learning Environment and the Influential Factors from Nursing
626 Students perspectives. *Kufa J Nurs Sci.* 2017;7(2).
- 627 27. Bazrafkan L, Najafi Kalyani M, Bazrafkan L, Najafi Kalyani M. Nursing Students' Experiences of
628 Clinical Education: A Qualitative Study. *Investig Educ En Enferm* [Internet]. 2018 Dec [cited

- 629 2022 Feb 12];36(3). Available from:
630 [http://www.scielo.org.co/scielo.php?script=sci_abstract&pid=S0120-](http://www.scielo.org.co/scielo.php?script=sci_abstract&pid=S0120-53072018000300004&lng=en&nrm=iso&tlng=en)
631 [53072018000300004&lng=en&nrm=iso&tlng=en](http://www.scielo.org.co/scielo.php?script=sci_abstract&pid=S0120-53072018000300004&lng=en&nrm=iso&tlng=en)
- 632 28. Labrague LJ, McEnroe-Petitte DM, Papathanasiou IV, Edet OB, Tsaras K, Leocadio MC, et al.
633 Stress and coping strategies among nursing students: an international study. *J Ment Health*
634 [Internet]. 2018 Sep 3 [cited 2021 Oct 24];27(5):402–8. Available from:
635 <https://www.tandfonline.com/doi/full/10.1080/09638237.2017.1417552>
- 636 29. Thomas LJ, Asselin M. Promoting resilience among nursing students in clinical education. *Nurse*
637 *Educ Pract* [Internet]. 2018 Jan 1 [cited 2022 May 31];28:231–4. Available from:
638 <https://www.sciencedirect.com/science/article/pii/S1471595317306728>
- 639 30. Kalyani MN, Jamshidi N, Molazem Z, Torabizadeh C, Sharif F. How do nursing students
640 experience the clinical learning environment and respond to their experiences? A qualitative
641 study. *BMJ Open*. 2019;9(7):e028052.
- 642 31. Flott EA, Linden L. The clinical learning environment in nursing education: a concept analysis. *J*
643 *Adv Nurs*. 2016;72(3):501–13.
- 644 32. Perram A, Hills C, Johnston C, MacDonald-Wicks L, Surjan Y, James D, et al. Characteristics of an
645 ideal practice educator: Perspectives from undergraduate students in diagnostic radiography,
646 nuclear medicine, nutrition and dietetics, occupational therapy, physiotherapy and radiation
647 therapy. *Radiography*. 2016;22(4):295–305.
- 648 33. Habboush Y, Stoner A, Torres C, Beidas S. Implementing a clinical-educator curriculum to
649 enrich internal medicine residents’ teaching capacity. *BMC Med Educ*. 2019;19(1):1–12.
- 650 34. Clarke J, van der Riet P, Bowen L. Nurses and undergraduate student nurses’ experiences in
651 collaborative clinical placement programs in acute hospitals: An Integrative Literature Review.
652 *Nurse Educ Today*. 2020;104578.
- 653 35. Baker K. Clinical teaching improves with resident evaluation and feedback. *J Am Soc*
654 *Anesthesiol*. 2010;113(3):693–703.
- 655 36. Li ZS, Hasson F. Resilience, stress, and psychological well-being in nursing students: A
656 systematic review. *Nurse Educ Today* [Internet]. 2020 Jul 1 [cited 2022 May 24];90:104440.
657 Available from: <https://www.sciencedirect.com/science/article/pii/S0260691719317186>
- 658 37. Onieva-Zafra MD, Fernández-Muñoz JJ, Fernández-Martínez E, García-Sánchez FJ, Abreu-
659 Sánchez A, Parra-Fernández ML. Anxiety, perceived stress and coping strategies in nursing
660 students: a cross-sectional, correlational, descriptive study. *BMC Med Educ* [Internet]. 2020
661 Oct 19 [cited 2021 Oct 30];20(1):370. Available from: [https://doi.org/10.1186/s12909-020-](https://doi.org/10.1186/s12909-020-02294-z)
662 [02294-z](https://doi.org/10.1186/s12909-020-02294-z)
- 663 38. Cockshaw WD, Shochet I. The link between belongingness and depressive symptoms: An
664 exploration in the workplace interpersonal context. *Aust Psychol* [Internet]. 2010 [cited 2022
665 May 26];45(4):283–9. Available from:
666 <https://onlinelibrary.wiley.com/doi/abs/10.1080/00050061003752418>
- 667 39. Somoray K, Shakespeare-Finch J, Armstrong D. The Impact of Personality and Workplace
668 Belongingness on Mental Health Workers’ Professional Quality of Life. *Aust Psychol* [Internet].

- 669 2017 [cited 2022 Aug 29];52(1):52–60. Available from:
670 <https://onlinelibrary.wiley.com/doi/abs/10.1111/ap.12182>
- 671 40. Tung YJ, Lo KKH, Ho RCM, Tam WSW. Prevalence of depression among nursing students: A
672 systematic review and meta-analysis. *Nurse Educ Today* [Internet]. 2018 Apr 1 [cited 2022 Sep
673 19];63:119–29. Available from:
674 <https://www.sciencedirect.com/science/article/pii/S0260691718300285>
- 675 41. Borrott N, Day GE, Sedgwick M, Levett-Jones T. Nursing students' belongingness and workplace
676 satisfaction: Quantitative findings of a mixed methods study. *Nurse Educ Today* [Internet].
677 2016 Oct 1 [cited 2022 Aug 29];45:29–34. Available from:
678 <https://www.sciencedirect.com/science/article/pii/S0260691716301009>
- 679 42. Levett-Jones T, Lathlean J, McMillan M, Higgins I. Belongingness: A montage of nursing
680 students' stories of their clinical placement experiences. *Contemp Nurse* [Internet]. 2007 Apr 1
681 [cited 2022 Aug 29];24(2):162–74. Available from: <https://doi.org/10.5172/conu.2007.24.2.162>
- 682 43. Walker R, Cooke M, Henderson A, Creedy DK. Using a critical reflection process to create an
683 effective learning community in the workplace. *Nurse Educ Today* [Internet]. 2013 May 1 [cited
684 2022 Aug 29];33(5):504–11. Available from:
685 <https://www.sciencedirect.com/science/article/pii/S0260691712000676>
- 686 44. Setia MS. Methodology Series Module 3: Cross-sectional Studies. *Indian J Dermatol* [Internet].
687 2016 [cited 2022 Aug 29];61(3):261–4. Available from:
688 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4885177/>
- 689 45. Spector PE. Do Not Cross Me: Optimizing the Use of Cross-Sectional Designs. *J Bus Psychol*
690 [Internet]. 2019 Apr [cited 2022 Aug 29];34(2):125–37. Available from:
691 <http://link.springer.com/10.1007/s10869-018-09613-8>
- 692 46. Hassan MA, Samah BA, Shaffril HM, D'Silva JL. Perceived Usefulness of ICT Usage among JKKK
693 Members in Peninsular Malaysia. *Asian Soc Sci*. 2011;7(10):12.
- 694 47. Ramli S, Omar S, Bolong J, Lawrence J, Shaffri H. Influence of Behavioral Factors on Mobile
695 Phone Usage among Fishermen: The Case of Pangkor Island Fishermen. *Asian Soc Sci*. 2013 Apr
696 27;9:162–70.
- 697 48. Azmariana Azman, Jeffrey Lawrence D'silva, Bahaman Abu Samah, Hayrol Azril Mohamed
698 Shaffril. Comparative Study On sustainable Agriculture Knowledge Among Malaysian Contract
699 Farmers. *Am J Appl Sci* [Internet]. 2014 Jun 25 [cited 2022 Sep 12];7. Available from:
700 <http://merr.utm.my/4986/>
- 701 49. Gosling SD, Rentfrow PJ, Swann WB. A very brief measure of the Big-Five personality domains. *J*
702 *Res Personal* [Internet]. 2003 Dec 1 [cited 2022 Apr 4];37(6):504–28. Available from:
703 <https://www.sciencedirect.com/science/article/pii/S0092656603000461>
- 704 50. Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, Bernard J. The brief resilience scale:
705 Assessing the ability to bounce back. *Int J Behav Med* [Internet]. 2008 Sep 1 [cited 2021 Oct
706 29];15(3):194–200. Available from: <https://doi.org/10.1080/10705500802222972>
- 707 51. Lovibond PF, Lovibond SH. The structure of negative emotional states: Comparison of the
708 Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories.

- 709 Behav Res Ther [Internet]. 1995 Mar [cited 2022 Apr 10];33(3):335–43. Available from:
710 <https://linkinghub.elsevier.com/retrieve/pii/000579679400075U>
- 711 52. Cockshaw W, Shochet I. Organisational Connectedness and Well-being. In: Moore K, editor.
712 Psychology Making an Impact: Proceedings of the 42nd Conference of the Australian
713 Psychological Society [Internet]. Australia: Australian Psychological Society; 2007 [cited 2022
714 Apr 10]. p. 83–7. Available from: <https://eprints.qut.edu.au/13156/>
- 715 53. Stratton SJ. Population Research: Convenience Sampling Strategies. Prehospital Disaster Med
716 [Internet]. 2021 Aug [cited 2022 Aug 29];36(4):373–4. Available from:
717 [https://www.cambridge.org/core/journals/prehospital-and-disaster-](https://www.cambridge.org/core/journals/prehospital-and-disaster-medicine/article/population-research-convenience-sampling-strategies/B0D519269C76DB5BFFBFB84ED7031267)
718 [medicine/article/population-research-convenience-sampling-](https://www.cambridge.org/core/journals/prehospital-and-disaster-medicine/article/population-research-convenience-sampling-strategies/B0D519269C76DB5BFFBFB84ED7031267)
719 [strategies/B0D519269C76DB5BFFBFB84ED7031267](https://www.cambridge.org/core/journals/prehospital-and-disaster-medicine/article/population-research-convenience-sampling-strategies/B0D519269C76DB5BFFBFB84ED7031267)
- 720 54. Emerson RW. Convenience Sampling, Random Sampling, and Snowball Sampling: How Does
721 Sampling Affect the Validity of Research? J Vis Impair Blind. 2015 Mar 13;109(2):164–8.
- 722 55. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101.
- 723 56. Newton JM, Jolly BC, Ockerby CM, Cross WM. Clinical learning environment inventory: factor
724 analysis. J Adv Nurs. 2010;66(6):1371–81.
- 725 57. Royal College of Veterinary Surgeons. List of RCVS Accredited Further Education Qualifications
726 in Veterinary Nursing [Internet]. 2021 [cited 2021 Mar 22]. Available from:
727 [https://www.rcvs.org.uk/document-library/list-of-rcvs-accredited-further-education-](https://www.rcvs.org.uk/document-library/list-of-rcvs-accredited-further-education-qualifications-in/)
728 [qualifications-in/](https://www.rcvs.org.uk/document-library/list-of-rcvs-accredited-further-education-qualifications-in/)
- 729 58. Royal College of Veterinary Surgeons. List of RCVS Accredited Higher Education Qualifications
730 in Veterinary Nursing [Internet]. 2021 [cited 2021 Mar 3]. Available from:
731 [https://www.rcvs.org.uk/document-library/list-of-rcvs-accredited-higher-education-](https://www.rcvs.org.uk/document-library/list-of-rcvs-accredited-higher-education-qualifications-in/)
732 [qualifications-in/](https://www.rcvs.org.uk/document-library/list-of-rcvs-accredited-higher-education-qualifications-in/)
- 733 59. Royal College of Veterinary Surgeons. RCVS Approved Training Practices [Internet]. 2021 [cited
734 2021 Apr 29]. Available from: [https://www.rcvs.org.uk/lifelong-learning/students/veterinary-](https://www.rcvs.org.uk/lifelong-learning/students/veterinary-nursing-students/approved-training-practices/)
735 [nursing-students/approved-training-practices/](https://www.rcvs.org.uk/lifelong-learning/students/veterinary-nursing-students/approved-training-practices/)
- 736 60. Robinson D, Edwards M, Akehurst G, Cockett J, Arnill K, Martin A. The 2019 Survey of the
737 veterinary nurse profession [Internet]. Institute for Employment Studies; 2019. Available from:
738 [https://www.rcvs.org.uk/news-and-views/publications/the-2019-survey-of-the-veterinary-](https://www.rcvs.org.uk/news-and-views/publications/the-2019-survey-of-the-veterinary-nursing-profession/)
739 [nursing-profession/](https://www.rcvs.org.uk/news-and-views/publications/the-2019-survey-of-the-veterinary-nursing-profession/)
- 740 61. Hamshire C, Willgoss TG, Wibberley C. ‘The placement was probably the tipping point’ – The
741 narratives of recently discontinued students. Nurse Educ Pract [Internet]. 2012 Jul 1 [cited
742 2022 Sep 19];12(4):182–6. Available from:
743 <https://www.sciencedirect.com/science/article/pii/S1471595311001776>
- 744 62. Crombie A, Brindley J, Harris D, Marks-Maran D, Thompson TM. Factors that enhance rates of
745 completion: What makes students stay? Nurse Educ Today [Internet]. 2013 Nov 1 [cited 2022
746 Sep 19];33(11):1282–7. Available from:
747 <https://www.sciencedirect.com/science/article/pii/S0260691713001196>
- 748 63. Nicodemus KM. Personality Type and Job Satisfaction. In: Urman RD, Ehrenfeld JM, editors.
749 Physicians’ Pathways to Non-Traditional Careers and Leadership Opportunities [Internet]. New

- 750 York, NY: Springer; 2012 [cited 2022 Sep 19]. p. 11–7. Available from:
751 https://doi.org/10.1007/978-1-4614-0551-1_2
- 752 64. Eason CM, Mazerolle SM, Monsma EV, Mensch JM. The Role of Personality in Job Satisfaction
753 Among Collegiate Athletic Trainers. *J Athl Train* [Internet]. 2015 Dec 1 [cited 2022 Sep
754 19];50(12):1247–55. Available from: <https://doi.org/10.4085/1062-6050-50.11.08>
- 755 65. Rezapour-Mirsaleh Y, Aghabagheri M. The relationship between personality dimensions,
756 spirituality, coping strategies and clinical clerkship satisfaction among intern nursing students:
757 a cross-sectional study. *BMC Nurs* [Internet]. 2020 Aug 7 [cited 2022 Sep 19];19(1):76.
758 Available from: <https://doi.org/10.1186/s12912-020-00469-z>
- 759 66. Judge TA, Heller D, Mount MK. Five-factor model of personality and job satisfaction: A meta-
760 analysis. *J Appl Psychol*. 2002;87:530–41.
- 761 67. Bruk-Lee V, Khoury HA, Nixon AE, Goh A, Spector PE. Replicating and Extending Past
762 Personality/Job Satisfaction Meta-Analyses. *Hum Perform* [Internet]. 2009 Mar 16 [cited 2022
763 Oct 16];22(2):156–89. Available from: <https://doi.org/10.1080/08959280902743709>
- 764 68. Steel P, Schmidt J, Bosco F, Uggerslev K. The effects of personality on job satisfaction and life
765 satisfaction: A meta-analytic investigation accounting for bandwidth–fidelity and
766 commensurability. *Hum Relat* [Internet]. 2019 Feb 1 [cited 2022 Oct 16];72(2):217–47.
767 Available from: <https://doi.org/10.1177/0018726718771465>
- 768 69. Furnham A, Eracleous A, Chamorro-Premuzic T. Personality, motivation and job satisfaction:
769 Hertzberg meets the Big Five. *J Manag Psychol* [Internet]. 2009 Jan 1 [cited 2022 Nov
770 5];24(8):765–79. Available from: <https://doi.org/10.1108/02683940910996789>
- 771 70. Reyes AT, Andrusyszyn MA, Iwasiw C, Forchuk C, Babenko -Mould Yolanda. Resilience in
772 Nursing Education: An Integrative Review. *J Nurs Educ* [Internet]. 2015 Aug [cited 2022 Sep
773 19];54(8):438–44. Available from: [https://journals.healio.com/doi/abs/10.3928/01484834-
774 20150717-03](https://journals.healio.com/doi/abs/10.3928/01484834-20150717-03)
- 775 71. Thomas LJ, Revell SH. Resilience in nursing students: An integrative review. *Nurse Educ Today*
776 [Internet]. 2016 Jan 1 [cited 2022 Sep 19];36:457–62. Available from:
777 <https://www.sciencedirect.com/science/article/pii/S0260691715004220>
- 778 72. Walsh P, Owen PA, Mustafa N, Beech R. Learning and teaching approaches promoting
779 resilience in student nurses: An integrated review of the literature. *Nurse Educ Pract* [Internet].
780 2020 May 1 [cited 2022 Sep 19];45:102748. Available from:
781 <https://www.sciencedirect.com/science/article/pii/S1471595318301562>
- 782 73. He FX, Turnbull B, Kirshbaum MN, Phillips B, Klainin-Yobas P. Assessing stress, protective
783 factors and psychological well-being among undergraduate nursing students. *Nurse Educ
784 Today* [Internet]. 2018 Sep 1 [cited 2022 Sep 19];68:4–12. Available from:
785 <https://www.sciencedirect.com/science/article/pii/S0260691718302053>
- 786 74. Villeneuve P, Heale R, Rietze L, Carter L. Exploring Self-Perceptions of Anxiety among Nursing
787 Students in the Clinical Setting and Select Demographics. *Int J Nurs Educ Scholarsh* [Internet].
788 2018 Jan 1 [cited 2022 Sep 19];15(1). Available from:
789 [https://www.degruyter.com/document/doi/10.1515/ijnes-2017-
790 0042/html?casa_token=s0EtATu9OUAAAAA%3AX43Px6GtKEfAnt8uQzv73K0x11o5hCdkUTbT6
791 SHQOtxBYdM_ogim1ANqzngXLqmTogNn-GmcxHCu](https://www.degruyter.com/document/doi/10.1515/ijnes-2017-0042/html?casa_token=s0EtATu9OUAAAAA%3AX43Px6GtKEfAnt8uQzv73K0x11o5hCdkUTbT6SHQOtxBYdM_ogim1ANqzngXLqmTogNn-GmcxHCu)

- 792 75. Zeng Y, Wang G, Xie C, Hu X, Reinhardt JD. Prevalence and correlates of depression, anxiety
793 and symptoms of stress in vocational college nursing students from Sichuan, China: a cross-
794 sectional study. *Psychol Health Med* [Internet]. 2019 Aug 9 [cited 2022 Sep 19];24(7):798–811.
795 Available from: <https://doi.org/10.1080/13548506.2019.1574358>
- 796 76. Tee SR, Owens K, Plowright S, Ramnath P, Rourke S, James C, et al. Being reasonable:
797 Supporting disabled nursing students in practice. *Nurse Educ Pract* [Internet]. 2010 Jul 1 [cited
798 2022 Sep 9];10(4):216–21. Available from:
799 <https://www.sciencedirect.com/science/article/pii/S1471595309001747>
- 800 77. Hsiung DY, Tsai CL, Chiang LC, Ma WF. Screening nursing students to identify those at high risk
801 of poor mental health: a cross-sectional survey. *BMJ Open* [Internet]. 2019 Jun 1 [cited 2022
802 Sep 19];9(6):e025912. Available from: <https://bmjopen.bmj.com/content/9/6/e025912>
- 803 78. Copeland ME. Wellness Recovery Action Plan. *Occup Ther Ment Health* [Internet]. 2002 Sep 14
804 [cited 2023 Feb 15];17(3–4):127–50. Available from: https://doi.org/10.1300/J004v17n03_09
- 805 79. Liljedahl M, Bjorck E, Kalen S, Ponzer S, Laksov KB. To belong or not to belong: nursing
806 students' interactions with clinical learning environments - an observational study. *Bmc Med*
807 *Educ* [Internet]. 2016 Aug 5 [cited 2022 May 31];16:197. Available from:
808 <https://gateway.webofknowledge.com/gateway/Gateway.cgi?GWVersion=2&SrcAuth=DOISource&SrcApp=WOS&KeyAID=10.1186%2Fs12909-016-0721-2&DestApp=DOI&SrcAppSID=EUW1ED0E85UnikAZkymvyayqlGiOW&SrcJTitle=BMC+MEDICAL+EDUCATION&DestDOIRegistrantName=Springer+%28Biomed+Central+Ltd.%29>
- 812 80. McClintock AH, Fainstad T. Growth, Engagement, and Belonging in the Clinical Learning
813 Environment: the Role of Psychological Safety and the Work Ahead. *J Gen Intern Med*
814 [Internet]. 2022 Jul [cited 2022 Sep 19];37(9):2291–6. Available from:
815 <https://link.springer.com/10.1007/s11606-022-07493-6>
- 816 81. Gray MA, Smith LN. The qualities of an effective mentor from the student nurse's perspective:
817 findings from a longitudinal qualitative study. *J Adv Nurs*. 2000;32(6):1542–9.
- 818 82. Rajeswaran L. Clinical experiences of nursing students at a selected institute of health sciences
819 in Botswana. *Health Sci J*. 2016;10(6):1.
- 820 83. Holt SL, Vivian S, Hooper S. Supporting students in practice part 1: clinical supervisor role. *Vet*
821 *Nurse* [Internet]. 2022 Oct 2 [cited 2022 Nov 5];13(8):340–6. Available from:
822 <https://www.magonlinelibrary.com/doi/full/10.12968/vetn.2022.13.8.340>
- 823 84. Flood LS, Robinia K. Bridging the gap: Strategies to integrate classroom and clinical learning.
824 *Nurse Educ Pract* [Internet]. 2014 Aug 1 [cited 2022 Aug 28];14(4):329–32. Available from:
825 <https://www.sciencedirect.com/science/article/pii/S1471595314000183>
- 826 85. Holt SL, Vivian SR, Brown H. Training and Preparedness of Clinical Coaches for Their Role in
827 Training Student Veterinary Nurses in the United Kingdom: An Exploratory Inquiry. *J Vet Med*
828 *Educ*. 2021:e20200100.
- 829 86. Batt-Williams S, Yon E. Investigation into the experiences of clinical supervisors and their
830 perceptions of their role, in addition to factors that affect them. *Vet Nurs J*. 2022 Mar;36:44–8.
- 831 87. Hill. The positive impact of providing support to newly qualified nurses in the referral setting.
832 *Vet Nurs J*. 2022 Jul;38:45–9.

833 88. Larson RB. Controlling social desirability bias. *Int J Mark Res* [Internet]. 2019 Sep 1 [cited 2022
834 Nov 5];61(5):534–47. Available from: <https://doi.org/10.1177/1470785318805305>

835 89. Caputo A, Caputo A. Social Desirability Bias in self-reported well-being Measures: Evidence
836 from an online survey. *Univ Psychol* [Internet]. 2017 Jun [cited 2022 Nov 5];16(2):245–55.
837 Available from: [http://www.scielo.org.co/scielo.php?script=sci_abstract&pid=S1657-](http://www.scielo.org.co/scielo.php?script=sci_abstract&pid=S1657-92672017000200245&lng=en&nrm=iso&tlng=en)
838 [92672017000200245&lng=en&nrm=iso&tlng=en](http://www.scielo.org.co/scielo.php?script=sci_abstract&pid=S1657-92672017000200245&lng=en&nrm=iso&tlng=en)

839