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1 What makes an elite equestrian rider?

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8 **Abstract**

9
10 Eight international riders from Olympic equestrian disciplines, participated in semi-
11 structured interviews investigating developmental factors which they felt had
12 helped them achieve and retain elite status. Key factors were present across the
13 variable rider journeys to elite status. Riders demonstrated a natural aptitude for
14 horse sports, a desire to learn combined with exposure to environments which
15 fostered confidence and skill development: access to elite and developmental
16 horses, observing elite riders, access to coaches and parental support. Riders
17 consistently questioned the status quo of their practice: through partnerships with
18 multiple horses, self-development and horse-development, and were motivated and
19 driven, with a clear belief that they would achieve success, attributes that remain
20 once elite status was achieved. Success appears initially motivated by participation
21 in equine sports for fun and as rider investment was rewarded by winning, with
22 associated financial benefits. When elite status is attained, motivation and
23 definitions of success become focused more upon the relationship with their horse
24 and the constant challenge of developing their own and their horses' skills. Elite
25 status appears associated with a successful philosophy that underpins rider'
26 practice: the way riders' think, ride, train and run their business, underpinned by
27 distinct individual philosophies. These factors combined help riders remain
28 successful at the highest level of their sport.

29 **Keywords:** *psychological profile; eventing; dressage; showjumping; motivation;*
30 *athletic talent development*

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34

35 *Abstract*

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57

58 **Introduction**

59

60 Equestrianism is popular worldwide, for example in the UK 2.7 million people ride, of these riders
61 96% ride for pleasure and 59% participate in competitive horse sports (BETA, 2015). Equestrian
62 sports allow men and women to compete on a equal basis across disciplines from grass-roots
63 competition up to the Olympic Games (Daspher, 2012). Competitive success is dependent on the
64 performance of the rider but also, uniquely to equestrianism, contingent upon the physiological
65 and psychological ability of the horse (Williams, 2013; McLean and McGreevy, 2010) and how
66 the horse's natural talent, defined as 'special natural ability' combined with a 'capacity for
67 achievement / success' (Falk, 2004), is directed by the rider. The degree to which the rider, the
68 horse, or the success of a functioning dyad (the horse-rider relationship), contributes to
69 competitive success is often debated anecdotally in the equine industry but has not been
70 extensively researched (Wolframm, 2011a; McGreevy and McLean, 2007).

71

72 *Rider personality*

73 Personality profiling to assess an individual's suitability for specific sports is commonplace in
74 human individual and team sports such as football, gymnastics and athletics (Allen *et al.*, 2014,
75 2013, 2012, 2011). However, profiling is a relatively new concept in equestrianism, with little
76 contemplation given to how personality traits vary between the different categories of rider and
77 how these might influence competitive success and motivation. For example there may be a
78 difference in personality type between riders riding recreationally compared to those competing
79 in a professional context, and variation in the amount and context of empathy felt towards the
80 horse could differ. Similarly, rider personality can also influence the motivation to ride, with some
81 riders focused solely on winning as a measure of success. Wolframm *et al.* (2015) conducted an
82 online survey of riders worldwide and found that the profile of a leisure rider was distinct from
83 both amateur and elite status competitive riders, where status was defined by competition level
84 and not competition success *per se*. Competitive riders recorded increased extroversion and
85 conscientiousness scores compared to the leisure rider group, a profile which is consistent with
86 results from athletes in other sports. Competitive athletes record higher extroversion and
87 conscientiousness scores, and reduced neuroticism scores compared to normative (non-
88 competitive, non-athletic) populations (Allen *et al.*, 2011; Woodman *et al.*, 2010). Wolframm *et*
89 *al.*'s (2015) preliminary survey suggests that elite riders either inherently possess or have
90 developed over time a distinct personality profile that enables them to perform under pressure,
91 supporting their success.

92

93 Research across sports has identified that elite athletes appear to possess a distinct psychological
94 tool-kit (Gould and Maynard, 2009; Gould et al., 2002) including, but not limited to a deliberate
95 and disciplined approach to training and competition, high levels of self-confidence, possess
96 effective time management skills, are good at problem-solving, have the ability to focus and
97 perform under pressure, and can use effective goal-setting, positive and constructive coping
98 mechanisms to deal with success and failure (Hardcastle et al., 2015; Wilson and Dishman, 2015,
99 Allen et al., 2014). Investigations within equestrian sports have found that the elite equestrian
100 rider possesses different psychological traits to sub-elite riders, these include higher anxiety
101 management abilities to regulate arousal and competitive state anxiety generally (Meyer and
102 Sterling, 2000) and enhanced anxiety management skills to utilize anxiety positively during
103 competition giving them greater levels of efficacy and confidence (Wolframm, 2011a,b).
104 However further research is required to substantiate and consolidate these findings at the highest
105 level of equestrian sport by exploring the psychological traits of elite riders and determining how
106 these translate to the attainment of success (winning and sustaining elite status, defined as
107 competing successfully at the highest level of International competition, (Williams and Tabor, in
108 press): Olympic and World Championship level).

109 Undoubtedly, the experience of the rider will influence their riding capabilities, decision-making
110 and consequently their horse's ridden performance. For example, self-confidence has been found
111 to be closely related to riders' perception of their horse's ability to perform (Beauchamp and
112 Whinton, 2005). But to be able to evaluate the impact of the rider on the horse, and how factors
113 within, and deriving from, this relationship generate success, we first need to understand who the
114 rider is and how they developed into the athlete they are (Williams and Tabor, in press).
115 Unfortunately this is not a simple question. Riders are individuals who each possess their own set
116 of characteristics, values, skills, experience and status which will influence their own
117 development and performance as well as their relationship with the horse (Wolframm *et al.*,
118 2015). Who they are, what level they compete at and even why they ride can change over the
119 course of a lifetime, with age, personal circumstances (including horses they encounter / own,
120 self-taught vs. managed approach, influence of and access to coaches) and/or depending on the
121 context (culture, economic, opportunities, challenges) in which they are riding (Williams and
122 Tabor, in press; Wolframm *et al.*, 2015).

123 *Rider development and motivation*

124 Numerous models for career progression to elite success, (elite: a select group that is superior in
125 terms of ability or qualities to the rest of a group or society; success: the accomplishment of an
126 aim or purpose (OED, 2016)), in competitive sport have been proposed, for example by Bloom

127 (1985) and Côté et al. (2003). For equestrianism, the attainment of riding expertise has been linked
128 anecdotally to ‘natural talent’ either / or inherent ability (nature) (Helsen et al., 2000) as well as
129 with ongoing experience (nurture) (Colvin, 2010) such as that gained within long term athlete
130 development (LTAD) systems (Balyi and Hamilton, 2000). Both routes require the completion of
131 deliberate (and correct) skill practice to attain expert status. In LTAD models, the 10 year rule,
132 that is 10 years of practice (Balyi and Hamilton, 2000; Ericsson et al., 1993), or the minimum of
133 3000 hours of practice (Campitelli and Gobet, 2011) are deemed to create an experienced athlete
134 (Williams and Tabor, in press). Whilst in the equine industry, experience is often gained from
135 undertaking a competitive ‘apprenticeship’ as a stable jockey/rider or working pupil within an
136 established professional yard. Regardless of the model selected, consistent milestones appear: a)
137 an initial stage where individuals actively engage in a range of sports and a natural talent is
138 identified, b) a development stage where individuals specialise in one or two sports, learn their
139 discipline and engage in deliberate practice to develop their expertise and c) a subsequent
140 investment-mastery stage where the individual refines their skills and becomes an expert at their
141 sport facilitating the transition to elite level success (Keegan et al., 2014). Numerous factors are
142 influential to the developmental journey of an athlete including, but not limited to, parental or
143 familial support (Wuerth et al., 2004; Côté, 1999), coaching support (Erikson and Côté, 2016),
144 development and competitive opportunities (Wanga et al., 2011; Martindale et al., 2005), athlete
145 personality (Bertollo et al., 2009; Connaughton et al., 2008), athlete motivation (Smith et al.,
146 2015; Martindale et al., 2007; Amorose and Anderson-Butcher, 2007) and financial security
147 (Diehl et al., 2014). However, the motivational and development factors which influence success
148 for the elite rider, and ultimately the elite horse-rider relationship, are still poorly understood,
149 perhaps due to the complexity of equestrian sport (Williams, 2013), the challenges of studying
150 elite athletes generally (Keegan et al., 2014) and because it has seldom been researched. Therefore
151 the aim of the current study was to conduct in-depth interviews with elite riders who had achieved
152 Olympic success, to determine how they acquired the skill set to achieve and retain their elite
153 status, and to establish if any commonalities existed in where they came from, their journey to
154 success and their motivation to succeed at the top level of equestrianism.

155

156 **Method**

157

158 *Participants*

159 The study obtained ethical approval from the ethics committee of the University of the West of
160 England, Hartpury Committee in 2014. Participants were recruited personally by the first author
161 from their peer network of riders, through a convenience sampling approach. Riders were selected

162 using the following criteria: (a) career length over 10 years, (b) competitive success in one
163 Olympic equestrian discipline at international championship level events, World Championships
164 and the Olympic Games, and (c) active competitor, horse producer and/or coach at the same level.
165 The sample contained six men and two women with an age range of 32-57 years old, three riders
166 were from the UK, two from New Zealand, one from the United States and two were from
167 Australia. The sample size is analogous to previous qualitative research evaluating Olympic
168 athlete psychological and performance characteristics; for example, Cosh et al. (2015) reviewed
169 the transition from elite sport to retirement in two Olympic swimmers and Gould et al. (2002)
170 interviewed 10 US Olympic champions across sporting disciplines to determine the psychological
171 characteristics which had underpinned their success. Participants had been competing
172 successfully at the highest international level (Olympic games medalists, including gold
173 medalists, and World Equestrian Games medalists, including world champions) predominately in
174 eventing¹; with 38% competing successfully at this level in more than one equestrian disciplines:
175 eventing, dressage or showjumping. Several of the riders had also coached Olympic level
176 Dressage and Eventing riders.

177

178 *Procedure*

179 Face-to-face, semi-structured interviews were selected for use for both theoretical and practical
180 reasons. Studying elite level athletes is acknowledged as challenging due to their training and
181 competition schedules, and travel demands (Keegan et al., 2014). In equestrian sports, elite riders
182 require elite equine partners (horses) who are predominately provided and funded by owners.
183 Success and continued owner engagement are often associated with the individual rider's persona
184 and their 'system' (Williams, 2013), therefore this can foster a reluctance to openly discuss
185 personal and professional practices, and consequently to engage with research that aims to explore
186 these aspects (trade secrets!). In this study, all participants were known personally to the first
187 author as a competitive peer. The choice of a fellow competitor expedited access to the riders,
188 whilst the author's professional credibility supported rider participation. Using a fellow rider as
189 the interviewer facilitating openness during interviews due to mutual experiences, respect and
190 empathy, which instilled confidence in the research process within participants. Initial contact
191 was made with interviewees either by telephone or in person during a competition. If the
192 interviewee was happy to proceed, a mutually convenient venue (competition or home
193 environment) in which the interviewee would feel comfortable and relaxed and a designated time

¹ Eventing also known as Horse Trials; equestrian discipline which tests horse and rider over 3 days at championship level combining phases of dressage (flatwork), cross country (jumping fixed obstacles cited in natural terrain) and show jumping (jumping non-fixed obstacles enclosed within an arena)

194 for the interview to take place was agreed. Riders took part under their own volition and no
195 incentives were offered for participation. Interviews took place predominately in competition
196 venues or the participants' own homes.

197

198 Semi-structured interviews were deemed appropriate for the study. The integration of a theoretical
199 framework, contextualized into a questioning guide (Table 1) (Keegan et al., 2009) focused on
200 the development and continued attainment of elite status, and underpinned the context of the
201 interview. The format applied provided sufficient flexibility for the interviewer to develop a
202 rapport with the interviewee without having to create additional questions. This approach enabled
203 time for the interviewer to listen, probe and explore emerging areas which were related to the
204 study's objectives, encouraging openness and engagement (Newton, 2010). It was deemed
205 important that interviews were conducted on a face-to-face basis again to promote an environment
206 of trust and confidence for the interviewees, but also to enable depth in the exploration (due to
207 establishing a personal and professional relationship) and understanding of factors that were
208 influential upon the individuals' journey to elite status (Gillham, 2000). After a brief introduction,
209 the questioning guide was deployed although questions were adapted to the context of the
210 individual interviewee. Riders were allowed to respond freely with the interviewer using
211 impromptu probes and additional follow-up questions were appropriate to facilitate expansion of
212 themes as they developed (Keegan et al., 2014). Interviews were recorded digitally using an
213 Olympus digital voice recorder VN-712PC and were approximately 60 minutes in duration.

214

215 *Data analysis*

216 A six step analytic approach (adopted from Keegan et al., 2014 and Keegan et al., 2009) was
217 applied to prepare and analyze the data: (1) digital audio files were transcribed verbatim, (2)
218 transcripts were read and re-read for familiarity to facilitate accurate analysis, (3) direct quotes
219 were divided into the categories of the questioning framework (see Table 1), (4) an inductive
220 content analysis was performed utilizing tags ('open-coding') to create themes ('focused coding')
221 which were then organized to demonstrate their relationship to the key areas of rider development,
222 success and inspiration, (5) an iterative consensus validation process was conducted by three
223 members of the research team to ensure coded data were placed under appropriate themes, and
224 (6) a peer debrief was undertaken across the research team to debate the validity and reliability of
225 the thematic models developed.

226

227 Analysis of the data was conducted using principles of Grounded Theory (Glaser and Strauss,
228 1967). Grounded Theory is widely accepted as a methodology to develop theory from novel,

229 qualitative data such as gathered in the current study. However, the methodology of this study
230 falls short of being classified as strictly based on Grounded Theory for several reasons. Weed
231 (2009) identified that Grounded Theory data collection and analysis should not be separate
232 activities. Instead the research process should include initial data analysis in order to encourage
233 more refined data collection afterwards. Equally, Grounded Theory assumes theoretical
234 sensitivity yet expects the researcher to avoid undue bias through having already completed a
235 review of the literature. In the current study, all authors are actively involved in the equestrian
236 industry, therefore the researchers' own belief systems may have biased the identification of
237 concepts and categories. Triangulation techniques (such as those developed by Miles and
238 Huberman, 1994) were identified as appropriate to limit researcher bias which could have occurred
239 during individual coding during steps 3 and 4.

240 Data were coded using a grounded theory approach (Glaser and Strauss, 1967; Weed, 2009).
241 Codes developed represented the interpretation of participant responses; some codes were named
242 after riders' own words whilst others represented concepts from relevant literature or frequently
243 used within the equestrian industry. Coded data relating to similar phenomena or concepts were
244 then grouped into categories which were then translated into emergent themes. Each category was
245 assigned a name representative of the concepts included in it. It should be noted that several
246 statements were assigned to more than one concept and consequently feature in different
247 categories. Consensus validation, peer and industry review reiterated the validity of coding and
248 category selections.

249

250 **Results**

251 The results are presented in three parts and separated into higher and lower order themes. In part
252 one causal factors perceived to influence riders' early development and their transition to elite
253 status are investigated. In part two, elements which riders felt contributed or were barriers to their
254 success are examined and in part three factors which influence and stimulate inspiration, both
255 currently and retrospectively, in the elite rider are explored.

256

257 **Part 1: Development**

258 The key developmental factors associated with attaining elite status during the early stages of
259 interviewees riding careers and during their transition from competitive rider to elite status are
260 identified in Table 2.

261

262 *Early development: motivation*

263 Congruent with proposed athlete development models, elite riders were initially motivated to
264 ride as riding was a fun and exciting activity which they had access to and in which they
265 excelled: *“I just wanted to ride horses”, “I was always one of those kids that just wanted a*
266 *pony”, “It’s fun”.*

267 All of the interviewees (n=8) started riding in early childhood (<5 years of age) and for the
268 majority it was a combination of circumstance and opportunity that initiated their interest.
269 Parental support was important for all riders (n=8; n=4 financially): parents and grandparents
270 acted as mentors, provided ponies or horses for riding, had good industry contacts which
271 provided help with finding ponies and coaching the rider, and supported competition
272 experience. All participants (n=8) had clearly internalized their motivation to ride from an early
273 age and were passionate about riding consistently demonstrating a discipline and work ethic
274 within their riding: *“Apparently when I was young, I said to my mum I was going to represent*
275 *XXXX at the Olympics. I don’t remember saying that”.*

276 *Early development: environment*

277 The recognition of inherent ability and an affinity with equestrianism combined with parental or
278 peer support and opportunities to train and compete appear important to fledgling elite riders to
279 stimulate their continued interest in equestrian sport. A core trait across riders was their
280 questioning and experimental persona (n=8), as individuals they were eager to learn how to
281 develop their skills and perform better in their sport: *“I started riding at beginning as mum was*
282 *big into riding... I’ve got a picture of me riding from an early age before I can even*
283 *remember... I was sat on many types of horses, not all good by any stretch of the imagination*
284 *but I think it was important for me to develop”.*

285 All the riders (n=8) were able to perform competently at an early age and showed an aptitude to
286 riding as well as having access to training and horses to foster their development; 75% of riders
287 has early competition experiences. A common theme was their ability to observe and
288 understand concepts when coached and as well as the mimicry skills evident across the cohort.
289 Riders could observe experts riding and were able to copy consciously or sub-consciously such
290 riding, to develop their own practice. Pivotal moments or experiences provided ‘trigger points’
291 for inspiration and reinforced their intrinsic belief in their own abilities. For example, access to
292 quality ponies, being in the right place at the right time to be talented spotted and having access
293 to coaching from people with an expert knowledge base and the aptitude for developing talent
294 were all important factors that riders felt fostered and accelerated their development, even if
295 they did not realize this at the time: *“I was lucky that my zone chief instructor was hugely*
296 *influential on the XXXX equestrian scene, who just happened to be XXXX mother (parental*
297 *guidance and coach facilitation → progress), who made the zone very competitive and made*

298 *sure we all went to championships... you get the competitive buzz or the competitive edge*” “I
299 *was lucky to have exposure from international coaches (technical development and guidance),*
300 *by then I was hooked... what got me hooked was the horse I had*”.

301 *Transition to elite: motivation*

302 Interestingly, while the development of skills and expertise remained an important source of
303 rider motivation, as their experience progressed, riders were increasingly motivated by
304 achieving competitive success and associated positive financial benefits: “*Winning. That’s all it*
305 *is, I like to win. That’s quite plain and simple*”. In part these successes support ongoing
306 development and going forwards help to secure riders elite status. Therefore rider motivation
307 may partially represent the transition to elite as riders *grow* into themselves and test their own
308 and their horse/s ability, which results in success and winning by default.

309

310 *Transition to elite: environment*

311 As riders transitioned from developmental stages to elite status, they exhibited independence
312 and matured into confident competitors dedicated to achieving success (competitive and
313 financial security). The concepts of natural aptitude and skill development continue to feature
314 extensively for riders (n=6) during their transition to elite status, but a critical third facet also
315 becomes evident: work ethic. Riders described learning how to survive and develop in the
316 industry as well as how they developed their riding skills, as they had reached a point where
317 they could no longer rely on talent alone. Simultaneously, riders have reached a stage in their
318 career where they realize they would not succeed in their sport without developing a financial
319 infrastructure, especially those who moved overseas in pursuit of an elite equestrian career and
320 that they must develop their entrepreneurial skills to fund their sport. Economic support is
321 predominately achieved through developing their own equestrian related business: selling
322 horses, getting more rides / owners or coaching: “*I learned that if I got on a pony, got it*
323 *jumping I could sell it ... you learned it was a way you could make money*” “*Inspirations now,*
324 *your goals change ... things like kids, wives, mortgages change things... I still need to be on*
325 *XXXX team and actually do some good ... I am never about quitting anything*”.

326 Ambition (related to a definable ultimate goal for example Olympic success) appears to be an
327 integral driver to achieve and retain success, and was communicated as a clear focus and belief
328 that they would succeed, combined with the recognition they were good riders and were not
329 intimidated by competing against the best of their peers. Riders’ questioning and experimental
330 approach to skill development (in themselves and towards the development of their equine
331 partners) remains but was evolving into distinct individual philosophies which allowed them to
332 experiment and continue to develop further: “*I love riding horses and I’m very competitive, I*

333 *enjoy winning and the competition side of it ... I don't compete for the sake of it, I want to try*
334 *and win... it doesn't happen as often as you would like".*

335 Riders also consistently cited both positive and negative opportunities as pivotal learning
336 opportunities (self-taught /self- recognition) which supported their progress: *"Don't ride a*
337 *horse like that again, we learn from our mistakes, every horse you buy that is the wrong horse,*
338 *every time you get knocked down ... you learn not to do it again... it's part of your memory*
339 *pattern... once it's a mistake, second time stupid and third time unforgiveable you deserved it".*

340 *Horses: a key factor*

341 Horses were, understandably given the nature of equestrian sport, pivotal to rider development.
342 The importance of access to high-quality or talented horses appears influential throughout all
343 stages of the elite riders' career. However a common theme was that all the horses they
344 encountered contributed to their learning journey and philosophy development. Opportunities to
345 ride and compete represent learning opportunities which can aid in the transition to elite status
346 through success, can facilitate talent spotting and through financial gain (winning / selling
347 horses) can fund the next stage of careers, for example funding future horses or relocation to a
348 competition rich environment needed to expand the rider's profile: *"I just wanted to ride*
349 *horses", "I started riding at beginning as mum was big into riding... I've got a picture of me*
350 *riding from an early age before I can even remember... I was sat on many types of horses, not*
351 *all good by any stretch of the imagination but I think it (riding different horses) was important*
352 *for me to develop".*

353

354 **Part 2: Success**

355 Key factors that the riders felt were influential to their elite status, represented potential barriers
356 to success and were valid measures of their success are provided in Table 3. The psychological
357 profile of the participants shared consistent features across the sample surveyed. The elite
358 equestrians were focused and driven individuals with a questioning and analytical personality,
359 who seized opportunities when they presented and used them as learning experiences to drive
360 their development: *"I'm good at watching and imitating. I can watch something and then go*
361 *back and copy that, a riding style or what they do or whatever, if I'm with somebody who I*
362 *believe is good, and that's maybe more so now, in those days (early development) I listened to*
363 *anybody but overtime you develop your own ideas", "I've spent millions of hours watching, so I*
364 *watch someone ride and if that's a positive for me, that's how I learn, I can go watch a top*
365 *combination and see how they make a horse... and I can copy it", "I've tried to ride like*
366 *everyone ... now I'm very confident in what I do, I'm very clear in my mind.. I don't doubt my*

367 ability at all”, “I learnt very quickly to watch (experts / elite peers, riding novices to elite level
368 horses)”, “I’m good at watching and imitating. I can watch something and then go back and
369 copy that, a riding style or what they do or whatever, if I’m with somebody who I believe is
370 good, and that’s maybe more so now, in those days (early development) I listened to anybody
371 but overtime you develop your own ideas (self-confidence)”.

372 Access to the *right* horse and / or *right* coach or peer at the *right* time appears essential to
373 enabling the journey to elite status. One rider described equine and coaching opportunities
374 which arose as ‘stepping stones’, stating that he needed the first stone to be able to reach the
375 next one and each stone was another step in his development: “When I was 25 I questioned
376 what I was doing and set myself a goal, I said I’ve got this horse and I’m using him as a
377 stepping stone... I’d set very defined goals and objectives that I wanted to achieve... I did that
378 ... 2 years ahead of schedule”.

379 Interestingly, key stepping stones were not always associated with a positive opportunity
380 “setbacks made me the rider I am now”; across the group, riders’ responded positively to
381 adversity (such as poor results in competition, losing horses through injury, death, losing the
382 ride or because they needed to be sold economically, not making it on to a team or financial
383 instability) and did not allow negativity to influence their motivation or focus on attaining long
384 term goals (*self-taught vs. managed / produced development*). Riders’ confidence came partly
385 from their recognition that setbacks in their career were often pivotal learning moments
386 without which they would not have gone on to achieve the same level of success (promoted
387 future coping strategies). Support from their peer network and family, and their trust and
388 confidence in their support network were central to achieving elite level success; this network
389 allowed individuals to make mistakes fostering creativity in a supportive manner. Throughout
390 the course of their journey, direct parental and peer (coaching) support appears to have
391 transformed into more of a critical friend remit, described by multiple participants as ‘*eyes on*
392 *the ground*’. Such support takes the form of a coach or trusted peer for whom the rider has
393 respect and confidence in their ability to criticize (the rider and horse) in an honest and open
394 capacity. The goal is to stimulate improvement or reinforce the rider’s own thinking, creating an
395 additional form of performance analysis: “*Eyes on the ground are important...I just think each*
396 *one can add technical knowledge and remind you of things you know and have forgotten*
397 *about*”, “*I have arrangement with someone I trust implicitly who has my best interests at heart,*
398 *after a big competition we have a discussion*”, “*I always think I would be the best rider in the*
399 *world if I could stand now stand on the ground and teach myself, because I know what I want to*
400 *be and when I see things afterwards I think well that isn’t how I wanted it to be... you need eye*
401 *on the ground and they are terribly hard (trust / confidence) to get*”, “*You need someone else to*

402 *give you that picture, see what it looks like... I need the same feedback from my person on the*
403 *ground... your ego cannot get in the way”.*

404 Riders clear focus and motivation to achieve career orientated goals was accompanied by a
405 strong work ethic and an inherent belief that they would succeed and be successful, which for
406 five of the riders entailed moving to another country to facilitate career development and goal
407 attainment. All participants demonstrated an acute awareness that to be able to succeed in
408 equestrian sport they needed to not only develop their riding expertise but also their
409 entrepreneurial and business skills. These were required to ensure they created a financially
410 secure environment with a suitable infrastructure (equestrian resources and staff) to enable them
411 to achieve success in their equestrian goals and manage these alongside their family.
412 Interestingly, the extrinsic factors: finances and the quality of horses riders had access to, which
413 is related to finances, were the key barriers identified to success, again demonstrating their
414 intrinsic belief in their skill and ability to succeed. These factors combined with winning and
415 attainment of goals were cited as transparent measures that they had succeeded: *“With high*
416 *performance we have to set goals and be pretty realistic about each horse’s capabilities”.*

417

418 **Part 3: Elite rider inspiration**

419 Factors which motivated and inspired riders to attain and retain elite status within their
420 equestrian disciplines varied depending on the stage of their career (Table 4). During their
421 development years as they transitioned to elite status, inspiration appears equally weighted
422 between intrinsic and extrinsic factors with a clear focus on achieving competitive success but
423 also enjoying the challenge of their sport. This transition could represent increased internal
424 confidence attained from achieving success, allowing riders the cope to concentrate on refining
425 their skills at *elite* level. Interestingly once they have achieved elite level success, riders’
426 inspiration becomes more internalized with their inspiration coming predominately from their
427 desire to always improve their skill as well as still enjoying their sport. Riders still want success,
428 but their measures of success vary and are balanced between their long term (improve horses →
429 Olympic success, competitive success will occur within horse’s developmental journey; build
430 reputation they can produce horses therefore sent more rides leading to long term financial
431 security) and short term goals (win / be a good horseman, build profile and reputation to
432 underpin long term goals). The continued success of the participants at the elite level of
433 equestrian sport reflects the development of their own individual belief systems encompassing
434 specific personality traits, mental toughness combined with a desire to engage in lifelong
435 learning, and a continued motivation to succeed combined with the confidence that they will
436 succeed: *“You learn or you reinforce what you are doing, because some of what you are doing*

437 *is right*”, “*I think you’ve got a system, you choose to go down a road and along comes a horse*
438 *that won’t work with me, then you have to say, well actually... I don’t think your core system*
439 *goes but your deviation is a reality of what we do*”, “*I think this is an ongoing journey, I think*
440 *the day they are putting a nail in your box, you’ll be putting your hand up saying... hold on I’m*
441 *not ready to go yet, I’ve got to work it out*”, “*Eventually you find your own thing. And that is a*
442 *powerful thing*”.

443 These factors have been translated by the riders into their core philosophies which underpin
444 their continued success and which focus around central themes, supported by their own words:
445 1) analyze what does and does not work: “*to be true to one’s self*”; 2) relationship with the
446 horse: “*understand how horse’s think and apply it, as winning / losing can be a fraud*”; 3) learn
447 by experience: “*recognize success is an ongoing journey*”; 4) keep learning: “*learn from your*
448 *mistakes, confirm and explore why they were made, work to try to rectify them, don’t make the*
449 *mistake again*” and 5) recognition that equestrian sport is business orientated: “*make every*
450 *horse perform to its best at that point in time*”, “*have clear goals (not necessarily winning), and*
451 *balance competitive success with career longevity for the horses*”.

452

453 **Discussion**

454

455 *Elite equestrians: talent, psyche and environment, a winning triad?*

456 Elite equestrians by definition demonstrate excellent riding ability and achieve competitive
457 success. Our results suggest attainment of elite status is underpinned by an individual’s natural
458 aptitude for equine sport which is combined with a specific psyche (*questioning, motivated and*
459 *driven: innate drive to learn*), both of which are cultivated through the provision of a nurturing
460 environment (*exposure to talent: coaching, riders, horses and support*) akin to reported findings
461 across elite athletes and musicians (MacNamara et al., 2010a). Riders who progress to attain
462 success utilize opportunities presented during the latter to support their development and fine tune
463 their own philosophy (Gould et al., 2002). Goal-orientated mental skills and a strong work ethic
464 also appear to continue to be of value to elite riders and persist throughout their career
465 (Wolframm, 2011a, b).

466

467 Natural talent combined with focus and mental toughness (Connaughton et al., 2008; Gould et
468 al., 2002) have been consistently associated with success and attainment of elite status in athletes
469 across other sports (MacNamara et al., 2010a; Bertollo et al., 2009; Pummell et al., 2008). Mental
470 toughness in athletes is also related to a burning desire and motivation to succeed (Connaughton

471 et al., 2008) providing the strength of character to not only cope with adversity but to use such
472 experiences to fuel future success. Athlete focus continues to be maintained by retaining these
473 factors which become insatiable and internalized, creating an aspirational athlete who builds a
474 developmental support network (family, mentors and coaches) (Pummell et al., 2008) which
475 supports that goal (Connaughton et al., 2008). The riders interviewed here possessed strong
476 athletic identities, with a core focus which appeared related to a strong motivation to succeed in
477 their sport which informed their career choices, such as moving from Australasia to the UK, to
478 support their goals (Bertollo et al., 2009). Interestingly, the riders surveyed with the exception of
479 one, did not view themselves as extraordinary and considered their success to be a combination
480 or their perseverance and drive, combined with the highs and lows they had encountered on their
481 journey to elite success. Research in other sports suggests that elite and successful athletes are
482 able to cope with adversity more effectively than the non-elite peers (MacNamara et al., 2010a;
483 Wolframm and Micklewright, 2008), using set-backs and failure as major learning experiences
484 from which to develop their skills and devise effective coping strategies enabling them to peak
485 under pressure in future competition (Macnamara et al., 2010s; Bertollo et al, 2009; Gould et al.,
486 2002); a facet that appears equally relevant in the equestrian athlete to enable elite level success.

487 It is well documented that elite athletes make sacrifices to attain success (Keegan et al., 2014) and
488 even the most naturally talented athletes are able to unlock and optimize their potential without
489 significant practice and arduous training (Keegan et al., 2014; Treasure et al., 2008). Therefore a
490 motivational climate integrating relevant environmental stimuli during an athlete's development
491 are required to secure future competitive success and status (Keegan et al., 2014; MacNamara et
492 al., 2010b). It appears for equestrianism that the combination of a rider's inherent talent combines
493 with their psyche and natural aptitude to learn from their experiences and contributes towards
494 their development and attainment of elite status. Interestingly, this mirrors themes revealed by
495 MacNamara et al. (2010a) who found world class athletes and musicians possessed a strong
496 competitive drive combined with self-determination and self-motivation in addition to natural
497 ability (MacNamara et al., 2010b). To trigger the necessary improvement required to achieve
498 success, the individual also needs to be nurtured within a suitably motivating environment for the
499 stage of their career (Keegan et al., 2014; MacNamara et al., 2010b). Interestingly no one clear
500 theory appears to align with motivation in equestrianism and in contrast to the elite athletes
501 surveyed in MacNamara et al. (2010b) the pressure of competitive success was inherent for the
502 majority of interviewees in this study from soon after they started riding, often related to their
503 family's involvement within equestrianism. Riders cited mastery of their sport, self-belief and
504 winning as their motivation akin to the extrinsic motivation associated with Achievement Goal
505 Theory (AGT) (Ntoumanis, 2001; Nicholls, 1989; Ames, 1992). In contrast, the desire to

506 continually develop, understand the horses they are working with, and achieve autonomy,
507 confidence and success represent the intrinsic motivation affiliated more with Self-Determination
508 Theory (SDT) (Deci and Ryan, 2000; Ryan and Deci, 2000). Interestingly riders defined success
509 in this context as improvement in their partnership with horses, and this was not always associated
510 with winning competitions.

511 Inspiration during the early stages of the riders' careers was derived from the fun relationships
512 they enjoyed with their horses, competition success and their wider support network: coaches /
513 aspirational riders (national or international profile), team mates (peers and horses) and parents
514 (Keegan et al., 2010). Motivation at this stage appears more achievement based (ADT) (Nicholls,
515 1989). Parental support is fundamental in providing access to the tools of their sport: ponies and
516 horses as well as support during initial and transitional phases (Pummel et al., 2008) but lessens
517 once extended support networks (coaches) and mastery of their sport increases; a pattern observed
518 across world class athletes (Keegan et al., 2014). A characteristic also found across Olympic
519 athletes (Gould et al., 2002). As careers develop, different socio-environmental influences impact
520 on rider motivation, with a clear transition from parental and peer influence with coaching support
521 towards a more internalized focus on personal development and self-coaching reinforced with
522 trusted peer support (friend, coach or confidante) once elite status is attained. Therefore
523 motivation appears to shift in the elite equestrian from an achievement focus to an increased self-
524 determination (SDT) model (Deci and Ryan, 2000; Nicholls, 1989).

525 The career stages in equestrianism loosely mirror those associated with other elite sports (Keegan
526 et al., 2014). The traits identified here for successful equestrian Olympians and World
527 Championships are consistent with core traits present across successful Olympic athletes (Gould
528 et al., 2002). The results suggest that confidence, mental toughness, ability to focus, set and
529 achieve goals, and cope with anxiety and adversity with adaptive perfectionism, sport intelligence
530 and a belief they will success are core traits possessed by elite athletes across sport (Gould et al.,
531 2002). The current models used by the Governing Bodies in equine sport used to progress talented
532 young riders towards elite status engage with Developmental Models of Sport Participation
533 (DMSP) (Balyi and Hamilton, 2000; Côté, 1999), for example the British Equestrian Federation,
534 Long Term Participant Development plan for riders (BEF, 2015). A fundamental component of
535 DMSP is late specialization and deliberate practice (Balyi and Hamilton, 2000; Côté, 1999). In
536 contrast the athletes surveyed in this study began riding at a young age (early start with early
537 specialization) and start to engage with Deliberate Practice (DP) (Baker, 2003) to promote
538 mastery of their discipline earlier than their non-equestrian peers. Baker (2003) suggests that early
539 specialization may not be needed to attain subsequent elite level performance as long as

540 prospective athletes engage with a range of sports or physical activities to stimulate the
541 development of the motor, psychological and physiological skills they will require to be
542 successful in their chosen elite sport (Ericsson et al., 1993). Recent studies in football (Ford et al.,
543 2012; Ford and Williams 2012; Ford et al., 2009) have shown that prospective footballers follow
544 a model more akin to that of deliberate practice with early specialization, spending the majority
545 of their time playing and practicing football related activities, predominately because these are
546 considered to be fun. The riders were also motivated to ride and practice riding during their early
547 development because they were good at it, enjoyed riding and achieved competitive success,
548 although they also played other sports. In football, Huagaasen et al. (2014) found more
549 professional players had specialized at an earlier age with football specifically and engaged with
550 supported deliberate practice (peers and coaches from 6 to 19 years) than their non-professional
551 counterparts. Our results suggest that riding may be similar to football where early engagement
552 combined with deliberate practice is the most appropriate mechanism for elite athlete
553 development.

554 Not all riders will come from an equestrian-family background, consequently talent identification
555 and development pathways for potential riders from alternative upbringings are also required.
556 Talent development environments (TDEs) have been proposed across sporting areas to be related
557 to athlete status (Wanga et al., 2011; Martindale et al., 2011) and incorporate key components
558 including 1) long term aims and methods, 2) wide ranging coherent support mechanisms, 3) an
559 emphasis on appropriate development rather than early selection and 4) individualized and
560 ongoing development of athletes (Martindale et al., 2005). High quality TDEs stimulate and
561 facilitate intrinsic motivation and mastery-approach goals (here: riding) and are negatively
562 correlated to extrinsic motivation, mastery-avoidance and performance goals (Wanga et al.,
563 2011). The elite riders in this study unknowingly had access to high quality TDEs during their
564 development and were also motivated by their long-term goals to create these for themselves (for
565 example, moving to a different country or coach to support their development as their goals
566 focused more on self-development) as they entered the investment-mastery stage and continued
567 to maintain these to retain their elite status and success once achieved (Martindale et al., 2013).
568 The knowledge gained from evaluating how elite equestrians achieved their status has the
569 potential to be applied to prospective athletes from both equestrian and non-equestrian
570 backgrounds, and for talented (self-taught) versus trained (managed) riders to propose bespoke
571 development pathways containing relevant opportunities (access to high quality TDEs) to
572 optimize success.

573 *Mechanisms to support success*

574 Key attributes which facilitate success in the elite equestrian rider have been identified here: self-
575 belief, a questioning and experimental approach which leads to engagement in lifelong learning,
576 a robust support network during their development years, targeted goals, the ability to overcome
577 adversity, access to elite and developmental horses, and sufficient financial and management
578 infrastructure to support equine development as their career progresses. However it should be
579 noted that although these factors are repeated across participants, they have been nurtured via
580 specific developmental pathways for each individual surveyed. Therefore whilst an outline of
581 core factors which appear to be needed for elite success to be attained in equestrian sport is
582 proposed, aspiring riders should take these cornerstones and contextualize them to their own
583 personality and journey if they wish to use them to facilitate success.

584

585 Success in equestrian sport is not just about the human athlete and their talent or how this is
586 developed, but also relies on the contribution of their partner: the horse (Williams, 2013). Within
587 equestrianism less skilled riders regularly compete and win against more experienced
588 competitors. There are many factors that could be considered influential here, but the role of the
589 horse in the horse-rider dyad is probably the greatest factor (Wolframm et al., 2011). Therefore
590 in parallel to the elite rider journey to success, it has been suggested that the elite equine athlete
591 also needs core attributes: excellent physical qualities, talent and conformation to support career
592 longevity, the underpinning physiology to cope with the demands of training and excel in
593 competition, and the personality and/or psychology to be trainable and perform under challenging
594 conditions (Visser et al, 2002; Williams 2013; Randle 2015).

595 In sports where partnerships are key to success, such as team sports including rugby and football
596 or those involving a mechanical partner for example cycling or motor sport, the best players or
597 cutting edge technology are often targeted as an aid to success (Saether and Solberg, 2015).
598 Equestrianism can be considered a team sport: dyad and horse and rider, or a triad: horse, rider
599 and coach (Williams, 2013). Elite riders repeatedly cited the mediocre or difficult horse as the
600 one they learnt the most from and to whom they contributed most to their success. Success appears
601 to be driven by three equestrian related mechanisms: a) the ability to learn from experience and
602 therefore from the horses encountered, b) an inherent aim to strive to maximize the potential of
603 all their equine partners and c) to cope with the adversity of losing a horse/ride (for example
604 through injury or the owner selling) or competition failure (Collins and MacNamara, 2012).
605 Consequently, as well as considering rider development within the journey to elite status the
606 aspiring equestrian needs to maximize the opportunities the horses they encounter represent. As
607 well as developing an economic and infrastructure framework to support the management,

608 purchase and development of both elite and potential elite horses to facilitate longevity of their
609 own elite (success and) status.

610 **Conclusions**

611 No singular or obvious pathway to elite success in equestrian sport was identified within the study.
612 However it has become apparent throughout all rider interviews that key cornerstones are
613 replicated within the psychological profile, motivation and developmental stages of riders who
614 have achieved Olympic level success. These factors combine to form a system of operation: the
615 way riders' think, ride, train and run their business, which is underpinned by the individual's
616 philosophy and enable them to remain successful at the highest level of their sport. Young riders
617 aspiring to achieve Olympic success within equestrianism, and their coaches and wider support
618 teams, could utilize the core factors from current elite riders' system of operation to help guide
619 their development to elite status.

620

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629

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631

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633

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Tables

Table 1: Questioning guide

Core questions centered on the developmental stages of elite athlete development were created and contextualized to equestrian sport to determine key factors which influenced the participants' journey to elite status. The questions outlined in the table provided a structural framework for the rider interviews whilst also allowing the interviewer and interviewee scope to explore relevant tangents as they arose.

Background – investment

- When did you start riding?
- Why did you start riding?
- Where did you start riding?
- Did your parents ride?

Development - mastery

- Describe your development from juniors through to senior competition
- Describe your competitive development
- Describe your technical development
- Was your ambition clear to you?
- What was your big break?
- Where did you learn the most (horse, job, experience, circumstance)?

Continuing motivation / inspiration

- Where do you find your inspiration now and what keeps you going?
- What do you really enjoy about what you do?
- What do you find hard about what you do?
- Where do you find your improvement now?

Self-analysis

- Do you have any formal techniques for monitoring your performance?
- Do you have a regular coach/mentor?
- What do you do when it's not working?
- What keeps you going, where do you find your 'moments' now?

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816 Table 2: Key development factors for the elite rider
 817 Open and focused coding was undertaken from the rider interview transcripts to identify key development factors
 818 related to motivation to succeed and the environment which surrounded riders during their early development stages
 819 and during their transition to elite status. The factors identified are outlined in the table and subdivided into
 820 categories which summarize the emergent themes which were present.

KEY DEVELOPMENTAL FACTORS		
Higher Order themes	Early development	Transition to elite
<i>Motivation</i>	<p style="text-align: center;"><i>Intrinsic drivers</i></p> <ol style="list-style-type: none"> 1. fun 2. excitement 3. realisation: good at it 4. risk: fast with jumping 5. getting it right 	<p style="text-align: center;"><i>Intrinsic drivers</i></p> <ol style="list-style-type: none"> 1. focus 2. self-belief 3. questioning and experimental 4. enjoyment 5. guided development 6. able to cope with adversity 7. wanting to be the best horseman <p style="text-align: center;"><i>Extrinsic drivers</i></p> <ol style="list-style-type: none"> 7. money to survive 8. competitive success 9. drive to win 10. wanting to be the best compared to peers
	<p style="text-align: center;"><i>Extrinsic drivers</i></p> <ol style="list-style-type: none"> 6. winning 7. role models 8. parental support 	
<i>Environment</i>	<p style="text-align: center;"><i>Talent and skill development</i></p> <p style="text-align: center;"><i>Independent development</i></p> <ol style="list-style-type: none"> 1. natural 2. osmotic learning environment - watching 3. intrinsic learning environment – experiential learning 4. talented pony – learning opportunity <p style="text-align: center;"><i>Supported development</i></p> <ol style="list-style-type: none"> 5. family involved in sport 6. extrinsic learning environment – Pony Club / coaching / talent spotted 7. opportunity to ride lots of different ponies – gain experience 8. challenged / competed early 9. located geographically in a competition basin 	<p style="text-align: center;"><i>Talent, skill and work ethic</i></p> <p style="text-align: center;"><i>Entrepreneurial skills</i></p> <ol style="list-style-type: none"> 1. seeking financial independence; entrepreneurial spirit 2. business focus to support sport 3. overcoming adversity – financial, having to sell good horses to live <p style="text-align: center;"><i>Riding related skills</i></p> <ol style="list-style-type: none"> 4. osmotic learning environment – working pupil / watching 5. intrinsic learning environment – own experiences 6. extrinsic learning environment – access to elite coaches (positive / negative) 7. exposure to quality horses 8. move (country) to increase competition opportunities

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Table 3: Factors that contribute to success in the elite rider
Open and focused coding was undertaken from the rider interview transcripts to identify factors which riders felt had contributed to their success and which represented a potential barrier to success. Common measures used in elite equestrian sport were also surveyed. The factors identified are outlined in the table and subdivided into categories which summarize the emergent themes which were present.

SUCCESS			
Contributing factors		Barriers	Measures
<p>1. Individual (Psychological skills)</p> <p>a) self-belief b) self-drive c) focus d) work ethic e) talent f) mental attitude g) focused h) driven i) questioning j) never quit k) competitive l) confident m) experimental n) analytical o) reflective p) self-awareness (also awareness of horse/s)</p> <p>2. Learning</p> <p>a) osmotic learning: watch learn and absorb from others b) experiential learning: self and from horses c) guided development: coach / mentor d) exposure to top horses e) exposure to talented peers f) learn from mistakes g) willing to learn</p> <p style="padding-left: 20px;">a. reflect b. experiment c. accept criticism d. not afraid of learning from others</p> <p>b) vision</p> <p style="padding-left: 20px;">a. ability to watch, learn, figure out and break things down then apply b. empathy with horses</p> <p>3. Analysis</p> <p>a) self-analysis of own performance b) self-analysis of horse/s performance c) third party analysis d) use of peers</p>	<p>4. Honest and responsible</p> <p>a) takes responsibility for own actions / decisions b) follows 'gut'</p> <p>5. Goals</p> <p>a) short and long term b) developmental and competitive</p> <p>6. Adversity</p> <p>a) ability to overcome b) losing / selling top horses c) having to support self financially</p> <p>7. Support</p> <p>a) trust in support team; may be family, friends or coach b) confidence in support team c) 'eyes on the ground' able to give honest feedback</p> <p>9. Horse power</p> <p>a) access to quality horses b) breeding / developing own horses</p> <p>9. Opportunities</p> <p>a) exposure to top level horses, riders and coaches b) developing good, average and poor horses</p> <p>10. Financial security</p>	<p>1. Finance</p> <ul style="list-style-type: none"> • balance between maximising income vs. maximising performance • having to sell good horses to finance self • requirement for 'you' as a business to be successful to make competing in sport sustainable <p>2. Horse power</p> <p>a) quality of horses b) majority of horses when starting out are not top quality</p>	<p>1. Winning</p> <p>2. Achieving goals</p> <p>3. Horses:</p> <p>a) Producing own horse b) Having a good horse c) over achieving on average horses (start of career)</p> <p>4. Financial security</p>

e) use of video f) feedback	a) able to keep quality horses b) facilities c) influences goals (own and horse)		
a. access b. exposure to experts: peers / coaches (especially in development years) c. benchmarking to peers			

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829 Table 4: Retrospective and current factors that inspire success in the elite rider

830 *Open and focused coding was undertaken from the rider interview transcripts to identify the factors that had inspired*
831 *elite riders during their past and currently. The factors identified are outlined in the table and subdivided into*
832 *categories which summarize the emergent themes which were present.*

ELITE RIDER	<i>Inspiration</i>
<i>Current</i>	<p><i>Extrinsic</i></p> <ol style="list-style-type: none"> 1. Success <p><i>Intrinsic</i></p> <ol style="list-style-type: none"> 2. Relationship with the horses 3. Constant challenge 4. Still learning 5. Changing goals (own / related to individual horses) 6. Horses (relationship / quality / understanding them) 7. Enjoyment
<i>Retrospective</i>	<p><i>Extrinsic</i></p> <ol style="list-style-type: none"> 1. Success 2. Winning 3. Finance 4. Be the best <p><i>Intrinsic</i></p> <ol style="list-style-type: none"> 5. Exciting 6. Fun 7. Natural talent (felt could do well / succeed) 8. To achieve excellence

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