

## **The psychological responses of British amateur point-to-point jockeys to personal injury**

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1 **The psychological responses of British amateur point-to-point jockeys to personal injury**

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9

10  
11 **Abstract**

12 Previous research has reported significant psychological consequences of injury on  
13 rehabilitation success, performance, and wellbeing in athletes, although little is known within  
14 horse-based sports. There is a high prevalence of injury reported in point-to-point (P2P)  
15 jockeys, but despite this, comparatively little research exists examining the psychological  
16 implications resulting from physical trauma within horseracing. The aim of this study was to  
17 investigate the psychological responses to personal injury in British amateur P2P jockeys. Five  
18 amateur P2P jockeys (two male, three female,  $\bar{x}$  age 25 years old) were interviewed about their  
19 experiences post an injury sustained during racing in the preceding 12 months. Interview  
20 questions explored their pre-injury career, the rehabilitation phase, pre-return to racing phase  
21 issues and coping strategies used by jockeys. Thematic analysis revealed three higher order  
22 themes: emotional responses, coping strategies, and factors affecting recovery. Subjects  
23 universally cited negative emotional responses following injury, including grief, a sense of loss,  
24 and frustration, and all experienced denial at the onset of injury. Typical coping strategies  
25 included strong support networks of family, friends and racing staff, and goal setting. Fear of  
26 reinjury was identified by all athletes, particularly on return to the saddle, and the attitudes  
27 towards injury management, such as denial, seen in this study may provide opportunities to  
28 develop targeted education campaigns for P2P jockeys on injury services. Targeted marketing  
29 for P2P jockeys on available injury support is recommended, such as seen for professional  
30 jockeys, as well as the creation of career development resources to offer alternative routes for  
31 P2P jockeys following injury.  
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33 **Keywords:** athlete, emotional response, horseracing, fear of re-injury, coping  
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**51 Introduction**

52 Point-to-point (P2P) is a form of amateur jump racing, scheduled across 200 fixtures in the  
53 United Kingdom, with around 300 amateur jockeys currently registered to the British  
54 Horseracing Authority (BHA) (Balendra *et al.* 2007; British Horseracing Authority, 2022). P2P  
55 jockeys navigate 2.5-to-4-mile racetracks, jumping between 10 – 22 steeplechase obstacles,  
56 whilst maintaining balance and control to race effectively (Trowbridge *et al.* 1995). Due to the  
57 fast speeds (11-14m/s) and jumping efforts required, there is high risk of injury to both horse  
58 and jockey during P2P racing, typically resulting from falling on a race day (Balendra *et al.*  
59 2007; Smith *et al.* 2018; Smith *et al.* 2020). However, epidemiological research estimates that  
60 30% of professional jockey injuries occur outside of the race (Turner *et al.*, 2002) and this could  
61 be estimated to be higher for P2P jockeys, who may spend more time on non-racing activities  
62 than their professional counterparts due to reduced financial incentives to ride. Amateur jockeys  
63 spend on average  $34 \pm 14$  hours a week in non-racing activities, such as exercise riding, or yard  
64 work (Kiely *et al.* 2020). As a result, P2P jockeys may incur injuries from both yard-based work  
65 as well as their ridden career and race day falls (Davies *et al.* 2022; O'Connor *et al.* 2021a;  
66 Smith *et al.* 2020; Smith *et al.* 2021). The effects of injury in P2P jockeys can result in “fatal,  
67 serious and permanent outcomes, tend to impact a young-adult age group who will live many  
68 years with the consequences of injury and occur in a workplace setting where they should be  
69 protected” (O'Connor *et al.* 2021b, pg. 1). Professional jockeys are already seen to underreport  
70 or downplay injury or injury severity to avoid being declared unfit to ride by the Chief Medical  
71 Officer (Hitchens *et al.* 2013; Turner *et al.* 2002; Waller *et al.* 2000; Whitlock, 1999), but little  
72 is known about the attitudes to injury reporting and recovery seen in the amateur P2P  
73 population. Athletes who experience denial may refuse or disengage with necessary  
74 rehabilitation (Harris, 2003), resulting in significant negative psychological consequences, such  
75 as depression, social isolation or substance misuse (Samuel *et al.* 2015). The most recent  
76 horseracing industry survey on mental health identified 37% of racing industry staff reported  
77 injuries in the last 12 months but only 38% took any time off related to that injury (McConn-  
78 Palfreyman *et al.* 2019) which poses a significant concern for the sector. In addition, anecdotal  
79 reports of racing staff being unwilling to take sick leave or continuing to work despite chronic  
80 pain or injury are prevalent within the racing community (McConn-Palfreyman *et al.* 2019;  
81 Racing Welfare, 2012; Sear, 2018; Speed and Anderson, 2008).

82  
83 Riding is considered more dangerous than motorcycle riding and rugby (Ball *et al.* 2007;  
84 Davidson *et al.* 2015) with hospital admission rates for riding accidents at 0.49/1000 hours  
85 riding in contrast to motorcycle riding where only 0.14 injuries/1000 hours riding occur (Ball  
86 *et al.* 2007). Horseracing is often considered one of the most dangerous disciplines, with  
87 jockeys more likely to experience injury or death than other equestrian athletes (DeAraugo, *et*  
88 *al.* 2016), typically resulting from a fall. Injury data suggests that whilst jump jockeys are more  
89 likely to fall compared to flat jockeys (5.26 falls compared to 0.42 falls per 100 rides  
90 respectively) (Hitchens *et al.* 2013), falls during flat racing result in longer recovery periods  
91 following injury (61 days compared to 51 days respectively), perhaps due to faster speeds  
92 involved (Turner *et al.* 2008; Turner *et al.* 2002). Greater incidences of injury are prevalent  
93 when comparing amateurs to their professional counterparts; research suggests that amateur  
94 jockeys are three times more likely to fall and sustain injury (Balendra *et al.* 2007; Davidson *et*  
95 *al.* 2015; Hasler *et al.* 2011). In P2P, previous research suggests one fall occurs in every 7 to  
96 11 starts, with a greater number of falls comparatively to flat (O'Connor *et al.* 2018) and jump  
97 racing (Smith *et al.* 2018; Hitchens *et al.* 2013; Williams *et al.* 2013). Greater fall rates amongst  
98 amateurs may be attributed to the elevated skill level of professional riders, access to more  
99 established horses and more frequent practice opportunities because it is their livelihood  
100 (Balendra *et al.* 2007; O'Connor *et al.* 2018). Reported injuries in all jockeys include the head,

101 neck, back, shoulder and clavicle, and extremities, and most typically involve fractures or soft  
102 tissue injuries, however amateur jockeys are three times more at risk of fractures, and twice as  
103 likely to be concussed as professional jump jockeys (Balendra *et al.* 2007; Hitchens *et al.* 2013;  
104 Turner *et al.* 2002; Waller *et al.* 2000; Whitlock *et al.* 1999). The available data suggests that  
105 P2P jockeys are a high-risk population for injury due to their amateur status but may be less  
106 inclined to seek injury support due to financial and career implications resulting from missing  
107 races during recovery (average 31 days lost, 4 – 180 day range) (O'Connor *et al.* 2021a). Whilst  
108 injury support is available for P2P jockeys through the Injured Jockeys Fund (IJF) and Racing  
109 Welfare, these Occupational Health Services (OHS) are voluntary, in line with U.K. legal  
110 requirements (Jain *et al.* 2021). Employee engagement with OHS provision is reliant on  
111 organisation and employer promotion (Fan *et al.* 2020; Jain *et al.* 2021), whilst targeted  
112 organisational campaigns have observed positive effects on injury reduction worldwide  
113 (Andersen *et al.* 2019). The lack of organisational promotion for injury support services from  
114 organisations such as the Point-to-Point Owners and Riders Association (PPORA) or the Point-  
115 to-Point Authority (PPA) mean the P2P industry could be unintentionally missing an  
116 opportunity to support the physical and mental health, and overall wellbeing of P2P jockeys  
117 following injury.

118  
119 Following injury, jockeys are likely to experience complex psychological responses, including  
120 changes in cognitive appraisal, emotional responses, and behavioural changes, similar to those  
121 seen in other injured athletes (Wiese-Bjornstal *et al.* 1998). The initial cognitive appraisal  
122 allows the athlete to assess the situational context of the injury, as well as their coping resources,  
123 considering the injury severity and prognosis against upcoming competitive goals (Wiese-  
124 Bjornstal *et al.* 1998). The cognitive appraisal at the onset of injury can influence a person's  
125 emotional responses; a positive appraisal of coping ability post-injury may lead to a positive  
126 emotional response, whereas a sense of loss resulting from injury may lead to emotions such as  
127 grief, fear, frustration, or anger (Thatcher *et al.* 2007; Tracey, 2003; Walker *et al.* 2007). Initial  
128 grief responses, similar to those reported in Kubler Ross's Grief Theory (1969), mimic loss,  
129 shock, and emptiness, often classified as devastation (Rees *et al.* 2010). Where injury has  
130 limited an athlete's ability to achieve a goal, athletes have also reported frustration, restlessness,  
131 anxiety and feeling cheated (Mitchell *et al.* 2014). For P2P jockeys, this frustration or  
132 restlessness may result from an inability to undertake daily working tasks fully, being unable  
133 to ride (in races or training) due to physical limitations or slow recovery processes and pain,  
134 which may affect their likelihood of being allocated rides, resulting in psychological distress.

135  
136 Depending on the outcomes of their cognitive appraisal, and the athlete's ability to identify and  
137 regulate their emotional reaction, their behavioural responses can either positively or negatively  
138 impact their rehabilitation success (Wiese-Bjornstal *et al.* 1998). Behavioural responses  
139 include adherence to rehabilitation activities, use of psychological skills strategies, use or  
140 disengagement from social support, risk taking behaviours and behavioural coping techniques  
141 (Wiese-Bjornstal *et al.* 1998). The engagement with positive behavioural responses and coping  
142 strategies following injury can facilitate successful return to work, to sport and the efficacy of  
143 their rehabilitation and recovery (Santi and Pietrantonio, 2013). Arvinen-Barrow and Walker  
144 (2013) suggests that many athletes who fail to return to their original levels of performance do  
145 so due to a lack of pre-emptive coping interventions, which are designed to reduce the denial  
146 and distress phases of the affective cycle of injury model, associated with the emotional  
147 response to injury (O'Connor *et al.* 2005). Engagement with effective coping strategies can  
148 support athletes to take a more active role in their rehabilitation and refocus their goals to  
149 improve other constructs such as strength, endurance, or confidence (O'Connor *et al.* 2005;  
150 Wadey *et al.* 2019, 2012). Determined coping is seen earlier in athletes who undergo early

151 education interventions focussing on managing emotions, goal setting to enhance motivation  
152 and resilience and the provision of social support (Santi and Pietrantonio, 2013). This  
153 phenomenon has recently been observed in professional jockeys, with the continued growth  
154 and development of post-injury resources and focus on improved physiological and  
155 psychological recovery (Injured Jockeys Fund, 2020; Professional Jockeys Association, 2020).  
156 Recent research has suggested that only small numbers of racing staff access available support  
157 services following injury (Davies *et al.* 2022), and as P2P is classified as an amateur sport, P2P  
158 jockeys may be less likely to seek support. The aim of this study therefore was to investigate  
159 the psychological responses to personal injury in amateur point-to-point racing jockeys and  
160 identify the factors influencing recovery and return to riding.

161

## 162 **Methodology**

163

### *Participants*

164

165 Five amateur point-to-point (P2P) jockeys (two males, three females,  $\bar{x}$  age  $25 \pm 2.74$  years old  
166 (range 21 -28 years old),  $\bar{x}$  recovery time  $12.2 \pm 8.01$  weeks (range 6 – 26 weeks)) were selected  
167 based on their discipline and injury status. Within horseracing, success is associated with the  
168 individual jockey's persona and 'system', and this can foster a reluctance to openly discuss  
169 personal and professional practice, thereby limiting jockey engagement with research aiming  
170 to explore these constructs (Lamperd *et al.* 2016; Richardson *et al.* 2020). Coping with  
171 adversity, such as injury, is considered a key factor in performance success and progression to  
172 professionalism within horse sports (Lamperd *et al.* 2016), therefore it could be assumed that  
173 amateur jockeys may not want to share their strategies in dealing with injury, limiting the  
174 available sample. Furthermore, previous research has identified a concern with injury reporting,  
175 and injury minimalization in horseracing (Davies *et al.* 2022; Davies *et al.* 2021; McConn-  
176 Palfreymann *et al.* 2019) that may hinder larger sample sizes being obtained. The sample size  
177 gathered does however echo previous studies on psychological recovery from injury including  
178 Mosewich *et al.* (2013) study on elite female athletes', and Davies *et al.* (2018) investigation  
179 into elite young riders', whereby sufficient data were collected to conclude accurate themes.

180

181 The inclusion criteria required that jockeys must have previously experienced a serious injury  
182 in the last 12 months whilst working in P2P racing. This study focused on workplace injury,  
183 which is defined as an injury or illness caused, contributed, or significantly aggravated by  
184 events or exposures in the work environment (Health and Safety Executive, 2021). Injuries  
185 were accepted to be acute, chronic, or resulting from overuse; may or may not have required  
186 medical attention; and may or may not have required time away from work. Serious injury has  
187 previously been defined in psychology of injury studies as a minimum of three weeks disruption  
188 from normal life protocols (Mosewich *et al.* 2013), including time away from sport in athletic  
189 populations, time off work in occupational settings, or required adjustments to transport, work  
190 situations or homelife as a requirement of injury restriction (Dembe *et al.* 2005; Kim, 2008;  
191 Wadey *et al.* 2013). These readjustments to normal life processes are considered as disruptive  
192 and require reappraisal to support coping (Mitchell *et al.* 2014) and are considered as significant  
193 time for psychological impact (Wiese-Bjornstal *et al.* 1998). Further support exists for this time  
194 frame within the racing industry, currently, jockey insurance claims classify serious injury as  
195 requiring three or more weeks away from activity (Turner *et al.* 2008; Turner *et al.* 2002).  
196 Whilst previous research has utilised sick leave or absence from training, competition, or work  
197 as a measure of injury severity, the presenteeism previously reported in the racing population  
198 could have affected the sample available of injured staff who have explicitly taken 21 days or  
199 more off work (Davies *et al.* 2022; Davies *et al.* 2021; McConn-Palfreyman *et al.* 2019). When  
200 no time has been lost (work or sport training), injuries are referred to as transient, and this is  
often due to the normative social culture of denial (Hodgson *et al.* 2007; Wiese-Bjornstal *et al.*

201 2010). It was therefore decided a minimum of 21 days of disruption to life protocols, including  
202 adjustments to daily life (such as driving, restrictions at work etc.), rather than specified sick  
203 leave, would be utilised as inclusion criteria. At the time of interview, all five jockeys had  
204 returned to the saddle, with four out of five jockeys back to P2P racing.  
205

### 206 *Procedure*

207 Following institutional ethics approval by the XXXXXX (blinded for review) Human Research  
208 Ethics Committee (approval number ETHICS2021-24) and informed consent, five P2P jockeys  
209 were interviewed on their experiences of personal injury in the sport. Recruitment was achieved  
210 through personal and organizational industry contacts, collaborating industry partners and  
211 social media groups/pages to recruit participants (Browne, 2005) who met the  
212 inclusion/exclusion criteria. Semi-structured interviews were used to collect data as they  
213 allowed the researcher to further investigate the participants' responses by asking further  
214 questions. Having guiding questions helps the interview from straying too far from the vital  
215 questions of the study (Marshall and Rossman, 2006; Santiago, 2009). The interview guide  
216 (Appendix A) was developed from current research and designed to address pre-injury career,  
217 the rehabilitation phase, pre-return to racing issues and coping strategies used by jockeys  
218 (Davies *et al.* 2018; Podlog *et al.* 2012). To protect the anonymity of the participants, all  
219 participants in this study were allocated numbers (*i.e.*, P1, P2). Each interview, conducted by  
220 LS, lasted approximately 35 minutes and was audio and video recorded using Microsoft Teams  
221 (Version 1.5.00.22362). Online interviews allowed a cost effective, time-efficient way of  
222 conducting research, that mitigated the implications of the COVID-19 pandemic for both  
223 researcher and participant (Janghorban *et al.* 2014; Wadey *et al.* 2019; Opara *et al.* 2021).  
224 Interviews were scheduled to accommodate participants' busy schedules, which is a challenge  
225 often seen in research exploring the horseracing industry (Wadey *et al.* 2019; Richardson *et al.*  
226 2020). Online interviews have shown to gather data equivalent to face-to-face interviews, with  
227 the advantage of participants being comfortable in their environment which may facilitate  
228 deeper discussion on sensitive topics (Lo Lacono *et al.* 2016).  
229

### 230 *Data Analysis*

231 This study utilised thematic analysis to allow new information to be extracted from the data and  
232 did not seek to answer a hypothesis or quantify themes (Bloomberg and Volpe, 2008). The data  
233 were analysed using an eight-stage approach adapted from Lamperd *et al.* (2016), consisting of  
234 the following: (1) transcription of the interviews (LS), (2) data were checked and re-read to  
235 ensure familiarity (ED, LS), (3) direct quotes were extracted and divided into categories (ED,  
236 LS), (4) inductive grounded theory analysis was undertaken using open coding line by line to  
237 represent each participants personal interpretation (ED, LS), (5) focused coding was used to  
238 formulate themes (ED), (6) themes were organised to represent their relationship with the aims  
239 (ED), (7) validation consensus was conducted by both researchers (LS, ED), (8) followed by  
240 discussion to determine whether the research aims had been appropriately met (ED, LS).  
241

242 The lead researcher's (ED) epistemological perspective is a social constructivist lens, which  
243 framed how the thematic analysis was undertaken. It should be acknowledged that  
244 interpretation of the findings and emergent themes may have been influenced by the research  
245 team's experiences with personal injury within the equestrian and racing sectors. This was a  
246 strength in offering opportunities for connection, rapport, and empathy through shared  
247 experiences during the interview process.  
248

## 249 **Results**

## Injury in Point-to-Point Jockeys

250 A total of five participants were interviewed for this study. All jockeys had experienced an  
 251 injury resulting in more than three weeks disruption to racing life in the last 12 months ( $\bar{x}$   
 252 recovery time  $12.2 \pm 8.01$  weeks) and were all actively racing at the time of their injuries (See  
 253 Table 1).

254  
 255 **Table 1: Participant details including jockey age, injury characteristics and time off**  
 256

Pp.	Age	Gender	Injury	Injury Causation	Recommended Time off	Actual Time off	Riding as a career	Returned to P2P riding
P1	21	Female	Broken Ulna and Radius (arm)	Jockey Fall	12 weeks	6 weeks	No	No
P2	28	Male	Snapped anterior cruciate ligament	Overuse Injury	52 weeks	26 weeks	Yes	Yes
P3	25	Female	Broken collar bone and dislocated shoulder	Horse and Jockey Fall	8 weeks	8 weeks	Yes	Yes
P4	24	Female	Concussion and fractured pelvis	Jockey Fall	Return as an when participant felt ready	9 weeks	Yes	Yes
P5	27	Male	Open compound fracture to the tibia and fibula	Jockey Fall	12 weeks	12 weeks	Yes	Yes

257  
 258 The themes identified by the primary researcher were independently confirmed by the  
 259 remaining author. Ultimately, the analysis resulted in three higher order themes: emotional  
 260 responses, coping strategies, and factors affecting recovery (See Figure 1).  
 261

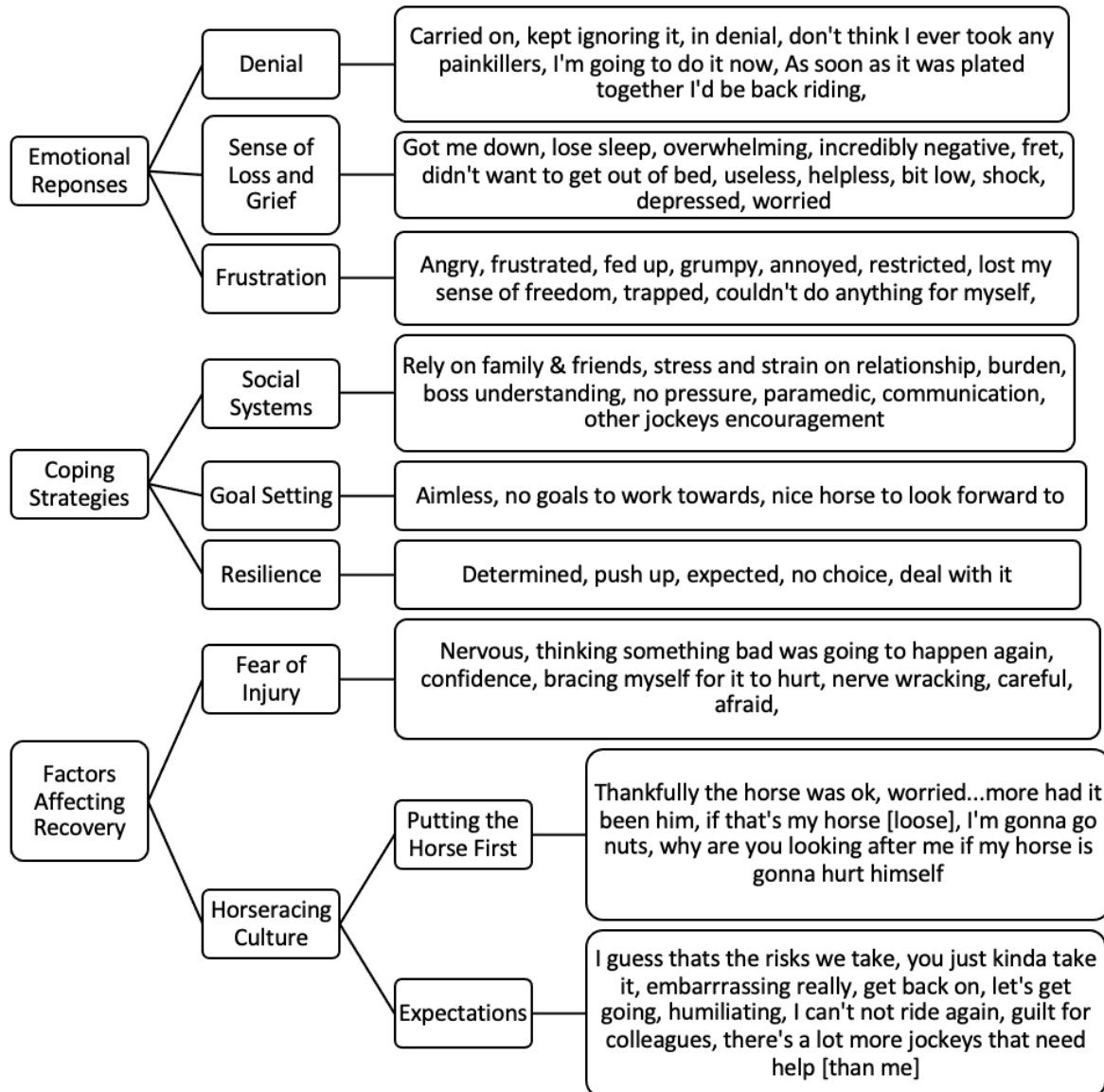


Figure 1: Higher and Lower Order Themes

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**Discussion**

**Emotional Responses**

Jockeys reported experiencing a range of emotions, such as panic, depression, feeling low, denial, anger, frustration, blame and guilt. In response to their injuries, four lower order themes under the higher order theme of emotional responses were identified: denial, depression, frustration, and self-blame.

*Denial*

All jockeys in this study reported experiencing denial at the onset of their injury, although the presentation varied between individuals. Some of the P2P jockeys reported experiencing denial related to the injury itself, whilst others acknowledged the injury, but were in denial of its severity.



## Injury in Point-to-Point Jockeys

279 *'...and yeah it was sore but once I got back to my feet, yeah I was limping, but I was*  
280 *alright... and then obviously your adrenaline was going and whatever, and you just*  
281 *forgot. I just forgot about it until I got another fall... (P2)*

282  
283 *'I would say I was in denial. Because I didn't feel pain instantly, I doubted that I had*  
284 *actually broke my leg, I thought the snapping sound might just have been the sound of*  
285 *my fall stupidly, you know you kind of second guess yourself. But after I looked at my*  
286 *leg and saw it pointing in the wrong direction with a big bend halfway down, I began*  
287 *to feel very dizzy, and I blacked out.'* (P5)

288  
289 Denial can be defined as the conscious or unconscious refusal to accept a given reality, and is  
290 often referred to as the brains temporary defence mechanism against feelings of anxiety, in a  
291 negative situation (Kubler-Ross, 1969; Prigatano and Sherer, 2020). Within the context of  
292 sporting injuries, denial may present as a refusal to accept injury severity or the consequences  
293 of the injury on the long-term sporting career, such as forced retirement or a reduction in  
294 competition level (Kubler-Ross, 1969; Santi and Pietrantonio, 2013). Where athletes have  
295 chosen to deny or ignore injury, or injury severity, there has been reported experiences of  
296 heightened emotional reactions and difficulty in managing stress responses (Samuel *et al.*  
297 2015). Delays in seeking medical treatment may also prolong an athlete's recovery process or  
298 worsen the injury due to avoidance (Kortte and Wegener, 2004). Whilst often considered a  
299 temporary protective mechanism against anxiety (Hooi and Wah, 2018), those in denial after  
300 trauma appear to be able to adjust less well than those who confront the incident directly (Mohta  
301 *et al.* 2003). Athletes experiencing denial at the onset of injury may refuse or disengage with  
302 treatment or rehabilitation, or continually seek a contradictory diagnosis from different  
303 physicians (Harris, 2003). Interestingly, two of the jockeys reporting ignoring medical advice  
304 or seeking differing medical or rehabilitation recommendations to facilitate their recovery.

305  
306 *'I said I'm not getting the operation till the seasons finished ... And he went, what do*  
307 *you mean? I said I've ridden three winners this week. I said I'm not stopping yet. I said*  
308 *like I'm on my best season. I said I'm in contention for the \*\*\*\*\* Area Championship...*  
309 *you can think again if I'm stopping riding now'* (P2)

310  
311 *'The NHS were like Oh no, it's gonna be ... you can't ride with three months now with*  
312 *this and the other, and thankfully the BHA doctor \*\*\*\*\* was like no ignore him, just*  
313 *smile, and ignore him and so then like it was a lot more positive.'* (P3)

314  
315 Within horseracing, participants (jockeys, trainers, staff) pride themselves on their bravery and  
316 fearlessness, and the emphasis on downplaying injury severity, self-diagnosis, and carrying on  
317 with injury have all been identified in this population (Davies *et al.* 2022; McConn-Palfreymann  
318 *et al.* 2019; Racing Welfare, 2012; Sear, 2018). Denial has also been recognized within military  
319 personnel who have previously reported the inconvenience of seeking medical treatment, fear  
320 of impact on their careers, knowing how to treat themselves without the need for medical  
321 intervention, and the cultural perspective to "suck it up" and 'work through it' mentalities seen  
322 within in the military as being key reasons not to report injury, or seek medical attention (Cohen  
323 *et al.* 2019; Sauers *et al.* 2016, pp. 1077), similar to what is seen within horseracing.  
324 Underreporting of injuries, or not seeking subsequent medical intervention, has also been seen  
325 in wider equestrian sports (Dashper, 2014), whereby injury is seen as something that cannot be  
326 avoided but should not delay or prevent engagement with equestrian activities (Jones, 2021),  
327 suggesting there may be a cultural connotation with injury attitudes in horse-related industries,  
328 rather than solely within horseracing. The jockey's denial of the severity of their injuries

329 alongside their approach to medical intervention and recovery timeframes is suggest of an  
330 injury minimalization culture, that may foster a negative attitude towards injury and recovery  
331 within the sport.

332

333 *Sense of Loss and Grief*

334 A sense of loss and grief was identified in the jockeys, through reported feelings of loss,  
335 loneliness, helplessness, worry, low mood and negative thoughts.

336

337 *'... you just feel so stupidly anxious and low' (P1)*

338

339 *'I felt quite helpless' (P4)*

340

341 Wiese-Bjornstal *et al.* (1998) suggested that a sense of loss was a negative aspect of the  
342 cognitive appraisal process in athletes at the onset of injury that may result in grief-like  
343 emotions, seen here in this study. There is increased psychological disturbance following injury  
344 for those who are emotionally unprepared (Baillie and Danish, 1992) and those whose return to  
345 sport is uncertain (Bianco *et al.* 1999). Grief-like symptoms post-injury has been linked to  
346 increased absenteeism, decreased productivity, and increasing healthcare costs in wider sectors,  
347 likely as a result of poor injury recovery (Keyes, 2002). As many as one in two athletes  
348 experience psychological distress in their career, often resulting from non-normative transitions  
349 such as injury, and this is no different in within the racing sector (Losty *et al.* 2019). Jockeys  
350 report exhaustive schedules, high risk occupations, unrealistic weight expectations, public  
351 scrutiny, burnout, and injury as key risk factors for poor mental health, including high reported  
352 incidents of depression in recent years (King *et al.* 2022; King *et al.* 2021a; King *et al.* 2021b;  
353 Losty *et al.* 2019; McConn-Palfreyman *et al.* 2019).

354

355 The grief-like response experienced by athletes' post-injury is often attributed to lost career or  
356 goal aspirations and missed opportunities. Typically, elite athletes experience a more prominent  
357 psychological injury response than amateurs due to increased emotional and financial  
358 investment, and their sense of purpose being disrupted (Bianco *et al.* 1999), however a  
359 significant psychological response was found here in the amateur P2P population. Racing is a  
360 unique environment, as although it has aspects that are similar to the sporting sector, it is not  
361 solely considered as a sport to its members, it is often considered a way of life, much like those  
362 working in the equine or animal care industries (Dashper, 2017; Figley and Roop, 2006). Staff  
363 working in animal-based occupations may be more vulnerable to depression due to self-  
364 sacrificing behaviours often associated with putting the animal first (Figley and Roop, 2006).  
365 Animal caregivers are often at greater risk of stress-induced injury, due to increased time  
366 investments, empathic understanding of the animal, and the bond created in caring for that  
367 animal (Bennett and Rohlf, 2005). It could therefore be suggested that whilst elite sporting  
368 athletes are typically at greater risk of severe emotional distress following injury due to  
369 substantial investments in their career, all levels of jockeys may be at greater risk of emotional  
370 instability following injury due to significant emotional and time investments in their horses.

371

372 *Frustration*

373 Frustration is the most commonly reported emotion during injury (Brewer, 1994; Copell, 2015;  
374 Kutz, 2014) and was seen in the interviews with P2P jockeys in this study.

375

376 *'...Frustrated that it was so early on meaning that I was probably going to miss out on*  
377 *the rest of the season' (P4)*

378

379 Uncertainty about the return to sport, alongside being emotionally unprepared for the significant  
 380 changes resulting from injury, could lead to jockeys feeling anxiety, bitterness and frustrated,  
 381 reported in this study (Bailie and Danish, 1992; Bianco *et al.* 1999). Research suggests the  
 382 timing of an athlete's injury, such as within a competition season, has a substantial impact on  
 383 how the athlete perceives the injury and their emotional response, which can impede subsequent  
 384 recovery (Gayman and Crossman, 2003). The sudden lack of involvement within their sport  
 385 and the physical limitations of not being able to do what they did before the injury is often  
 386 associated with increased frustration at the onset of injury (Clement *et al.* 2015; Johnston and  
 387 Carroll, 1998). Changes in day-to-day functioning, restrictions in riding and loss of athletic  
 388 identity can exaggerate feelings of frustration (Abbott *et al.* 2019; Dashper, 2017; Tamminen  
 389 and Watson, 2022; Tracey, 2003). The ridden component of riders' engagement within  
 390 equestrianism has previously been reported as central to the social environment, with riders  
 391 feeling 'out of the loop' when unable to engage in riding activities with peers, which could be  
 392 considered similar within the P2P community (Dashper, 2017). More than just the social  
 393 activity or physical exercise, riding is linked to feelings of kinaesthesia and 'embodied  
 394 mindfulness', engaging multiple and complex sensory and motor fields which may lead to  
 395 feelings of frustration if lost (Dashper, 2017). Tracey (2003) stated that athletes often  
 396 experienced frustrations resulting from a desire to be independent, which can lead to increased  
 397 emotional difficulties and delays in rehabilitation outcomes. Several jockeys highlighted that  
 398 their frustrations were linked to a loss of independence.

399

400 *'I think this [not attending gym] also made me feel more trapped and frustrated as I*  
 401 *wasn't able to do anything about it [injury]...'* (P5)

402

403 *'It was hard mentally the first kind of eight weeks [be]cause I wasn't allowed to drive.*  
 404 *Wasn't allowed to walk, I wasn't allowed to do anything, erm So the first eight weeks I*  
 405 *was like literally bedbound'* (P2)

406

### 407 **Coping Strategies**

408 All jockeys discussed coping resources they developed following their injuries. Lower order  
 409 themes included social systems, goal setting and resilience.

410

#### 411 *Social Systems*

412 All P2P jockeys referred to social support systems that were in place following their injuries,  
 413 with family, partners, employers, and the wider racing industry named as key positive role  
 414 figures within their network.

415

416 *'...everyone like my family and friends were very supportive throughout the whole*  
 417 *process and just did everything they could to help me get back to riding and working as*  
 418 *soon as possible'* (P4)

419

420 *'...my boss was fine with it everyone wished me a speedy recovery and when I came*  
 421 *back to work everyone was understanding and helped me get back to where I was before*  
 422 *the injury'* (P5)

423 Social support, such as from employers, friends, family, or colleagues, is particularly important  
 424 in maintaining adherence to rehabilitation. Social support has been linked to the size of a  
 425 network or community, social integration of an individual, the quality and quantity of  
 426 relationships formed, and social resources (Rees and Hardy, 2000). Disengagement from a  
 427 community after injury can lead to feelings of isolation, which is negatively associated with  
 428 adherence to rehabilitation (Harris, 2003; Rees *et al.* 2010).

## Injury in Point-to-Point Jockeys

429 Social support is considered a key factor in coping with injury, and can be considered positive,  
430 negative, or neutral. Udry *et al.* (1997) suggested more athletes reported negative social support  
431 than positive, however in this study most jockeys reported positive social interactions  
432 facilitating their recovery. Involvement of close social networks, such as family, can be  
433 perceived differently depending on the emotional responses of the individual. Research  
434 suggests anger can weaken the recognition and effectiveness of social support by pushing away  
435 those closest to the injured person (Wilks *et al.* 2019), whilst quality of relationships with family  
436 could play a role in perception of support (Rees and Hardy, 2000). Although no jockey  
437 specifically mentioned challenges with family members, P2 mentioned the negative impact  
438 their recovery had on their relationship.

439  
440 *'Yeah, with my partner at the time, put a lot of stress and strain on the relationship erm*  
441 *because I couldn't do anything for myself erm, so she was having to run around after*  
442 *me' (P2)*  
443

444 One jockey highlighted conflict with their trainer following injury, with a lack of support and  
445 blame identified.

446  
447 *'With my trainer, I got a lot of blame... this trainer in particular held onto it for some*  
448 *reason and always said it was my fault always said, you know I should have been riding*  
449 *better and everything when actually it was probably a needed, the support more than*  
450 *anything, and I needed the comfort of knowing that accidents happen... '(P1)*  
451

452 Research suggests that post trauma, negative social support, such as criticism or indifference to  
453 the wellbeing of that person, has a greater impact on successful recovery outcomes than lack of  
454 support (Brewin and Holmes, 2003). Previous research in horseracing found that employers  
455 were seen as equally helpful and unhelpful by racing staff following an injury in the workplace  
456 (Davies *et al.* 2022), whilst 44% of employees previously stated that their employer was “not  
457 supportive at all” in response to their injury rehabilitation (McConn-Palfreyman *et al.* 2019).  
458 Open communication is a key managerial skill, something reported as lacking within the  
459 horseracing sector, whereby staff are often promoted to management level due to horsemanship  
460 skills rather than people skills (Jukes *et al.* 2020). Management behaviour have also been  
461 found to be a key factor in influencing how employees handle pain at work (Dellve *et al.* 2007;  
462 Wynne-Jones *et al.* 2011). Development of resources for administrative and managerial staff  
463 on occupational injury and injury management in the racing industry has previously been  
464 identified (Davies *et al.* 2022), and this should be extended to consider P2P establishments as  
465 well as flat and jump training yards. Furthermore, ensuring that support networks are provided  
466 to any racing staff who may be affected by the aftermath of injury, such as P2P area secretaries,  
467 fellow racing grooms or managerial staff, would be a benefit to reduce the incidences of  
468 vicarious trauma within the racing population (for review, see Davies *et al.* 2021).

469  
470 Social support systems where athletes with mutual experiences support one another in  
471 rehabilitation are considered most beneficial (Arvinen-Barrow and Walker, 2013; Hogan *et al.*  
472 2002). This was experienced by P3, who identified that support and encouragement from other,  
473 more successful jockeys with similar experiences was motivating during their recovery.

474  
475 *'I think the other jockeys, I was quite surprised. Some of them that you know the name*  
476 *of, but you wouldn't think they'd ever speak to you, are messaging you and ringing you*  
477 *saying, oh yeah, you'll be fine. It's like the some of the, like encouragement from other*

## Injury in Point-to-Point Jockeys

478 *people is really good... like knowing that they've had it before and they still could win*  
479 *all these races and do this and that and the other... ' (P3)*

480

481

### 482 *Goal Setting*

483 Goal setting was a crucial coping strategy used by jockeys during their injury recovery to  
484 enhance motivation and maintain purpose. Jockeys typically highlighted the upcoming fixture  
485 calendar and good horses as targets they were aiming towards.

486

487 *'Just trying to keep positive and just you know, luckily I had a nice horse to look forward*  
488 *to for the next season anyway' (P2)*

489

490 Jockeys focused on the horses they had as future rides and the upcoming season ahead as  
491 primary goals, which would suggest that the primary motivator for returning to sport is the  
492 competitive successes and prestige of riding certain horses. When income is determined by the  
493 ability to continue to compete or ride, the athletes' rehabilitation behaviours will be influenced  
494 as it becomes a motivator to return to full physical strength (Salma and Meyers, 2019) which  
495 was seen in this study. O'Connor *et al.* (2021a) highlighted that half of the jockeys in their  
496 study missed racing as a result of injury, and those jockeys reported negative financial and  
497 career implications for missing races. Previous research has also identified that riders often care  
498 about their horse's wellbeing over their own (O'Brian, 2016) which may also account for  
499 jockey's concern about their horses being ridden by others.

500

501 Several jockeys also reported a decline in motivation, and a lack of purpose following injury,  
502 often resulting from uncertainty surrounding injury and recovery.

503

504 *'...Couldn't find the motivation to do anything' (P3)*

505

506 *'I had nothing to aim for as I didn't know how long I would be out of riding for and had*  
507 *no goals that I could really work towards' (P4)*

508

509 During sports injury rehabilitation, a lack of motivation is common and often associated with  
510 athletes experiencing a lack of progression, setbacks, and poor goal setting (Griffin *et al.* 2021).  
511 Loss of purpose and feelings of decreased motivation make athletes more vulnerable to  
512 decreases in their psychological well-being (Trainor *et al.* 2020). Motivation can also impact  
513 recreational athletes' adherence to rehabilitation, with lessened motivation decreasing the  
514 amount of home-based rehabilitation done (Levy *et al.* 2009; Goddard *et al.* 2021), thus  
515 potentially impacting physical recovery. Athletes in higher risk sports, such as horse racing, are  
516 also more likely to respond better to management interventions, making this population an  
517 appropriate sport to investigate the benefits of reactive and pro-active coping strategies  
518 (Gledhill *et al.* 2018).

519

### 520 *Resilience*

521 Several jockeys in this study transferred their self-determination from riding to rehabilitation  
522 and focused on future performance after their injuries.

523

524 *'...honestly it made me more determined to get back into the sport.' (P5)*

525

526 Although non-normative transitions, such as injury, are typically considered as negative  
527 experiences for athletes, research also highlights the opportunity for positive psychological

528 growth following injury (Wadey and Evans, 2011). Referred to as Sports Injury Related Growth  
529 (SIRG) (Salim *et al.* 2021), examples of positive development may include increased levels of  
530 motivation, self-determination, enhanced emotional recognition and regulation (Wadey *et al.*  
531 2011), and boosted confidence following injury (Podlog *et al.* 2011, Tracey, 2011; Udry *et al.*  
532 1997; Wadey *et al.* 2012). Research into equestrian athletes identified that positivity in  
533 responding to adverse circumstances within their career, such as injury setbacks, was a key  
534 characteristic of elite athletes (Lamperd *et al.* 2016), which could suggest that jockeys who  
535 showed resilience and the ability to overcome their circumstances were more likely to be  
536 success in their careers in future. One athlete in the study identified that although they did not  
537 identify increased resilience during the period of injury, on reflection, felt they had become  
538 physically and mentally stronger than before.

539

540 *'...you just have to have the mental capability to, push up, I suppose, and unfortunately,*  
541 *at the time I didn't, and you know, it's only now that I've managed to make my, might*  
542 *make myself a lot stronger. Mentally and physically to overcome it.'* (P1)

543

#### 544 **Factors Affecting Recovery**

545 All jockeys experienced several internal and external factors that influenced their recovery and  
546 return to the sport, including a fear of re-injury, and the external culture of horseracing as a  
547 sport.

##### 548 *Fear of Reinjury*

549 Four out of the five participants interviewed explained feelings of fear regarding hurting  
550 themselves again following return to the saddle. Participants two, four and five expressed this  
551 fear of re-injury in detail.

552

553 *Getting on wasn't the problem, it was just like you said it was coming off and hurting...*  
554 *I was bracing myself for it to hurt'* (P2)

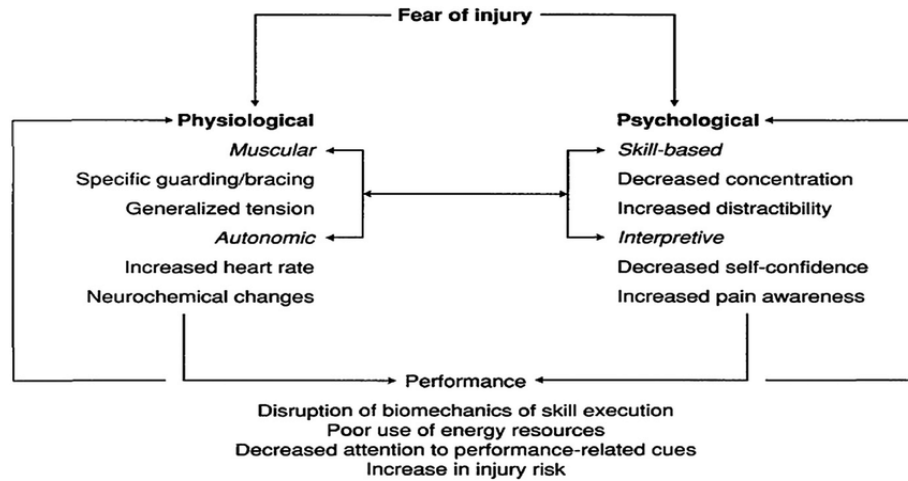
555

556 *I think I was just thinking that something bad was going to happen again...I was*  
557 *thinking that I would always hurt myself'* (P4)

558

559 Increased exposure to high-risk conditions, such as unpredictable situations, and increased  
560 episodes of injury prevalence, can result in fear of injury (Chase *et al.* 2005). Fear of injury is  
561 defined as the unpleasant feeling of apprehension or distress caused by anticipation of physical  
562 damage to the body or part of the body (Short *et al.* 2004). Fear of injury is often attributed to  
563 two main sources of stress: an athlete has lost confidence in their ability to perform or has  
564 previously suffered an injury and is displaying fear of reinjury (Pincus *et al.* 2010). Although  
565 several of the athletes reported a loss of confidence in their abilities, the primary mechanism of  
566 fear for this study was fear of re-injury following the initial inciting incident. Fear results in  
567 both psychological and physiological reactions (Heil, 1993) (See Figure 2), causing a disruption  
568 of biomechanical skill, and poor use of energy resources, resulting in increased fatigue,  
569 decreased attention, and heightened injury risk (Chase *et al.* 2005; Heil, 1993). For a high-risk  
570 sport like P2P, movement inefficiency, increased fatigue and decreased attention could heighten  
571 the risk of a fall, for either horse or rider, resulting in further injury. Increased muscle tension  
572 and movement hesitancy can also result in substandard performance (Walker *et al.* 2010).  
573 Previous research investigating Irish P2P racing identified that a jockey fall from the previous  
574 season was a significant predictor of falls in the current season, with a 50% increase in current  
575 season falls if a jockey reported falls in over 20% of their past rides (Smith *et al.* 2020). Failure  
576 to address the psychological implications of injury in P2P jockeys may result in lack of  
577 confidence, further risk of re-injury, and more falls which may also increase the risk of injury

578 to the horse, and other jockey/horse combinations (Smith *et al.* 2020; Walker *et al.* 2007).  
 579 Increasing injuries in horseracing pose a threat to the social license of the sport (O'Connor *et al.*  
 580 *et al.* 2021b; McGreevy and McManus, 2017) and already declining numbers of P2P horses,  
 581 jockeys and fixtures corroborate that the public perception of the sport is paramount to its  
 582 continuation in British horseracing (Point-to-Point Authority, 2022).  
 583  
 584



585  
 586  
 587 **Figure 2: The Sociopsychophysiological model of fear of injury (Chase *et al.* 2005; Heil,**  
 588 **1993)**  
 589

590 Fear of the unknown is considered a significant factor in fear of reinjury, which can negatively  
 591 affect rehabilitation outcomes and post injury recovery due to under or over adherence practices  
 592 (Vassallo *et al.* 2019). Several jockeys reported having no other options as horses were all they  
 593 had known, thus putting increasing pressure on recovery following injury.  
 594

595 *I was also told that I wouldn't be able to ride again, which made me feel very concerned*  
 596 *for my future. Also, because I left school after GCSE's and didn't do any further*  
 597 *education so I didn't really have much on my CV to show if I couldn't carry on with*  
 598 *horses. Yeah, I think it made me worry for my career and my job to be honest' (P5)*  
 599

600 Previous research has identified that where alternative career paths are visible and easily  
 601 accessible to participants, they may be more willing to accept post-injury limitations (Reuter  
 602 and Short, 2005). This could suggest that where career pathways are outlined clearly and  
 603 multiple opportunities exist for continuation of sport at lower intensities, athletes may be more  
 604 likely to report injury as wider opportunities exist for them outside of the competitive role. In  
 605 many vocational occupations, when psychological or physical ability is a barrier to completing  
 606 the job, opportunities are often available to move into non-physical roles, either in management  
 607 or office work (Putukian, 2016; Singh and Connoy, 2017). For athletes, this transition typically  
 608 involves a downwards trajectory towards playing for less elite clubs, or a role within coaching  
 609 (Hughes and Leavey, 2012). However, racing staff previously identified that a transition to a  
 610 non-riding role was considered the inferior choice, felt like a weakness, and considered it 'too  
 611 painful to know you could never ride again' (Racing Welfare, 2012). A lack of visible  
 612 alternative career opportunities could increase the fear of injury for P2P jockeys, resulting in  
 613 higher levels of psychological distress and poor recovery due to a lack of a contingency plan  
 614 for their career.  
 615

616 *Horseracing Culture*

617 *Putting the Horse First*

618 One jockey identified a strong motivation to care for their horse before tending to their own  
619 injuries, despite being strapped to a stretcher, whilst another implied their reaction would have  
620 been worse if the horse had experienced the injury instead.

621  
622 *'I'm fine, I need to go and catch my horse... why are you looking after me if my horse*  
623 *is gonna hurt himself... Uh and then they were saying like everything else is caught we*  
624 *can't catch this grey horse. I thought that's typical of him.'* (P3)

625  
626 In animal-care industries, employees often report concerns that no one can replace their  
627 standards of care, leading to guilt for taking time off, and as such they continue to work despite  
628 physical injury or psychological distress (Figley and Roop, 2006). This has previously been  
629 seen within the equine industry, where riders have reported prioritising their horse's health and  
630 needs over their own, and feeling they are letting their horse down when things do not follow  
631 the intended path (Davies *et al.* 2018; Davies and James, 2018). In British horseracing, there is  
632 a social demand for strict welfare standards resulting from increased public scrutiny of the sport,  
633 and the industry has responded with increased emphasis on a 'horse first' approach (Butler *et*  
634 *al.* 2019). Whilst the racing industry maintains that it has some of the highest welfare standards  
635 in the equestrian sector, the 'horse first' culture may have inadvertently reinforced a workforce  
636 who deprioritise their own health and wellbeing to uphold these standards of care for the horse.  
637 Whilst P2P jockeys may not directly be responsible for the care of the horse daily, this study  
638 suggests they are still at risk of experiencing guilt for letting the horse down, and prioritising  
639 the horses needs over their own, even under extreme injury circumstances.

640  
641 *Industry Expectations*

642 During the interviews, jockeys often normalised injury experiences, highlighting an expectation  
643 for injury within their sport, and a socially 'accepted' response to it within the horseracing  
644 sector.

645  
646 *'...though I guess that's the risks we take.'* (P4)

647  
648 Athletes assume a level of risk whilst competing in physically demanding sports, and often  
649 expect injuries to occur during their career, although many athletes are unprepared for the  
650 consequences (Tamminen and Watson, 2022). Within sport, the expectation of injury can create  
651 a culture of normalisation, whereby injuries are seen as 'part of the sport' or a normal  
652 consequence to their participation in physically intensive activities (Turner and Wainwright,  
653 2003; Wainwright *et al.* 2006). Glorification and minimisation of pain as part of the sport ethic  
654 encompasses beliefs that athletes should make sacrifices to their sport (Tamminen and Watson,  
655 2022), which can have detrimental physical and psychological consequences. Injury  
656 normalisation has been previously identified in racing staff (Davies *et al.* 2022), however this  
657 is the first study to identify the same culture within the jockey population, which may suggest  
658 that the attitudes to injury seen in racing is less about the athletic requirements of racing, and  
659 more about the culture of horseracing as an industry. Bordieu (1984) defines institutional  
660 habitus as a "subjective but not individual system of internalised structures, schemes of  
661 perception, conception and action common to all members of the same group or class". Racing  
662 as an industry displays similar attitudes and approaches akin to the formation of a habitus; Sear  
663 (2018) identified that racing employees reported regulating emotional displays to meet the  
664 organisations expectations of a given role, whilst Cassidy (2002) found that racing employees  
665 were taught to act, think, and feel in accordance with organisational expectations, and new staff



666 entering are taught to adhere to these cultural norms. The normalisation and expectation of  
 667 injury without suitable preparation and coping strategies may increase the incidence of denial  
 668 within horseracing due to not wanting to appear weak or go against the cultural norm, or for  
 669 fear of losing their allocated rides, and thus their income (McConn-Palfreyman *et al.* 2019;  
 670 Racing Welfare, 2012). In both horseracing and equestrian sport, horsemanship skills are  
 671 typically learnt in apprenticeship positions (British Horseracing Authority, 2019), and in  
 672 deference towards those with greater equine experience (Jones, 2021; Juckes *et al.* 2020), thus  
 673 attitudes to injury are often ‘taught’ through peer-to-peer interaction (Orellana *et al.* 2021). This  
 674 could suggest that whilst injury minimalization culture is a concern in horseracing (Davies *et al.*  
 675 2021), its prevalence and impact on injury reporting may be subject to individual  
 676 microcultures, rather than a comprehensive industry-wide problem. Further research should  
 677 consider the role of individual yard culture on injury reporting practices for P2P jockeys and  
 678 staff (Davies *et al.* 2022), and design educational intervention packages to reduce the stigma  
 679 associated with injury.

680  
 681 Employees or athletes may also reduce reporting behaviours and normalise pain or injury to  
 682 avoid guilt for letting the team down, which has been seen in injured athletes (Bianco, 2001;  
 683 Mosewich *et al.* 2013; Podlog and Eklund, 2007). One jockey in this study felt guilty that their  
 684 colleague was “carrying the weight” whilst they were injured, especially as they worked in a  
 685 small establishment.

686  
 687 *‘...Instead of like the competitive side, it was being on the yard like we say with like a*  
 688 *two-man team most of the time it’s just me and \*\*\*\*\* ...Erm, so it’s hard then, like*  
 689 *knowing that \*\*\*\*\* was there on her own... And so, I think that was the hardest part...*  
 690 *we can’t have a sick day because the other ones has to manage on their own then.’ (P3)*  
 691

692 Many training yards are understaffed (Juckes *et al.* 2020; Public Perspectives, 2018, 2016),  
 693 increasing the perception that taking time-off because of injury is inconvenient. Trainers  
 694 previously reported finding staff cover a substantial workplace stressor (Sear, 2018), whilst  
 695 staff reported an increase in physical effort because of a diminished workforce (Juckes *et al.*  
 696 2020; Davies *et al.* 2020). If the stress on fellow staff, other jockeys or the trainer is made  
 697 known, directly, or indirectly, to the injured party, the jockey may alter their behaviour, and  
 698 subsequently hide injuries or pain, to reduce stress on their team, particularly where good  
 699 relationships have been developed. This has previously been reported in horseracing, whereby  
 700 racing grooms and stud staff identified a pressure to continue working, either related to their  
 701 employer (*don’t want to hassle them, not necessary*), to other staff (*burden on other staff*) or to  
 702 the horses themselves (*horses need me*) (Davies *et al.* 2022), all of which have been identified  
 703 by jockeys in this study. Interestingly, Tveito *et al.* (2001) found that workers were concerned  
 704 about being too vocal in complaints of pain at work due to fear of annoying colleagues, which  
 705 has been seen here in this study, with jockeys reporting concern over “embarrassment”,  
 706 “looking weak”, “humiliating”, especially in the context of not being able to ride to the same  
 707 standard as before.

708  
 709 *‘...In reality it was very embarrassing that I couldn't get on and ride how he used to*  
 710 *ride. Uhm? And for me it was quite like humiliating that I couldn't do what I could do*  
 711 *before because of this injury.’ (P1)*  
 712

713 **Limitations**  
 714 There are limitations to consider within the study. Whilst all jockeys discussed behavioural  
 715 responses to their injuries, there were not specifically measured or monitored as part of this

716 study and therefore can only be interpreted as the jockey's perception of their own behavioural  
717 changes, which may be limited by their own self-awareness. Furthermore, five participants  
718 could be considered small within psychological response to injury research, however the  
719 specificity of the inclusion criteria limited the sample population available. The participants  
720 were all in their 20's which may have further narrowed the findings to youth populations. P2P  
721 jockeys can range in age from 16 – 50's, and due to its unregulated status compared to NH or  
722 flat racing, there are no published data describing amateur jockey demographics. However,  
723 personal communications via the lead author identify the most common age ranges for a P2P  
724 jockey are 16-24, and 35+, which is linked to P2P providing the amateur 'start' of a possible  
725 professional jockey career, as well as the step down in phased retirement from racing under  
726 rules for many professional jockeys (personal communications, 2022). Racing Welfare (2012)  
727 has previously found that "lost bottle" was reportedly linked to a psychological inability to cope  
728 in racing staff, and was highlighted as being related to age, whereby the accumulative effect of  
729 injury and mental challenges resulted in losing confidence in riding out. Both physical and  
730 psychological limitations for riding out were reported to occur on average between 45 – 55  
731 years old (Racing Welfare, 2012). This is also seen in wider sports, where awareness of limiting  
732 physiological recovery and rehabilitation as age increases causes an athlete increased stress and  
733 fear (Chase *et al.* 2005). As such, these results should be taken as preliminary, with further  
734 studies required to support the conclusions across wider populations of P2P jockeys,  
735 particularly older jockeys.

736

### 737 **Recommendations and Future Research**

738 Given the findings of this study, several recommendations and future directions are proposed.  
739 Fear of re-injury when returning to sport was identified in this P2P jockey population, however  
740 industry research has previously identified fear of injury and loss of confidence more prevalent  
741 in older populations of jockeys and work riders. Further research should investigate older  
742 populations of P2P jockeys to identify whether there is an influence of age on psychological  
743 responses to injury and rehabilitation. Further studies should also explore the effect of specific  
744 injuries on psychological responses in P2P jockeys, such as fractures or concussion, as seen in  
745 other sports (Chen *et al.* 2022; Gennarelli *et al.* 2020; Tripp *et al.* 2007). Concussion and  
746 fractures are commonly reported within P2P populations (Balendra *et al.* 2007) and recent  
747 research identified worrying attitudes concerning concussion and time-off in racing staff  
748 (Davies *et al.* 2022). Research should investigate the psychological experiences of concussion  
749 in P2P jockeys, as a current strategic priority area for the racing industry. In addition, this study  
750 has highlighted wider sociocultural viewpoints on injury normalization which may be  
751 influencing individual management practices, injury reporting behaviour and overall jockey  
752 wellbeing. Further research should look to examine whether there is an injury minimalization  
753 culture within horseracing jockeys, and the effects this may have on injury management and  
754 return to the sport. Recommendations for industry from this study include:

755

- 756 1. The continued expansion of current injury support services through Racing Welfare and  
757 Injured Jockeys Fund, and targeted marketing campaign via the Point-to-Point  
758 Authority to promote services that are available to all P2P jockeys following injury.
- 759 2. The creation of specialized educational resources and career development opportunities  
760 for P2P jockeys to facilitate opportunities to stay within the industry following injury,  
761 and a promotional campaign of CATs services for P2P jockeys.

762

763

764

765

766 **Conclusion**

767 The present study is the first to identify the psychological responses to injury in P2P jockeys.  
768 P2P jockeys experience a range of negative emotions following injury similar to those seen in  
769 other athlete populations, including prolonged periods of grief, loss, and denial which could  
770 hinder adherence to rehabilitation and return to the sport. Despite this, the jockeys in this study  
771 established a range of protective coping mechanisms, such as goal setting, and strong support  
772 networks that facilitated a positive return to the saddle. Fear of re-injury was a significant  
773 concern upon their return to the riding, and the attitudes towards injury management seen in  
774 this study may provide opportunities to develop targeted education campaigns for P2P jockeys  
775 on injury services.

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