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3 **A case study investigation into a group online sport psychology support intervention for**

4

injured athletes

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Abstract

10 Sport psychology support can have a positive impact on sport injury rehabilitation, however,
11 there appear to be barriers to injured athletes accessing such support (e.g., financial and
12 geographical constraints). Online delivery has been suggested as a method to address some of
13 these barriers. This case study therefore sought to explore whether an online sport psychology
14 support hub was an effective method of sport injury psychology support. Sixteen injured athletes
15 (seven male and nine female) participated in a six-week sport psychology intervention where
16 they were given access to an online hub, moderated by a sport psychologist, in which sport
17 psychology support was provided through social support (online forum), written emotional
18 disclosure (diary), and psychological skills development (education resources). The impact of the
19 hub was measured through analysis of the forum posts, diary entries, and responses to an
20 evaluation questionnaire. Whilst engagement with the hub was not as high as anticipated, the
21 athletes reported several positive benefits from using the hub and rated the overall impact of the
22 hub highly demonstrating the potential of online delivery.

23 *Keywords:* sport injury psychology; online sport psychology support; injured athletes;
24 applied practice

25 **A case study investigation into a group online sport psychology support intervention for**
26 **injured athletes**

27 Various studies have demonstrated that sport psychology support during sport injury
28 rehabilitation can have a positive impact. In their review of the literature, Gennarelli et al. (2020)
29 identified a range of psychological interventions that can benefit injured athletes including
30 imagery, relaxation, positive self-talk, goal setting, counseling. and written emotional disclosure.
31 Similarly, in their study of 1283 injured athletes from three Western countries (USA, UK, and
32 Finland), Arvinen-Barrow et al. (2015) reported that the athletes rated goal setting, positive self-
33 talk, imagery, and relaxation as the top four psychological interventions they used during sport
34 injury rehabilitation. The majority of athletes who had used these interventions felt that they had
35 a positive impact on the speed of their recovery (Arvinen-Barrow et al., 2015).

36 Whilst research has shown that sport psychology support has a positive impact on sport
37 injury rehabilitation there appear to be barriers to injured athletes accessing this support. For
38 example, in Arvinen-Barrow et al.'s (2015) study only 27% of the 1283 athletes had used
39 psychological interventions during sport injury rehabilitation and only 3% did so under the
40 guidance of a sport psychologist. It has been suggested that barriers preventing injured athletes
41 from receiving sport psychology support can include geographical constraints, finances, stigma
42 (Ardern et al., 2022), time (Cassilo & Sanderson, 2019), lack of knowledge the psychosocial
43 aspects of sport injury, and lack of access to sport psychologists (Annear et al., 2019).

44 Strategies aimed at reducing the barriers and making sport psychology support more
45 accessible to injured athletes are of the utmost importance in order to maximize sport injury
46 rehabilitation. One strategy that may increase accessibility is providing sport psychology support
47 to injured athletes in an online environment, which Ardern et al. (2022) suggested overcomes the

48 barriers of geography, cost, and stigma. Online sport psychology provision can potentially reach
49 a larger audience and connect athletes who would otherwise not have access to a sport
50 psychologist. Online interventions are suggested to be a cost-effective method of delivering
51 psychological support with high retention and compliance rates (Hidalgo-Mazzei et al., 2015),
52 that can be as effective as face-to-face support (Andersson, 2016). The flexible, on-demand
53 nature of online support can also make it more accessible to those who are time poor (Arden et
54 al., 2022). Limited research exists which explores online psychological intervention strategies
55 specifically for injured athletes, but Arden et al. (2022) conducted a feasibility and usability
56 study of a 24-week online and app-based psychological support intervention for athletes
57 recovering from knee surgery ('Get Back in the Game'). They found that the intervention was
58 generally perceived positively by athletes, who felt that it had appealing content and would add
59 value to their rehabilitation. The intervention was a self-directed psychological support tool
60 comprising psychological skills, psychoeducation and motivational interviewing (Arden et al.,
61 2022). Online interventions have also been shown to be effective in other areas such as mental
62 health (Spijkerman et al., 2016), depression (Roepke et al., 2015), and competitive performance
63 (Lane et al., 2016). Additionally, online education interventions on the psychological aspects of
64 sport injury have been shown to be effective in improving sport injury rehabilitation
65 professionals' attitudes and behaviors in relation to sport psychology (Heaney et al., 2017).

66 Online support groups or forums for injured athletes represent an example of the online
67 support that could potentially be delivered to injured athletes. Such groups can provide social
68 support which has been identified as an important intervention during sport injury and return to
69 sport (Forsdyke et al., 2016). Social support has been suggested to benefit sport injury by acting
70 as a stress buffer (Mitchell et al., 2014) and so it could be hypothesized that talking to other

71 injured athletes in an online forum could help reduce stress. Trainor et al. (2020) found that
72 social support from those who have experienced sport injury is particularly valuable to injured
73 athletes. The power of peer support and sharing thoughts and feelings with those who understand
74 your perspective cannot be underestimated (Cassilo & Sanderson, 2019). Injured athletes may
75 not have access others with injuries in their physical environment, but it has been suggested that
76 online communication can be effective in filling that void (Pendry & Salvatore, 2015). Online
77 groups have been shown to be effective in various populations outside of injured athletes
78 including those with long-term conditions (Allen et al., 2016) and mental health difficulties
79 (Naslund et al., 2016). For example, Meade et al. (2018) explored the impact of an online
80 support group on those with neuromuscular disorders and concluded that it provided an
81 accessible source of support that allowed members to connect with others, exchange information,
82 and feel empowered. In relation to sport injury, Cassilo and Sanderson (2019) examined 58 posts
83 made by a range of athletes who had experienced concussion on three online support group
84 websites. They concluded that athletes who had suffered from concussion could derive several
85 benefits from engaging with online support groups including being able to share feelings of grief
86 and loss, enhanced well-being, and improved coping skills.

87 Although not in an online environment, Clement and colleagues have explored the impact
88 of group support on injured athletes. They advocated the use of groups for injured athletes which
89 provide social support and allow the development of psychological skills (Clement et al., 2012a).
90 Clement et al. (2011) suggested that such groups provide injured athletes with a safe space to
91 express their fears about injury, learn from others in the group, and develop new coping
92 strategies. To be most effective, Clement et al. (2012b) suggested that these face-to face groups
93 are comprised of around ten injured athletes with a similar estimated recovery time. This is

94 largely because athletes tend to have different psychological responses to injury at different
95 stages of the injury process (e.g., initial injury, rehabilitation, and return to sport) (Clement et al.,
96 2015). There may, however, be disadvantages to small homogenous groups such as increased
97 competitiveness when participants are at similar stages and less opportunity for sharing of
98 diverse experiences. There is no guidance on how these suggestions may extrapolate to an online
99 forum group and consequently more research is required to investigate the effectiveness of
100 online support groups for injured athletes where group sizes are likely to be larger and
101 communication is likely written rather than verbal (e.g., online forum).

102 Online forums represent a form of written disclosure and sharing with others, but less
103 public written emotional disclosure can also be beneficial. Written emotional disclosure, such as
104 undertaking writing tasks or keeping a sport injury diary, have been shown to benefit sport injury
105 rehabilitation by helping athletes to better understand and come to terms with their injuries
106 (Mankad & Gordon, 2010), reduce stress levels (Mankad et al., 2009b), increase self-esteem
107 (Mankad et al., 2009b), and improve psycho-immunological status (Mankad et al., 2009a).
108 Wadey et al. (2019) reported expressive writing as a way of allowing an athlete's story to be
109 heard as part of the process of facilitating sport injury related growth, although caution is urged
110 in the application of written emotional disclosure methods (e.g. diaries) as they can reveal
111 sensitive information (Day & Thatcher, 2009) and elicit negative responses such as 're-
112 traumatization' (Salim & Wadey, 2018). This highlights the need for additional support for those
113 undertaking written emotional disclosure tasks rather than the exclusion of such tasks as Salim et
114 al. (2016) suggested that it is important for athletes to have an emotional outlet in order to
115 facilitate a more positive injury experience. Both online forums and diaries can provide such an
116 outlet.

117 Purpose and philosophy

118 Given the potential for online delivery to increase the accessibility of sport psychology
119 support to injured athletes, the purpose of this paper is to offer a reflection on a case study that
120 explored the impact of an online sport psychology support package incorporating sport
121 psychologist supported social support, written emotional disclosure, and psychological skills
122 development on a group of injured athletes. Whilst some research (e.g., Ardern et al., 2022;
123 Cassilo & Sanderson, 2019) has begun to explore online sport psychology support for injured
124 athletes, none has combined sport psychologist supported social support, written emotional
125 disclosure, and psychological skills development. This intervention therefore represents a unique
126 and comprehensive package for injured athletes.

127 The desire to undertake such an intervention was founded on our combined applied and
128 research experiences of the psychological aspects of sports injury, and extensive knowledge of
129 online teaching and support gained through several years' experience (collectively almost 30
130 years) of developing and delivering distance learning education materials. The aim was to apply
131 the online delivery approaches that we have successfully adopted in distance learning education
132 to increase the reach of sport psychology support for injured athletes. We are both experienced
133 sport and exercise psychologists with over 20 years of applied experience each and have used
134 online sport psychology delivery methods in our applied practice, both currently and long in
135 advance of the COVID-19 pandemic (e.g., Heaney, 2013), but prior to this case study these have
136 primarily been as an adjunct to face-to-face provision.

137 Our philosophy is grounded in an assumption that wellbeing and sports performance, and
138 in this case sport injury rehabilitation, are strongly interlinked (Trainor et al., 2020). This is an
139 approach that underpins our applied practice and philosophies where we both adopt a philosophy

140 of an athlete-centered, person-centered approach to sport psychology practice. It was on this
141 foundation – mindful of the challenge of creating a safe space for appropriate support in an
142 online medium - that the case study was designed, and implemented, with the clear goal to
143 provide a support system that encouraged and facilitated the athletes to develop their own
144 solutions to challenges faced during injury rehabilitation (Katz & Keyes, 2020). Consequently
145 we adopted an online approach that placed the athlete centrally allowing them to curate their own
146 support package, with the sport psychologist embedded throughout, emphasizing the importance
147 of the athlete-psychologist relationship.

148 **The Case**

149 **The athletes**

150 The case study explored the impact of a sport psychology intervention on a group of 16
151 injured athletes. After institutional ethical approval was gained these athletes were recruited via
152 an invitation placed on social media (Twitter) calling for injured athletes who would like to
153 receive free sport psychology support. This self-selected group of 16 athletes (7 male and 9
154 female) ranged in age from 22-67 years (mean age = 42 years) and participated in a range of
155 sports (athletics, triathlon, football, swimming, rugby, cycling, rowing, duathlon, and roller
156 derby) at various different levels. To join the group athletes were required to be engaged in
157 regular competition in their sport (excluding periods where they have been unable to compete
158 due to injury), currently suffering from a sport injury, and not currently working with a sport
159 psychologist. In order to create a diverse group no restrictions were put on the type or extent of
160 sport injury, or the stage of rehabilitation and the athletes consequently reported a range of
161 injuries (bicep tendon rupture, plantar fasciitis, hamstring strain, meniscal root tear,
162 osteoarthritis, shoulder separation/wrist fracture, broken leg/ankle, hip labral tear/spinal pars

163 fracture, hip injury/muscle imbalance, sacral stress fracture, Morton's neuroma, sciatic nerve
164 compression/impingement, stress fracture/soft tissue injury, combined hamstring/lower back/hip
165 injury, rotator cuff tear, and suprapatellar bursitis). Similarly, no restrictions were placed on the
166 level the athletes competed at prior to injury resulting in further variation. One athlete reported
167 competing at a recreational level, six at club level, 2 at county level, 3 at regional level, and 4 at
168 international level.

169 Most athletes (n=12) were based in the UK, but three were based in the USA and one was
170 based in the Republic of Ireland. This represents an exclusively Western sample from English
171 speaking nations, who whilst diverse in some characteristics, likely share Western views and
172 values that will impact on their experience and the meaning they attribute to injury.

173 Consequently it is recognized that this research does not fully align with calls for more culturally
174 diverse sport psychology research (e.g., Ryba et al., 2013).

175 Of the 16 group members, 12 engaged fully by participating in all aspects of the study
176 (submitting diary entries, making forum posts, and completing an evaluation questionnaire),
177 whilst four partially engaged by only completing one or two of these activities. It was considered
178 important to include data from those who only partially engaged in order to understand the
179 barriers that prevented them engaging further.

180 **The intervention**

181 After completing an informed consent form the athletes were given access to an online
182 community called the Sport Psychology Hub for Injured Athletes through which sport
183 psychology support was provided. The hub was a website that comprised three main areas: a
184 discussion forum, a diary, and a resources section.

185 *Discussion forum*

186 The discussion forum was a closed group, only open to the athletes and a sport
187 psychologist (the first author) who moderated the forum. The forum was pre-populated with a
188 series of discussion threads that the athletes were invited to contribute to, covering topics such as
189 the feelings experienced in response to injury and experiences of using the sport psychology
190 techniques in the resources section of the website. The athletes were invited to contribute to all
191 of these discussions and interact with other athletes and the sports psychologist. Athletes were
192 also able to start their own discussion threads. There was an option to anonymize contributions
193 or athletes could post with their own name. The lead author moderated the forum accordance
194 existing guidance (e.g., O'Grady et al., 2010) by initiating posts and reading and responding to
195 posts where appropriate within 24 hours and inviting further discussion from the group. As self-
196 disclosure has been suggested as an effective strategy to encourage disclosure in others in sport
197 psychology settings the lead author shared their own recent experiences of injury in the forum,
198 drawing on the guidelines of Way and Vosloo (2016).

199 *Diary*

200 The diary section of the hub contained a link to a page where athletes could submit a
201 private diary entry that was only seen by the study authors. The athletes were requested to write
202 one diary entry per week and were sent either an email or text message (depending on their
203 preference) each week to remind them to complete an entry. The athletes were asked to write
204 diary entries connected to the psychological aspects of their sport injury experience and were
205 told that there was no minimum or maximum word limit. Athletes were able to write about
206 anything they felt was appropriate, but as it has been suggested that athletes sometimes find diary
207 writing difficult (Day & Thatcher, 2009) a series of reflective questions were given within the
208 diary to help those who were unsure what to write (listed below). These open questions were

209 aimed at stimulating athlete reflection on their experiences of injury that week and their
210 experience of interacting with the hub and were based the authors' evidence informed
211 experiences of working with injured athletes. The first author replied to each of the diary entries
212 made by athletes via email, responding to the points shared, answering any questions, and
213 providing support. This aspect of the diary was considered particularly important from an ethical
214 viewpoint as written emotional disclosure as well as being therapeutic can potentially be
215 traumatizing (Salim & Wadey, 2018). The diary provided the only opportunity for one-to-one
216 interaction between the athlete and psychologist and a space for providing support for the
217 difficulties divulged. Although not akin to verbal interaction Day and Thatcher (2009) suggest
218 that good rapport can be built between the athlete and researcher through diary entries.

- 219 • What emotions have you experienced this week in relation to your injury? What caused
220 these emotions? What impact did they have?
- 221 • Have you tried any of the *menu of options* resources in the sport psychology hub this
222 week? If so, how effective did you find them?
- 223 • Did you have any interesting conversations on the forum this week? What impact did
224 they have on you?
- 225 • Have there been any particularly challenging moments this week?
- 226 • Have there been any particularly positive moments this week?
- 227 • What have you learnt this week?

228 ***Resources***

229 The resources section contained educational and self-help sport psychology resources on
230 social support, imagery, self-talk, relaxation, and goal setting. These five topic areas were
231 selected as they are widely recognized as being of benefit during sport injury rehabilitation in the

232 literature (e.g., Heaney et al., 2015). The materials were written by the first author, drawing on
233 their expertise of preparing online teaching materials and providing sport psychology support to
234 injured athletes. They were reviewed by the second author who had similar expertise and were
235 piloted on a sport injury rehabilitation professional and an injured athlete. The materials
236 contained written and audio-visual content and athlete activities. The resources section also
237 contained a 'Further support' page containing information on sources of additional support and
238 how to access professional help after the study (e.g., sport psychologist), which was designed to
239 supplement the personalized support offered through the diary. The athletes were asked to visit
240 the hub and look at the resources at least once a week and were encouraged to share their
241 experiences of trying these techniques in the forum and in their diary.

242 These areas of the hub (discussion forum, diary, and resources) were selected based on
243 the previous research discussed earlier in this article which indicated that forums and diaries are
244 potentially useful forms of sharing and emotional disclosure during injury and that the strategies
245 included in the resources section have all been shown to benefit injured athletes. The
246 intervention lasted for a period of six weeks and no new athletes were allowed to join after the
247 second week. This meant that athletes were required to access the hub for a period of four to six
248 weeks depending on when they joined the group. At the end of the six-week period athletes were
249 asked to complete their final diary entry, and then one week later were asked to complete an
250 online evaluation questionnaire. Athletes that did not complete the evaluation questionnaire were
251 sent reminder emails a week later.

252 **Evaluating the impact of the hub**

253 Three measures were used to evaluate the impact of the hub: discussion forum posts,
254 diary entries, and an evaluation questionnaire. At the end of the intervention athletes were sent

255 an online evaluation questionnaire, developed by the authors based on the hub content and
256 existing literature, which aimed to evaluate how effective the athletes perceived the Sport
257 Psychology Hub for Injured Athletes to be. The questionnaire was split into four sections – one
258 evaluating each section of the hub (discussion forum, diary, resources) and one section
259 evaluating the hub as a whole. For each section athletes were first required to answer questions
260 about their level of engagement with that aspect with the hub and factors affecting their
261 engagement. They were then asked to state how strongly they agreed or disagreed with a series
262 of statements about that aspect of the hub using a five-point Likert scale ranging from *strongly*
263 *agree* to *strongly disagree*. A *non-applicable* option was also available for each of these
264 statements. Example statements from each section of the questionnaire are given in below.

- 265 • Forum: I found reading about other athletes' sport injury experiences useful.
- 266 • Diary: Keeping a diary was a useful way for me to reflect on my thoughts and feelings
267 about being injured.
- 268 • Sport psychology resources: The resources in this section have had a positive impact on
269 my sport injury rehabilitation.
- 270 • General: Participating in this project made me more aware of the psychological impact of
271 my injury.

272 Each section of the questionnaire had an optional open comments box where athletes
273 could explain the answers they had given, discuss what they liked/disliked, or offer any
274 suggestions for improvement. The final section of the questionnaire asked athletes to rate on a
275 scale of one (little or no benefit) to ten (extremely beneficial) how beneficial they felt the hub
276 had been to their sport injury rehabilitation.

277 ***Data analysis***

301 Athletes were asked to evaluate the overall impact of participating in the project and
302 engaging with the online sport psychology support hub by rating how strongly they agreed or
303 disagreed with a series of statements. The majority of athletes agreed (selected *agree* or *strongly*
304 *agree*) that participating in the project made them more aware of the psychological impact of
305 their injury (92.9%), helped them to feel more positive (71.4%) and motivated (64.3%), and had
306 a positive impact on their sport injury experience (78.6%). Very few (7.1%) felt that
307 participating had helped them to recover more quickly. Most athletes (64.3%) were neutral about
308 this statement. When asked to rate out of ten how beneficial they had found participating in the
309 project the mean score was 7.1 (range = 5-9, median = 7, mode = 8). Four athletes used the open
310 comments box attached to these questions. Their comments were predominantly about the
311 strengths of the hub (e.g., “I think that the resources are magnificent, and that the lessons from
312 this should be taught to all athletes”).

313 ***Forum***

314 Of the 14 athletes who completed the evaluation questionnaire, 11 reported that they had
315 posted in the forum and all 14 reported that they had read other people’s posts. Those who didn’t
316 post attributed this to a lack of time (n=2), not feeling ready to post (n=1), or feeling they had
317 nothing to contribute (n=1). Athletes posted in five discussion threads (*welcome and*
318 *introductions, how has being injured made you feel, any positive consequences of being injured,*
319 *goal setting during injury and self-talk during injury*) all of which were pre-existing threads. The
320 athletes did not start any new threads. Most of the athletes expressed positive aspirations about
321 engaging with the hub in the forum (e.g., “I’m hoping sport psychology can help get me get
322 focussed on recovering again”) and some highlighted their shared experiences with other athletes
323 (e.g., “Just wanted to say that I’m sorry you’re in a similar position to me! “). This theme was

324 repeated in the diary entries where several participants highlighted that reading about the injury
325 experiences of others was positive (e.g., “I found reading about everyone’s injuries interesting
326 and it was great to hear a wide variety of experiences with many underlying emotions/thoughts
327 similar to mine”).

328 Athletes tended to post more in the first half of the study – 81.1% of athletes posted in the
329 first three weeks of the study and 18.8% posted in the final three weeks. Overall, the athletes
330 made 25 posts on the forum (there were additional posts from the forum moderator). Four of
331 these 25 posts were classified as interaction between athletes, measured as the number of times
332 athletes responded directly to or referred to another athlete in the forum.

333 Athletes were asked to evaluate the effectiveness of the discussion forum by rating how
334 strongly they agreed or disagreed with a series of statements. All athletes (100%) agreed
335 (selected *agree* or *strongly agree*) that they would recommend a forum like this to other injured
336 athletes. The majority agreed that the discussion forum was useful (71.4%), and that reading
337 about other athletes’ sport injury experiences was particularly useful (85.7%). Of those who
338 posted in the forum, most agreed that posting about their sport injury experiences was useful
339 (72.7%) and they felt comfortable sharing their experiences (72.7%), however, only 45.5%
340 agreed that interacting with other injured athletes was useful. The open comments supporting
341 these questions from seven athletes primarily identified themes of frustration with the limited
342 interaction between athletes (n=4, e.g., “I didn’t find the discussion forum as interactive as I had
343 hoped”) and the benefits of shared experience (n=3, e.g., “I think hearing about other athletes’
344 experiences really helped me feel like I wasn’t alone”).

345 *Diary*

346 Fourteen of the 16 athletes completed a diary. The number of diary entries made per
347 athlete ranged from one to six (mean = 3.4, mode = 3 and 4). Only one person who completed
348 the evaluation questionnaire had not completed a diary and the reason given for this was “Lack
349 of time - low mood”. A wide range of topics were discussed in the diary entries and the
350 participants highlighted through their entries that they found keeping a diary a useful experience
351 (e.g., “I’ve found doing the diary entries really useful, even if sometimes hard. I often try to
352 ignore my thoughts/feelings about it all to avoid being upset. I know that bottling up emotions is
353 not helpful so putting it down has been really good for me to have to do.”).

354 In the evaluation questionnaire athletes were asked to evaluate the effectiveness of
355 keeping a diary by rating how strongly they agreed or disagreed with a series of statements. Most
356 of the athletes who completed a diary agreed (selected *agree* or *strongly agree*) that it was a
357 useful way to reflect on their thoughts and feelings about being injured (84.6%) and would
358 recommend keeping a diary like this to other injured athletes (92.3%). Only 46.2% of the athletes
359 who completed a diary agreed that it was a useful way for them to reflect on how effective the
360 sport psychology strategies on the hub were. The open comments supporting these questions
361 from five athletes primarily identified themes of the diary facilitating greater self-awareness
362 (n=2, e.g., “I usually bottle up my emotions to avoid feeling them and getting upset which I
363 know is not a good strategy. This gave me a space each week where I had to look at my thoughts
364 and feelings and in a constructive way, so I found this very useful”) and the positive impact of
365 messages received from the sport psychologist in response to diary entries (n=2, e.g., “The
366 messages from the sports psychologist were also helpful”).

367 ***Sport psychology resources***

368 The sport psychology resources section provided materials on five topics – social
369 support, imagery, self-talk, relaxation, and goal setting. Of the 14 athletes who completed the
370 evaluation questionnaire, only three (21.4%) reported that they had read materials on all five
371 topics. Most athletes had only read one topic (n=5, 35.7%), whilst two (14.3%) had read two
372 topics, two (14.3%) had read three topics, one (7.1%) had read four topics, and one had read no
373 topics at all. Imagery and self-talk were reported to be the most popular topics with each having
374 been read by eight athletes (57.1%). Social support and goal setting were read by seven (50%)
375 athletes, and relaxation was read by four (28.6%) athletes.

376 Athletes were asked to evaluate the effectiveness of the resources section of the hub by
377 rating how strongly they agreed or disagreed with a series of statements. All of the athletes who
378 engaged with the resources section agreed (selected *agree* or *strongly agree*) that the resources
379 were useful (100%) and would recommend sport psychology resources like this to other injured
380 athletes (100%). Most also agreed that the resources in this section had a positive impact on their
381 sport injury rehabilitation (69.2%). All of the athletes who used the social support materials
382 agreed they were useful (100%), whilst most of the athletes who used the imagery (80%), self-
383 talk (90%), goal setting (90%), and relaxation (62.5%) materials agreed that they were useful.
384 The open comments supporting these questions from six athletes identified a range of themes
385 such as positive experiences (n=2, e.g., “The resources section is magnificent”) and a lack of
386 time to engage with the materials (n=2, e.g., “I feel I have wasted an opportunity by not using the
387 resources whilst I had access to them”).

388 Analysis of the forum data indicated positive engagement with the sport psychology
389 resources (e.g., “I am going to try more self-talk this week and link it to short-term goal setting
390 over the next month”). Likewise, the diary entries indicated use of the five strategies covered in

391 the sport psychology resources section of the hub - social support (e.g., “This week I’ve tried to
392 build my social support again by meeting with a running group”), imagery (e.g., “I’m very
393 positive though as the visualisation has definitely had an effect”), self-talk (e.g., “I have found
394 the self-talk resource useful this week, at least it reminds me to not default to a negative and lazy
395 mindset”), relaxation (e.g., “...but the fact I’ve prioritised work and relaxing over doing extra
396 sessions is positive!”), and goal setting (e.g., “I looked at the goal setting section. ...It reminded
397 me to focus on the short-term”).

398 **Discussion**

399 The purpose of this case study was to investigate the impact of an online, psychologist
400 supported, sport psychology support hub incorporating social support (discussion forum), written
401 emotional disclosure (diary), and psychological skills education (resources) on injured athletes.
402 In line with other studies that have examined online support for injured athletes (e.g., Ardern et
403 al., 2022; Cassilo & Sanderson, 2019), the findings indicated that online sport psychology
404 support can be of benefit to injured athletes. Data from the evaluation questionnaire suggest that
405 it had a positive impact with the athletes rating the overall benefit of the hub highly (mean = 7.1
406 out of 10) and high levels of agreement with statements such as “participating in this project
407 made me more aware of the psychological impact of my injury” (92.9%). Despite this high level
408 of satisfaction, engagement with some aspects of the hub was not as high as it could have been
409 with some participants not adhering to the expectations set at the start of the study (interaction
410 with each element of the hub at least once a week). Steps, therefore, need to be taken to enhance
411 athlete engagement in order to further maximize the benefits.

412 The discussion forum was the one area where engagement could have been better,
413 however, despite this, those who did engage derived positive benefits (e.g., “I think hearing

414 about other athletes' experiences really helped me feel like I wasn't alone"). This finding is in
415 line with other studies both inside (Cassilo & Sanderson, 2019) and outside (e.g., Allen et al.,
416 2016; Naslund et al., 2016) of the sport injury context that have utilized online forums. All
417 athletes completing the evaluation questionnaire agreed that they would recommend a similar
418 forum to other injured athletes. These findings support the notion that other injured athletes are a
419 particularly credible source of social support (Trainor et al., 2020). If such benefits are still being
420 derived even with limited engagement, this case study indicates firstly, that online forums are
421 beneficial to injured athletes, and secondly, that with greater engagement they have the potential
422 to provide even further benefit.

423 Whilst most athletes posted in the forum at least once, forum engagement was
424 predominantly confined to the early part of the study. Additionally, there was only a minimal
425 amount of interaction between athletes in the forum (athletes responding directly to or referring
426 to another athlete in the forum), which some athletes identified as a limitation. More interaction
427 would perhaps have led to greater engagement, but despite the efforts of the moderator this
428 interaction was not forthcoming. Given the known benefits of social support during injury
429 (Forsdyke et al., 2016), peer social support through the forum was intended to be a key feature of
430 the hub and so it was disappointing that it was not fully utilized. Those who did not post in the
431 forum attributed this to a lack of time, lack of readiness to post, and a perception that they had
432 nothing of interest to contribute. Other athletes identified that they found the forum quite
433 demotivating (e.g., "It is though slightly depressing reading of other runners, clearly at a higher
434 level than me, who've been trying for several years to get back to exercise") and this could have
435 further contributed to the lower engagement levels.

436 Another explanation for the lower levels of engagement with the forum could be the
437 composition of the group. Based on the authors' experiences in online education environments,
438 where mixed groups add to the richness of forum discussions (e.g., Heaney & Walker, 2012), it
439 was assumed that the diversity in sport, injury, age, gender, level, and stage of injury within
440 group would enhance group interactions. On reflection, this may have in fact hindered group
441 interaction. In support of this Clement et al. (2012b) suggested that sport injury groups are most
442 effective when they are homogenous and contain athletes with similar injuries estimated
443 recovery time. Where there is not homogeneity group cohesion can be negatively impacted and
444 the ability to meet the needs of all athletes reduced (Clement et al., 2011). The mix within the
445 group could therefore have minimized opportunities for athletes to recognize similar or shared
446 experiences in others. There was, however, evidence that this was not the case for all athletes as
447 some cited that they did recognize shared experiences despite the diversity of the group.
448 Additionally, there is the potential for competitiveness amongst homogenous groups which
449 might negatively impact of recovery. For example, an athlete may feel under pressure to match
450 the outcomes of other group members with a similar injury and cause damage in the pursuit of
451 doing so.

452 On the surface it may seem that group cohesion might be more difficult to achieve in an
453 online environment, which could be a barrier to athletes sharing their feelings on a forum. Barak
454 et al. (2008), however, suggested that interpersonal dynamics are in fact accelerated in online
455 environments due to the *online disinhibition effect*, where people feel less inhibited in an online
456 environment and more comfortable sharing their thoughts and feelings. Tanis (2008) suggested
457 that this is in part due to the anonymity that can be afforded in online forums, particularly for

458 those fearful of stigmatization. Tanis (2008) also suggested that sharing in written word rather
459 than verbally makes online forums more attractive to some.

460 Other factors which could improve forum engagement are a smaller group and the
461 moderation of the group by a sport injury rehabilitation professional as well as a sport
462 psychologist (Clement et al., 2011). Clement et al. (2012b) recommend a group of around ten
463 injured athletes, although it should be noted that this recommendation is specifically for face-to-
464 face groups and in other non-sport injury related online settings larger groups have been
465 successful (e.g., Meade et al., 2018). Having the forum open for a longer period may also have
466 helped as studies such as Meade et al. (2018) have explored forum interactions for periods
467 significantly longer than the six weeks used in this case study. As engagement dropped in the
468 second half of the current study, this, however, may not have had an effect, although it perhaps
469 would have given the athletes more time to engage with more of the sport psychology techniques
470 in the resources section of the hub and thus more to talk about in the discussion forum. Future
471 research should aim to identify the optimal length of online interventions.

472 A lack of experience of interacting in online environments could also potentially have
473 had an impact on the engagement levels of the athletes and on reflection it may have been of use
474 to ask the athletes more about this. For example, some athletes may have been unfamiliar with
475 interacting with others and sharing their thoughts and feelings online. This project took place
476 prior to the global COVID-19 pandemic and it could be hypothesized that as the pandemic has
477 made us more accustomed to communicating online as a result of enforced lockdowns (e.g.,
478 Blanchard, 2021) engagement may be enhanced if the project were repeated now. Indeed, since
479 this case study was undertaken, as a result of the COVID-19 pandemic, the delivery of sport
480 psychology services through online platforms has become more normalized (Hurley, 2021).

481 Engagement with the diary was far greater than engagement with the forum and the
482 athletes appeared to elicit significant benefits from keeping a sport injury diary. The athletes
483 discussed a wide variety of topic areas predominantly fitting into the higher order themes of
484 coping strategies and interventions, negative aspects of sport injury, and positive aspects of sport
485 injury. They identified a range of coping strategies and interventions with the four most
486 commonly discussed being the forum, goal setting, social support, and distraction, most of which
487 have been identified in previous studies such as Gennarelli et al. (2020) and Arvinen-Barrow et
488 al. (2015). As has been shown consistently in previous research (Brewer & Redmond, 2017), the
489 diary entries demonstrated that sport injury can lead to several negative responses such as
490 concerns about not being able to train or compete and negative emotions such as anger and
491 sadness. Some athletes also expressed concerns about a lack of faith in their sports medicine
492 providers (e.g., not confident that the rehabilitation program set is appropriate), underpinning the
493 importance of the relationship between the injured athlete and the sport injury rehabilitation
494 professional in ensuring a successful treatment and rehabilitation program (Bennett et al., 2016).

495 The athletes appeared to view completing a diary as a cathartic experience. Consistent
496 with previous research, such as Mankad and Gordon (2010), the vast majority of athletes agreed
497 that it was a useful way to reflect on their thoughts and feelings about being injured and most
498 said that they would recommend keeping a similar diary to other injured athletes.

499 A unique feature of the hub was that it was supported by a sport psychologist who was
500 able to interact with and support the participants through the forum and responding to diary
501 entries. This was considered an important component of the package to ensure athlete wellbeing
502 and maximize the level of support available through the online platform. Receiving responses to
503 diary entries from a sport psychologist was well received by the athletes who reported that

504 receiving such feedback was useful and motivational. Consistent with Day and Thatcher (2009)
505 and Salim and Wadey (2018), whilst the participants viewed the process positively, the diaries
506 did at times discuss difficult emotions and experiences that could potentially be retraumatizing
507 for the athlete. This further emphasized the importance of having a sport psychologist embedded
508 within the intervention who was able to help the athletes navigate these emotions. Consequently
509 this approach is recommended for future studies to encourage wellbeing, engagement, and
510 growth.

511 Collectively, these findings suggest that written emotional disclosure in the form of a
512 diary can be highly beneficial for injured athletes and should be considered as part of a support
513 package for injured athletes.

514 The resources area of the hub introduced the athletes to five sport psychology techniques
515 that could be used to enhance their sport injury rehabilitation (social support, imagery, self-talk,
516 relaxation, and goal setting). These resources were viewed positively by the athletes who
517 unanimously agreed that they were useful materials. Interestingly, despite the limited
518 engagement with the social support aspect of the hub (discussion forum), the social support
519 resources were viewed to be the most useful of the five techniques. Analysis of the diary entries
520 suggests that these resources encouraged athletes to seek social support from sources external to
521 the forum such as teammates, family, and friends, and provides further explanation to why the
522 forum may have been underutilized. Consistent with Arvinen-Barrow et al. (2015), the goal
523 setting, self-talk, and imagery resources also gained high ratings of usefulness (80% or more).
524 Despite injury being recognized as causing feelings of stress and anxiety (Rex & Metzler, 2016),
525 the relaxation materials were considered to be the least useful of the five techniques and were
526 also the least viewed of the five techniques with only 28.6% of athletes reading them. This may

527 indicate a lack of awareness of the potential benefits of relaxation techniques for injured athletes
528 (Cormier & Zizzi, 2015).

529 Whilst satisfaction with the materials in the resources area was high, there was scope for
530 improvement in engagement. Only 21.4% of the athletes read about all five techniques in the
531 resources section of the hub. Again, consistent with Arvinen-Barrow et al. (2015) imagery and
532 self-talk were the most popular techniques, read by 57.1% of the athletes. The duration of the
533 study may have impacted on engagement. Four to six weeks was perhaps not long enough for the
534 athletes to read, practice, and apply all five techniques, and future studies should consider longer
535 duration interventions in order to facilitate this. The delivery of such materials online does,
536 however, have potential given that even with limited engagement highly positive results were
537 reported.

538 **Limitations and future directions**

539 Whilst this study has identified some useful findings it does have some limitations.
540 Firstly, whilst diverse in some characteristics (e.g., sport type, gender, and injury), the
541 participants were all from English speaking Western nations. More culturally diverse participants
542 could have led to a wider range of experiences creating a greater richness in the exchanges in the
543 forum. By their very nature through having no geographical boundaries online platforms provide
544 shared spaces that can be accessed by international and multicultural audiences and future
545 research should embrace this capacity and aim to recruit participants from around the globe.
546 Schinke et al. (2019) have highlighted the importance of intersectionality on athlete identity,
547 therefore, this study may also have been enhanced if data had been collected on additional
548 characteristics such as ethnicity to allow the consideration of intersectionality on experiences of
549 injury (e.g., the unique experiences of black women),

550 Whilst online platforms reduce the costs associated with sport psychology support and
551 consequently increase access it is important to recognize that digital poverty will still act as a
552 barrier to some athletes. For example, 7% of the UK population are reported to have limited
553 online access (Donaghy, 2021). Consideration needs to be given to how these athletes can be
554 supported. Making content available both online and offline through smartphone apps may have
555 potential in reaching part of this audience. Ardern et al. (2022) advocate for the use of app-based
556 support and suggest that they are an accessible platform. Smartphone apps may also have the
557 added benefit of being more convenient, which may impact positively on engagement.

558 **Conclusion**

559 The purpose of this case study was to explore the impact of online sport psychology
560 support for injured athletes. The hub provided a unique package of support compared to previous
561 research in that it (1) combined social support (discussion forum), written emotional disclosure
562 (diary), and psychological skills education (resources), and (2) had a sport psychologist
563 embedded. The findings suggest that despite some aspects of the hub being underutilized, the
564 injured athletes benefitted from engaging with the hub. This has important implications for
565 professional practice suggesting that the delivery of sport psychology support to injured athletes
566 through an online platform is a viable method of reaching injured athletes. Online programs such
567 as this could be adopted by sports medicine clinics and their sport injury rehabilitation
568 professionals, who Zakrajsek et al. (2016) described as “gatekeepers to athletes’ rehabilitation
569 experiences” (p.403), in order to provide athletes with the psychological support required during
570 injury that such clinics are often unable to provide.

571 Online sport psychology delivery is often perceived as an inferior option to face-to-face
572 delivery – a perspective that should be challenged. Online delivery must not be viewed as a

573 deficit model, but as a platform with several affordances such as on-demand delivery, flexibility,
574 increased reach, potential for greater diversity of participants, expanded social networks, and
575 anonymity, that may make it superior to face-to-face delivery in many respects. As with face-to-
576 face delivery appropriate design and ethical consideration is required to ensure maximum
577 effectiveness. Consequently we call for further research exploring its adoption in applied sport
578 injury settings.

579

References

- 580 Allen, C., Vassilev, I., Kennedy, A., & Rogers, A. (2016). Long-term condition self-management support in
581 online communities: a meta-synthesis of qualitative papers. *Journal of medical Internet*
582 *research*, 18(3), e61. <https://doi.org/10.2196/jmir.5260>
- 583 Andersson, G. (2016). Internet-Delivered Psychological Treatments. *Annual Review of Clinical*
584 *Psychology*, 12(1), 157-179. <https://doi.org/10.1146/annurev-clinpsy-021815-093006>
- 585 Annear, A., Sole, G., & Devan, H. (2019). What are the current practices of sports physiotherapists in
586 integrating psychological strategies during athletes' return-to-play rehabilitation? Mixed
587 methods systematic review. *Physical therapy in sport*, 38, 96-105.
588 <https://doi.org/https://doi.org/10.1016/j.ptsp.2019.04.018>
- 589 Ardern, C. L., Hooper, N., O'Halloran, P., Webster, K. E., & Kvist, J. (2022). A Psychological Support
590 Intervention to Help Injured Athletes "Get Back in the Game": Design and Development Study.
591 *JMIR Formative Research*, 6(8), 1-14. <https://doi.org/https://doi.org/10.2196/28851>
- 592 Arvinen-Barrow, M., Clement, D., Hamson-Utley, J. J., Zakrajsek, R. A., Sae-Mi, L., Kamphoff, C., Lintunen,
593 T., Hemmings, B., & Martin, S. B. (2015). Athletes' use of mental skills during sport injury
594 rehabilitation. *Journal of Sport Rehabilitation*, 24(2), 189-197.
595 <https://doi.org/https://doi.org/10.1123/jsr.2013-0148>
- 596 Barak, A., Boniel-Nissim, M., & Suler, J. (2008). Fostering empowerment in online support groups.
597 *Computers in Human Behavior*, 24(5), 1867-1883. <https://doi.org/10.1016/j.chb.2008.02.004>
- 598 Bennett, H. R., Czech, D., Harris, B., & Todd, S. (2016). Perceptions of coping with an injury in sport at the
599 NCAA Division I level: perceptual continuity between student-athletes and their athletic trainers.
600 *Clinical Kinesiology*, 39-43.
- 601 Blanchard, A. L. (2021). The effects of COVID-19 on virtual working within online groups. *Group*
602 *Processes & Intergroup Relations*, 24(2), 290-296. <https://doi.org/10.1177/1368430220983446>
- 603 Brewer, B. W., & Redmond, C. J. (2017). *Psychology of Sport Injury*. Human Kinetics.
- 604 Cassilo, D., & Sanderson, J. (2019). From social isolation to becoming an advocate: exploring athletes'
605 grief discourse about lived concussion experiences in online forums. *Communication & Sport*,
606 7(5), 678-696. <https://doi.org/https://doi.org/10.1177/2167479518790039>
- 607 Clement, D., Arvinen-Barrow, M., & Fetty, T. (2015). Psychosocial responses during different phases of
608 sport-injury rehabilitation: a qualitative study. *Journal of Athletic Training*, 50(1), 95-104.
609 <https://doi.org/https://doi.org/10.4085/1062-6050-49.3.52>
- 610 Clement, D., Shannon, V. R., & Connole, I. J. (2011). Performance enhancement groups for injured
611 athletes. *International Journal of Athletic Therapy & Training*, 16(3), 34-36.
612 <https://doi.org/https://doi.org/10.1123/ijatt.16.3.34>
- 613 Clement, D., Shannon, V. R., & Connole, I. J. (2012a). Performance enhancement groups for injured
614 athletes, part 1: preparation and development. *International Journal of Athletic Therapy &*
615 *Training*, 17(3), 34-36.
- 616 Clement, D., Shannon, V. R., & Connole, J. (2012b). Performance enhancement groups for injured
617 athletes, part 2: implementation and facilitation. *International Journal of Athletic Therapy &*
618 *Training*, 17(5), 38-40.
- 619 Cormier, M. L., & Zizzi, S. J. (2015). Athletic trainers' skills in identifying and managing athletes
620 experiencing psychological distress. *Journal of Athletic Training*, 50(12), 1267-1276.
621 <https://doi.org/https://doi.org/10.4085/1062-6050-50.12.02>
- 622 Cote, J., Salmela, J. H., Baria, A., & Russell, S. J. (1993). Organizing and interpreting unstructured
623 qualitative data. *The Sport Psychologist*, 7(2), 127-137.
624 <http://articles.sirc.ca/search.cfm?id=323674>

- 625 [http://libezproxy.open.ac.uk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=s3h&A](http://libezproxy.open.ac.uk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=SPH323674&site=ehost-live&scope=site)
626 [N=SPH323674&site=ehost-live&scope=site](http://libezproxy.open.ac.uk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=SPH323674&site=ehost-live&scope=site)
- 627 Day, M., & Thatcher, J. (2009). "I'm Really Embarrassed That You're Going to Read This ...": Reflections
628 on Using Diaries in Qualitative Research. *Qualitative Research in Psychology*, 6(4), 249-259.
629 <https://doi.org/10.1080/14780880802070583>
- 630 Donaghy, D. (2021). Defining Digital Capital and Digital Poverty. *ITNOW*, 63(1), 54-55.
631 <https://doi.org/10.1093/itnow/bwab025>
- 632 Forsdyke, D., Smith, A., Jones, M., & Gledhill, A. (2016). Psychosocial factors associated with outcomes
633 of sports injury rehabilitation in competitive athletes: a mixed studies systematic review. *British*
634 *Journal of Sports Medicine*, 50(9), 537-544. <https://doi.org/10.1136/bjsports-2015-094850>
- 635 Gennarelli, S. M., Brown, S. M., & Mulcahey, M. K. (2020). Psychosocial interventions help facilitate
636 recovery following musculoskeletal sports injuries: a systematic review. *The Physician and*
637 *Sportsmedicine*, 48(4), 370-377. <https://doi.org/10.1080/00913847.2020.1744486>
- 638 Heaney, C. A. (2013). Keeping sport and exercise scientists 'appy' – online and mobile technologies in
639 sport and exercise science. *The Sport and Exercise Scientist*, 37(Autumn), 15.
- 640 Heaney, C. A., & Walker, N. C. (2012). The challenges and opportunities of teaching sport and exercise
641 psychology at a distance. *Sport & Exercise Psychology Review*, 8(2), 65-71.
- 642 Heaney, C. A., Walker, N. C., Green, A. J., & Rostron, C. L. (2015). Sport psychology education for sport
643 injury rehabilitation professionals: a systematic review. *Physical therapy in sport*, 16(1), 72-79.
- 644 Heaney, C. A., Walker, N. C., Green, A. J. K., & Rostron, C. L. (2017). The impact of a sport psychology
645 education intervention on physiotherapists. *European Journal of Physiotherapy*, 19(2), 97-103.
646 <https://doi.org/https://doi.org/10.1080/21679169.2016.1267794>
- 647 Hidalgo-Mazzei, D., Mateu, A., Reinares, M., Matic, A., Vieta, E., & Colom, F. (2015). Internet-based
648 psychological interventions for bipolar disorder: Review of the present and insights into the
649 future. *Journal of affective disorders*, 188, 1-13. <https://doi.org/10.1016/j.jad.2015.08.005>
- 650 Hsieh, H.-F., & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative*
651 *Health Research*, 15(9), 1277-1288. <https://doi.org/10.1177/1049732305276687>
- 652 Hurley, O. A. (2021). Sport cyberpsychology in action during the COVID-19 pandemic (opportunities,
653 challenges, and future possibilities): a narrative review. *Frontiers in Psychology*, 12(424).
654 <https://doi.org/10.3389/fpsyg.2021.621283>
- 655 Jones, I., & Gratton, C. (2015). *Research methods for sports studies* (Third edition. ed.). Routledge.
656 <https://doi.org/10.4324/9781315796222>
- 657 Kyngäs, H. (2020). Inductive Content Analysis. In H. Kyngäs, K. Mikkonen, & M. Kääriäinen (Eds.), *The*
658 *Application of Content Analysis in Nursing Science Research* (pp. 13-21). Springer International
659 Publishing. https://doi.org/10.1007/978-3-030-30199-6_2
- 660 Lane, A. M., Totterdell, P., MacDonald, I., Devonport, T. J., Friesen, A. P., Beedie, C. J., Stanley, D., &
661 Nevill, A. (2016). Brief online training enhances competitive performance: findings of the BBC
662 Lab UK psychological skills intervention study. *Frontiers in Psychology*, 7(413).
663 <https://doi.org/10.3389/fpsyg.2016.00413>
- 664 Mankad, A., & Gordon, S. (2010). Psycholinguistic changes in athletes' grief response to injury after
665 written emotional disclosure. *Journal of Sport Rehabilitation*, 19(3), 328-342.
666 <https://doi.org/https://doi.org/10.1123/jsr.19.3.328>
- 667 Mankad, A., Gordon, S., & Wallman, K. (2009a). Psycho-immunological effects of written emotional
668 disclosure during long-term injury rehabilitation. *Journal of Clinical Sport Psychology*, 3(3), 205-
669 217. <https://doi.org/https://doi.org/10.1123/jcsp.3.3.205>
- 670 Mankad, A., Gordon, S., & Wallman, K. (2009b). Psycholinguistic analysis of emotional disclosure: a case
671 study in sport injury. *Journal of Clinical Sport Psychology*, 3(2), 182-196.
672 <https://doi.org/https://doi.org/10.1123/jcsp.3.2.182>

- 673 Meade, O., Buchanan, H., & Coulson, N. (2018). The use of an online support group for neuromuscular
674 disorders: a thematic analysis of message postings. *Disability & Rehabilitation*, 40(19), 2300-
675 2310.
676 <http://libezproxy.open.ac.uk/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=130930272&site=ehost-live&scope=site>
677
- 678 Mitchell, I., Evans, L., Rees, T., & Hardy, L. (2014). Stressors, social support, and tests of the buffering
679 hypothesis: Effects on psychological responses of injured athletes. *British Journal of Health
680 Psychology*, 19(3), 486-508. <https://doi.org/https://doi.org/10.1111/bjhp.12046>
681
- 681 Naslund, J. A., Aschbrenner, K. A., Marsch, L. A., & Bartels, S. J. (2016). The future of mental health care:
682 peer-to-peer support and social media. *Epidemiology and psychiatric sciences*, 25(2), 113-122.
683 <https://doi.org/10.1017/S2045796015001067>
- 684 O'Grady, L., Bender, J., Urowitz, S., Wiljer, D., & Jadad, A. R. (2010). Promoting and participating in
685 online health forums: A guide to facilitation and evaluation for health professionals. *Journal of
686 Communication in Healthcare*, 3(3-4), 246-257.
687 <https://doi.org/10.1179/175380710X12870623776478>
- 688 Pendry, L. F., & Salvatore, J. (2015). Individual and social benefits of online discussion forums. *Computers
689 in Human Behavior*, 50, 211-220. <https://doi.org/10.1016/j.chb.2015.03.067>
- 690 Rex, C. C., & Metzler, J. N. (2016). Development of the sport injury anxiety scale. *Measurement in
691 Physical Education & Exercise Science*, 20(3), 146-158.
692 <https://doi.org/https://doi.org/10.1080/1091367X.2016.1188818>
- 693 Roepke, A. M., Jaffee, S. R., Riffle, O. M., McGonigal, J., Broome, R., & Maxwell, B. (2015). Randomized
694 controlled trial of SuperBetter, a smartphone-based/internet-based self-help tool to reduce
695 depressive symptoms. *Games for health journal*, 4(3), 235-246.
696 <https://doi.org/10.1089/g4h.2014.0046>
- 697 Ryba, T. V., Stambulova, N. B., Si, G., & Schinke, R. J. (2013). ISSP Position Stand: Culturally competent
698 research and practice in sport and exercise psychology. *International Journal of Sport and
699 Exercise Psychology*, 11(2), 123-142. <https://doi.org/10.1080/1612197X.2013.779812>
- 700 Salim, J., & Wadey, R. (2018). Can Emotional Disclosure Promote Sport Injury-Related Growth? *Journal
701 of Applied Sport Psychology*, 30(4), 367-387. <https://doi.org/10.1080/10413200.2017.1417338>
- 702 Salim, J., Wadey, R., & Diss, C. (2016). Examining hardiness, coping and stress-related growth following
703 sport injury. *Journal of Applied Sport Psychology*, 28(2), 154-169.
704 <https://doi.org/https://doi.org/10.1080/10413200.2015.1086448>
- 705 Schinke, R. J., Blodgett, A. T., Ryba, T. V., Kao, S. F., & Middleton, T. R. F. (2019). Cultural sport
706 psychology as a pathway to advances in identity and settlement research to practice. *Psychology
707 of Sport and Exercise*, 42, 58-65.
708 <https://doi.org/https://doi.org/10.1016/j.psychsport.2018.09.004>
- 709 Spijkerman, M. P. J., Pots, W. T. M., & Bohlmeijer, E. T. (2016). Effectiveness of online mindfulness-based
710 interventions in improving mental health: a review and meta-analysis of randomised controlled
711 trials. *Clinical psychology review*, 45, 102-114. <https://doi.org/10.1016/j.cpr.2016.03.009>
- 712 Tanis, M. (2008). Health-Related On-Line Forums: What's the Big Attraction? *Journal of Health
713 Communication*, 13(7), 698-714. <https://doi.org/10.1080/10810730802415316>
- 714 Trainor, L. R., Crocker, P. R. E., Bundon, A., & Ferguson, L. (2020). The rebalancing act: Injured varsity
715 women athletes' experiences of global and sport psychological well-being. *Psychology of Sport
716 and Exercise*, 49, 101713. <https://doi.org/https://doi.org/10.1016/j.psychsport.2020.101713>
- 717 Wadey, R., Roy-Davis, K., Evans, L., Howells, K., Salim, J., & Diss, C. (2019). Sport psychology consultants'
718 perspectives on facilitating sport-injury-related growth. *The Sport Psychologist*, 33(3), 244-255.
719 <https://doi.org/https://doi.org/10.1123/tsp.2018-0110>

- 720 Way, W., & Vosloo, J. (2016). Practical considerations for self-disclosure in applied sport psychology.
721 *Journal of Sport Psychology in Action*, 7(1), 23-32.
722 <https://doi.org/10.1080/21520704.2015.1123207>
- 723 Zakrajsek, R. A., Martin, S. B., & Wrisberg, C. A. (2016). National Collegiate Athletic Association Division I
724 certified athletic trainers' perceptions of the benefits of sport psychology services. *Journal of*
725 *Athletic Training*, 51(5), 398-405. <https://doi.org/https://doi.org/10.4085/1062-6050-51.5.13>
726