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DOI:
10.1016/j.psychsport.2016.11.007

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Document Version
Peer reviewed version

Citation for published version (Harvard):
Shirazipour, CH & Smith, B 2017, 'Quality participation experiences in the physical activity domain: Perspectives of veterans with a physical disability', *Psychology of Sport and Exercise*, vol. 29, pp. 40-50. https://doi.org/10.1016/j.psychsport.2016.11.007

Link to publication on Research at Birmingham portal

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Checked 2/12/2016

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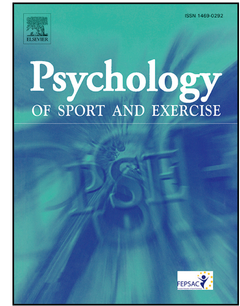

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PII: S1469-0292(16)30297-7

DOI: 10.1016/j.psychsport.2016.11.007

Reference: PSYSPO 1166

To appear in: *Psychology of Sport & Exercise*

Received Date: 15 June 2016

Revised Date: 16 November 2016

Accepted Date: 23 November 2016

Please cite this article as: Shirazipour, C.H., Evans, M.B., Caddick, N., Smith, B., Aiken, A.B., Martin Ginis, K.A., Latimer-Cheung, A.E., Quality participation experiences in the physical activity domain: Perspectives of veterans with a physical disability, *Psychology of Sport & Exercise* (2016), doi: 10.1016/j.psychsport.2016.11.007.

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Quality participation experiences in the physical activity domain: Perspectives of veterans with a physical disability

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Funding: This work is supported by a Social Sciences and Humanities Research Council of Canada Doctoral Fellowship, and a Wounded Warriors Canada and Canadian Institute for Military and Veteran Health Research Doctoral Scholarship (CHS). This research is part of the Canadian Disability Participation Project. Research from the Canadian Disability Participation Project was supported by the Social Sciences and Humanities Research Council of Canada (Grant # 895-2013-1021). The funding agencies and organizations had no involvement in developing and conducting the research or preparation of the manuscript.

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1 Quality participation experiences in the physical activity domain: Perspectives of veterans with a

2 physical disability

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4 Abstract
5
6 **Objectives:** An important consideration for physical activity (PA) participation for individuals
7 with a physical disability, including veterans, is that opportunities exist for full participation. Full
8 participation can be understood as both the quantity and quality of participation. The objective of
9 this study is to explore perceptions of a quality PA experience for military veterans with a
10 physical disability.
11 **Design:** Qualitative semi-structured interviews were conducted to explore perspectives of a
12 quality PA experience.
13 **Method:** Eighteen veterans (15 men, 3 women) with a physical disability were recruited using
14 maximum variation sampling to take part in interviews. The interviews explored their PA
15 experiences, with a focus on exploring participants' perspective of a quality PA experience. Data
16 were analyzed using thematic analysis.
17 **Results:** Two overarching themes, elements of a quality experience and conditions enabling
18 access to a quality experience, were identified. Within the overarching theme of elements of a
19 quality experience, four key themes were identified: group cohesion, challenge, having a role,
20 and independence and choice. A further three key themes (the physical and social environments,
21 and program structure) were identified within the overarching theme of conditions for accessing
22 the quality experience.
23 **Conclusion:** The findings both support and extend previous conceptualizations of quality
24 participation. They provide insight into context-specific understandings of quality for PA and
25 veterans. More broadly, the study contributes towards the literature on adapted PA participation,
26 and provides a framework for practitioners aiming to foster quality PA experiences.

27
28 *Keywords:* impairment, military, participation, sport

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29 Quality participation experiences in the physical activity domain: Perspectives of veterans with a
30 physical disability

31 The risk of disability for military personnel as a result of critical injuries has grown
32 exponentially with recent conflicts (Bell, Schwartz, Harford, Hollander, & Amoroso, 2008).
33 Veterans with a physical disability are unique compared to civilians with a physical disability
34 due to the circumstances surrounding their injuries. For example, if injured in combat or while
35 still a serving member of the military, they must deal with additional factors beyond their
36 physical condition, including the transition to life following deployment, potential retraining for
37 future deployment, or the transition to civilian life (Resnik & Allen, 2007). These transitions
38 potentially present additional psychosocial difficulties not present in a civilian population
39 (Resnik & Allen, 2007). Furthermore, injured service members and veterans are often young and
40 physically fit (Benetato, 2011). As a result, many ill and injured service members and veterans
41 demonstrate a desire to maintain active lifestyles (Chivers, 2009; Reiber et al., 2010). Physical
42 activity (PA) participation (i.e. bodily movement requiring energy expenditure, which includes
43 sport and exercise; Caspersen, Powell, & Christenson, 1985) is thus becoming a widely used
44 strategy to support the rehabilitation of the growing number of military veterans with injuries
45 resulting in disability (Brittain & Green, 2012).

46 For veterans with a physical disability, participating in PA post-injury is often
47 demonstrated to have physical, psychological, and social benefits (Brittain & Green, 2012;
48 Caddick & Smith, 2014). These benefits are particularly salient given the physical,
49 psychological, and social impact of acquiring a physical disability and the life transitions that
50 may often follow (Resnik & Allen, 2007). Indeed, providing veterans with the opportunity to

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51 fully participate in PA can be a beneficial component of rehabilitation and adjusting to life post-
52 injury.

53 Full PA participation entails having access to programs and opportunities, as well as
54 having quality experiences within these programs (Martin Ginis, Evans, Mortenson, & Noreau,
55 2016). The contrast between access to or amount of PA (i.e., quantity) and the quality of
56 experiences within PA is an important distinction. Notably, whereas quantity is often examined,
57 there has been minimal systematic effort to determine what constitutes a quality PA experience
58 among people with a physical disability, let alone among veterans with a disability. The concept
59 of quality participation experiences is one which, to this point, has solely been examined within
60 the literature in occupational therapy (Martin Ginis, Evans, et al., 2016). Several participation
61 frameworks have been developed within this field, the most prominent of which include Hammel
62 and colleagues' (2008) conceptualization for participation of individuals with disabilities, and the
63 "Do-Live-Well" framework (Moll et al., 2015).

64 Hammel and colleagues' conceptualization identifies six key values to consider for
65 experiential participation, all of which are founded on the need for respect and dignity: (1) active
66 and meaningful engagement (i.e. freedom to be part of an activity, context or group); (2) control
67 and choice (i.e. power and agency); (3) access and opportunity/enfranchisement (i.e. desire to
68 contribute, and the resulting social inclusion); (4) personal and social responsibilities (i.e.
69 individuals' responsibility to themselves and society, and society's responsibility to support
70 participation); (5) having an impact and supporting others (i.e. be productive and contribute at
71 different levels of society in order to be impactful); and (6) social connection, inclusion, and
72 membership (i.e. full interaction with the community). Moll and colleagues (2015) also highlight
73 key aspects of participation experiences, labeled dimensions, within their participation

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74 framework. These dimensions include: (1) activating your body, mind, and senses (i.e. regular,
75 stimulating activity); (2) connecting with others (i.e. social integration); (3) contributing to
76 community and society (i.e. prosocial engagement); (4) taking care of yourself (i.e. healthy
77 habits and self-care); (5) building security/prosperity (i.e. economic and social security through
78 engagement in meaningful activities); (6) developing and expressing identity (i.e. cultural and/or
79 community activities that allow an individual to develop a specific identity); (7) developing
80 capabilities and potential (i.e. programming and educational opportunities); and (8) experiencing
81 pleasures and joy (i.e. enjoying engagement).

82 These different conceptualizations are useful in understanding subjective views of
83 participation, and the multidimensionality of participation. However, both models contain
84 elements or definitions specific to occupation contexts. As a result, Martin Ginis, Evans, and
85 colleagues (2016) conducted a review of these and other definitions of participation with the aim
86 of developing a conceptualization generalizable to differing participation contexts (e.g. PA). Six
87 themes resulted from this review: (1) autonomy (i.e. independence, choice); (2) belongingness
88 (i.e. a sense of belonging, acceptance, respect); (3) challenge (i.e. appropriate level of challenge);
89 (4) engagement (i.e. feeling motivated and involved); (5) mastery (i.e. feeling competent); and
90 (6) meaning (i.e. goal attainment, feeling responsible to others).

91 The conceptualization encapsulates the multidimensionality and subjective nature of
92 participation expressed in other conceptualizations, with general definitions that may be useful
93 when examining participation within different fields. However, further research is necessary as
94 to the relevance, importance, and definition of different experiential elements within different
95 contexts, such as PA. Further knowledge is also required as to how these different dimensions of
96 quality can be fostered within a program context and what conditions enable access to quality PA

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97 experiences. Additionally, exploring the concept of quality participation may potentially aid in
98 building an understanding of why some veterans' PA experiences are less positive than others.
99 Indeed, while research often highlights the positive outcomes of PA for veterans post-injury,
100 some PA interventions may not meet participant needs due to their level of readiness or the
101 nature in which PA is presented, and result in psychosocial struggles (Douglas & Carless, 2015).
102 The extant research that describes and/or evaluates PA programs for injured veterans
103 points to some elements that may contribute to a quality PA experience. For example, elements
104 highlighted include the importance of exploring one's abilities, building confidence and self-
105 awareness, and enjoyment (Jackson, 2013). However, these elements are the result of
106 observations from the perspective of a program provider. Therefore, the results do not present the
107 findings of a critical research process or centrally place the perspective of the athletes the
108 programs are designed to serve. Research would benefit from using the subjective experiences of
109 participants to understand quality participation, so that the elements reflect the views of the
110 individual engaging in the experience (Hammel et al., 2008; Martin Ginis, Evans, et al., 2016).
111 Caddick and Smith's (2014) systematic review of outcomes associated with PA among veterans
112 with physical and/or psychological injury describes experiential outcomes such as a renewed
113 sense of self and feelings of confidence, enjoyment, and relaxation. However, exploring quality
114 participation was neither the objective of the review nor of the studies included in the review,
115 and the focus was specific to participation outcomes. As a result, the findings cannot build an
116 understanding of quality participation experiences. Moreover, the review was not exclusively
117 focused on veterans with a physical disability. A comprehensive exploration of the elements that
118 constitute and support a quality PA experience for veterans with a physical disability is needed.
119 Thus, the purpose of this study is to explore perceptions of a quality PA experience among

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120 military veterans with a physical disability. Understanding veterans' perceptions of quality PA
121 participation moves research forward in conceptualizing full participation in PA, and may
122 provide practitioners with direction for creating PA programs that promote quality experiences.

123 **Method**

124 **Philosophical Assumptions**

125 The perspective of the researchers in the current study is that multiple context-dependent
126 realities exist, and that knowledge is constructed based upon participants' understanding of their
127 reality. As such, this study is based ontologically in relativism, and epistemologically in
128 constructionism. Applied to this research, we sought rich depictions of each participant's
129 experience, and worked to generate an understanding of quality experiences that also provided
130 room for variations and for each participant to explore quality within his or her own terms.
131 Although we link our results to frameworks of participation, we were nevertheless cautious to
132 ensure that individual stories retained their context dependence.

133 **Participants**

134 Following receipt of ethics approval, veteran organizations were contacted to disseminate
135 recruitment information to their members. Participants were included if they were military
136 veterans (defined as former members of the military who were no longer serving) with a physical
137 impairment (i.e. impairment that limits physical functioning), who participate in organized PA
138 programs. Participants were excluded if they had sensory impairments (e.g. visual impairments),
139 or were diagnosed with a psychological injury (e.g. post-traumatic stress disorder) but with no
140 physical functioning limitation, as these conditions might alter program needs beyond what
141 would be necessary to accommodate veterans with physical functioning impairments.

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142 Participants were recruited using maximum variation sampling. This method was chosen
143 as it involves purposeful sampling of diverse participants from various contexts, which better
144 permits identification of essential elements of the phenomenon studied (Patton, 2002). Key
145 variations sought in participants were: (a) country served; (b) type of injury; and (c) PA
146 experience. To reach these aims, three main recruitment strategies were used. First, to include
147 veterans from different countries, (thereby incorporating a range of recovery experiences based
148 on differing national frameworks and systems of rehabilitation), participants were recruited from
149 organizations in Canada, the United States of America (USA), and the United Kingdom (UK).
150 Second, while most of the current research focuses on veterans solely with combat injuries (e.g.
151 Caddick & Smith, 2014; Douglas & Carless, 2015), the decision was made to include veterans
152 with both combat and non-combat injuries. This choice aids in increasing the long-term
153 applicability of the results beyond periods of conflict, and widens the relevancy of the findings to
154 a larger group of veterans who access PA programs. Regardless of how a veteran is injured he or
155 she may benefit from quality participation. Finally, to recruit participants with different types of
156 PA experiences, effort was made to recruit from organizations that provided different types of
157 programming including recreational and competitive PA (e.g. weekly activity events or
158 competitive training), and physical challenges (e.g. mountain climbing; Caddick & Smith, 2014).
159 Recruitment continued until the authors determined that data saturation had been reached,
160 specifically when no new information or patterns emerged during subsequent interviews or
161 during analysis (Sparkes & Smith, 2014). The final participant sample consisted of 18 veterans
162 with a physical disability (15 men, 3 women). (See Table 1 for demographic information.)

163 **Procedure**

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164 Participants took part in two interviews. One-on-one interviews were chosen over other
165 qualitative methods (e.g. focus groups) given the potentially sensitive nature of the information
166 that may have been shared (e.g. injury experiences), and to enable the participants to share
167 detailed, multi-layered stories about their PA experiences. During the first interview, a timeline
168 was developed of the participant's PA experiences using a structured interview format
169 (Adriansen, 2012). This interview lasted an average of 27 minutes, and permitted the interviewer
170 to build rapport with the participant and gain an understanding of the participant's PA history.
171 The second interview averaged 63 minutes, and was scheduled for one week after the first
172 interview. This schedule was followed for all but three participants, for whom there was a delay
173 of two weeks to one month in order to accommodate PA competition and training schedules. One
174 participant requested a follow-up interview. A third 40-minute interview was conducted with this
175 participant during which additional PA experiences were explored.

176 The same interviewer (primary author) conducted all interviews. Due to the geographic
177 dispersion of participants, all interviews took place via telephone (n = 13) or Skype (n = 5)
178 according to participant preferences. While face-to-face interviews are commonly preferred for
179 building rapport and attending to non-verbal cues (Shuy, 2002), research comparing the use of
180 telephone and Skype interview methods with face-to-face interviews has demonstrated no
181 differences in the resulting data (Hanna, 2012; Sturges & Hanrahan, 2004; Trier-Bieniek, 2012).
182 Indeed, remote communication can have added benefits such as increased participant comfort
183 and anonymity, and decreased social pressure (Sturges & Hanrahan, 2004). The interviewer was
184 still able to build rapport by communicating with the participant prior to the interview, and by
185 dedicating time during the interview to interact with the participant beyond the interview guide
186 (e.g. answer questions; following up on life events that the participant had discussed in e-mails

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187 or in the first interview such as upcoming competitions or training; Scott, 2004). Finally, the
188 interviewer remained attentive to non-verbal cues as participant faces are visible on Skype, and
189 cues such as pauses and changes in intonation are present when speaking on the phone.

190 **The Interview Guide**

191 During the first interview, participants were asked to identify their different PA
192 experiences, as well as which PA experiences post-injury were the most positive or negative to
193 help provide a focus for discussion in the second interview. The aim of the second interview was
194 to explore participants' perspectives of quality using a semi-structured approach. The interview
195 guide was structured around three topics: (1) the environment (e.g., "Tell me a story describing
196 an ideal PA environment."); (2) relationships (e.g., "How would you describe an ideal
197 relationship in PA with a coach?"); and (3) engagement (e.g., "Tell me about a time when you
198 considered yourself ideally involved in PA."). The interview guide also included a closing
199 section to gain general perspectives on ideal PA experiences (e.g. "If you had the opportunity to
200 develop an ideal program, what would it look like?"), as well as determine whether any aspects
201 of their PA experiences had been overlooked. The interview guide was used flexibly such that
202 participant responses guided the order in which questions were introduced, and topics covered.

203 **Data Analysis**

204 Responses from the first interview were used to prompt discussion of specific PA
205 experiences in the second interview (e.g. comparisons of different environments, and
206 highlighting ideal or challenging experiences). These responses were not included in the
207 thematic analysis described below.

208 We used an inductive thematic analysis approach to identify, analyze, and interpret
209 patterns in the responses from the second interviews. A thematic analysis was chosen as the

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210 method allowed us to develop themes reflective of the commonalities in all participant views and
211 experiences (Braun, Clarke, & Weate, 2015). Our approach consisted of fluid cycling through
212 the six phases of thematic analysis suggested by Braun and colleagues (2015). First, the lead
213 author immersed herself in the data through continuous re-reading of the transcripts, and making
214 note of preliminary thoughts and patterns. She generated initial codes from the transcripts using
215 NVivo qualitative analysis software, and then grouped codes into potential themes. Specifically,
216 open codes were first created within each interview by identifying individual meaning units
217 representative of each participant's experiences. These codes were then organized into two
218 overarching themes – elements of a quality experience and conditions enabling access to quality
219 experience. Within each overarching theme, the data were further organized into key themes
220 (i.e., the four elements of quality experience and the three conditions enabling quality
221 experience). Where applicable and necessary to provide detail and clarification of participant
222 perspectives, sub-themes were also identified (e.g., four sub-themes were identified for the
223 quality element of group cohesion).

224 The lead author then met and discussed the content and structure of all themes with a
225 research assistant who also had reviewed and independently coded the transcripts. This research
226 assistant acted as a critical friend, questioning the lead author's themes and assumptions to
227 promote reflection (Sparkes & Smith, 2014). Through this discussion and the lead author's
228 ongoing consultation with the full dataset to ensure that the themes presented were meaningful
229 representations of the data, key themes were further developed, refined, and subsequently named.
230 Emerging themes were reviewed against the individual transcripts and the entire data set. The
231 analytic process continued throughout the drafting of written reports. The reports were read by
232 several of the co-authors who served as additional critical friends by encouraging further

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233 reflection and alternate interpretations of the data. These discussions, reflections, and alternate
234 interpretations were used to enrich the results and general discussion through the inclusion of
235 additional quotes to further contextualize themes, as well as provide connections and
236 interpretations of the findings within the literature. Previous conceptualizations of participation
237 (e.g. Hammel et al., 2008; Martin Ginis, Evans, et al., 2016; Moll et al., 2015) were adopted and
238 used as interpretive devices to understand the key themes and situate them in the context of
239 extant literature. The frameworks did not impact themes but rather provided depth to each
240 theme's interpretation.

241 **Quality of analysis.** Aligning with our relativist approach, validity could not be
242 supported by a pre-determined set of quality criteria (Sparkes & Smith, 2014). Thus, criteria
243 were chosen based upon an evolving list of quality indicators (Tracy, 2010), particularly: the
244 worthiness of the topic; rich rigor (e.g. appropriate data collection and analysis); credibility (e.g.
245 thick description); and meaningful coherence (e.g. compatibility between the study purpose,
246 methods, results, and interpretation). Other steps taken to enhance quality included involving
247 multiple critical friends throughout the research process to promote further reflection.

248 **Results**

249 In broadly exploring veteran perspectives of quality participation, two overarching
250 themes emerged: elements constituting quality PA experiences, and conditions enabling access to
251 quality PA experiences. Within the first overarching theme, four key themes emerged each
252 representing an element of a quality PA experience. The content of each of these themes helps to
253 conceptualize the quality experience element in a veteran PA context and also provides insight
254 into how to foster the element in a practical setting. One of the key themes, group cohesion, was
255 discussed extensively, and was further divided into sub-themes. These sub-themes provide rich

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256 description of how to foster group cohesion.

257 The second overarching theme represents conditions enabling access to quality.
258 According to participants, these conditions represent the foundation of a quality PA experience,
259 and must be present in order for the quality elements to be fostered. Three key themes emerged
260 as important conditions, each with a set of sub-themes. The key themes and their sub-themes
261 largely have already been identified within the PA and disability literature. In an effort to extend
262 this literature, our results focus on situating the conditions within the context of a quality
263 participation experience. Supporting quotes for these latter themes are provided in Table 2.

264 **Elements constituting a quality PA experience**

265 Four key themes describing elements of a quality PA experience emerged: group cohesion,
266 challenge, having a role, and independence and choice. Four additional sub-themes were
267 identified for the theme of group cohesion.

268 **Group Cohesion.** Participants identified positive social environments as essential for
269 quality PA experiences, and continued participation. Within the PA psychology literature,
270 cohesion is defined as "a dynamic process that is reflected in the tendency for a group to stick
271 together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction
272 of member affective needs (Carron, Brawley, & Widmeyer, 1998, *p*. 3)." Participants'
273 descriptions of the optimal social environment align with this definition highlighting four
274 elements necessary for fostering cohesion, which are reflected in four sub-themes: camaraderie,
275 communication, acceptance, and a shared focus.

276 ***Camaraderie.*** Camaraderie was characterized by a shared sense of humour and
277 understanding, and being there for each other even when challenged by the activity or

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278 psychological or physical boundaries. Moreover, the sub-theme of camaraderie is also seen as a
279 way of challenging oneself to progress post-injury.

> 280 (…) A strong element of friendship. There's mutual respect and appreciation for what each
> 281 other does. I try and help him where I can in terms in the same way that he's supported me
> 282 through a psychological, and to an extent, physical element in the early stages of my
> 283 recovery and continued to encourage me and push me mentally, well and physically, even
> 284 now. The confidence that's developed mutually and the respect that comes from that builds
> 285 a very strong bond. (Matthew)

286 Camaraderie was considered easiest to foster in exclusively military environments, which
287 were often preferred when compared to program environments that integrated both civilians and
288 military personnel. Within a military environment, participants felt united by a shared
289 background, a shared understanding of life experiences, a shared work ethic, and trust:

> 290 The Invictus Games[1] team was amazing! It was the fact that everyone was military or ex-
> 291 military, and everyone was injured, and everyone was in the same boat, and everyone sort
> 292 of spoke the same language. That was amazing! To be back in a military team again that is
> 293 the ideal environment because I've since played matches with civilians and it's not the
> 294 same. There isn't the same discipline, there isn't that same willingness to give everything,
> 295 to put everything on the line for your teammates. (Louis)

296 Some participants provided suggestions for creating integrated settings that are enjoyable
297 and come close to fostering the cohesion enjoyed in a military setting. Participants indicated that
298 civilians have to be serious about their involvement, demonstrate a strong work ethic, and have a
299 similar mindset to military personnel (e.g. goal-oriented). Under these circumstances, a small

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[1] The Invictus Games are an international PA competition, inaugurated in 2014, specifically for military service members and veterans with illnesses and injuries (Invictus Games, 2014)

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300 number of participants enjoyed integrated environments, as they felt that civilians were more
301 recognizing of achievement and hard work, creating a more appreciative environment: "They're
302 more receptive to the challenge and see it as a greater achievement compared to someone in the
303 military. A lot of us tend to play our circumstances down and be a little humble about what we
304 do and achieve!" (Matthew)

305 ***Communication.*** Two-way open and honest communication was desired between athletes
306 and coaches, as well as amongst teammates, to help build cohesive bonds and improve PA skills:

307 It [an ideal relationship] is really about opening up and not holding anything back, which
308 sometimes is humiliating to me to have to admit some things. But if we want to have the
309 ideal relationship, I need to make clear of the humiliation and just tell him what is going
310 on, like seriously going on with me, for him to be able to coach me better and for me to be
311 able to perform better. (Celeste)

312 While communication was important for the quality of one's experience, participants did
313 highlight that it was considered difficult to achieve, as it required an underlying element of trust
314 which many found challenging. For some participants, a lack of trust may have been the result of
315 a lack of comfort or safety in the environment. For others, PA experiences may be limited in
316 duration (e.g. a try-out day, or a one week activities camp), limiting opportunities to build the
317 necessary trust for open communication.

318 ***Acceptance.*** Acceptance emerged as a sub-theme for all participants but held different
319 meanings. The most common meaning related to the development of non-judgmental
320 relationships ("You're not going to be criticized (…) You're not beat up with it [a bad
321 performance]. Everybody works with everybody to improve the quality of their skill." Reggie).
322 In order to achieve this level of acceptance, participants felt that there had to be understanding

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323 for one's capabilities, as well as a demonstration of skill, and recognition for that skill.
324 Participants linked feeling accepted to wanting to do more and be more involved in the program
325 ("It [being acknowledged and accepted by others] gave me a bit of a morale boost and a bit more
326 motivation to keep going." Henry). When non-judgmental relationships were present,
327 participants described wanting to perform better for the coaches and teammates who made them
328 feel accepted. This reaction aligns with the definition of cohesion wherein the unity of the group
329 is related to goal pursuit and the satisfaction of team needs.

330 Fostering acceptance may, in some cases, be difficult. Participants identified a hierarchy
331 of injuries such that individuals with a less visible physical disability, or an injury judged less
332 traumatic or debilitating, were often excluded in PA programs. One participant with impairments
333 that were only identifiable when participating in PA highlighted these potential challenges:

> 334 I didn't feel accepted by my colleagues who were there because there was no physical
> 335 injury to see. So they were like "What's wrong with you? Why are you here?" And then I
> 336 would say, "I've got an injured shoulder, and I've got MS [multiple sclerosis]". They
> 337 would sort of ignore you after that because you hadn't had your legs blown off or stuff like
> 338 that. (Judy)

339 ***Shared focus.*** Cohesion was also fostered by a shared focus, which consisted of having
340 shared goals for recovery, competition, or PA event, and a shared approach to PA participation,
341 which could potentially differ based on the individual or team. ("You're going to a training camp
342 or something like that, people are coming there to come together collectively for a purpose or for
343 a reason." William; "Being with other people who have got that same mentality, which is
344 probably the best outcome because you all strive for the same thing, you all want to achieve the
345 same goal, and essentially you can all then achieve that goal." Hugh).

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346 Having a similar focus in order to foster cohesion was important amongst program
347 participants but also between program participants and program staff. A shared approach to
348 participation was key in determining whether to return to a program. Program staff had to focus
349 on participant goals, and have the needs of veterans at heart ("Not out there to exploit your injury
350 for profit. They're there for you." Bradley) rather than focus on other motives. When lacking,
351 participants avoided the program and were hesitant to trust other opportunities.
352 **Challenge.** Participants identified a preference for experiences that tested them mentally
353 and physically. A challenging task was characterized by opportunities for friendly or high-level
354 competition and risk often described by participants in contexts such as mountain climbing
355 expeditions, PA training, and competitions. One participant highlighted the importance of
356 competition to challenge as follows: "To be able to compete, to still compete even though you're
357 disabled. To be able to do things, to be able to physically do things still and test yourself. To test
358 your mind, physically and mentally. (Alan)"
359 Mental and physical challenge could also emerge from recreational physical activities that
360 require an individual to leave his or her comfort zone. One participant, Reggie, highlights
361 challenge and his experience with risk and "real danger" when facing dangerous and unexpected
362 currents on an organized recreational kayaking trip with a veteran program. This challenging
363 experience built his sense of competence and desire to stretch physical and mental boundaries:
364 "What makes it a peak experience was I was in some real danger and I won. After I got over
365 being tired it felt really good because what it did was it gave me a new level of self-confidence
366 and willingness to risk." Challenge was portrayed as providing meaning, reward, and a sense of
367 accomplishment, as well as an outlet for negative moods. This sub-theme was also linked to a

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368 desire for tougher PA options and mental and physical challenges that result in feeling tired after
369 involvement:

370 I enjoy alpine skiing so much! You ski on one leg and you look up and you think "Oh!
371 I've just come down that!" So that's nice psychologically. (…) It gets rid of a lot of pent
372 up – not aggression but pent-up physical – it gets me tired. I get back in the house and I
373 reflect on what I've done in that day and then I look at my diary and I think a year ago I
374 was doing red slopes and now I'm doing triple blacks. That gives me a sense of wanting to
375 do it again. Every time I go out, I want to do it again but I want to do something slightly
376 harder. (Alan)

377 **Having a role.** Participants identified the desire to have a social position, or role, in the
378 program as part of an ideal participation experience. Roles could vary based upon an
379 individual's length of involvement in a program (experienced or novice), program type
380 (recreational or competitive), or long-term goals for their sport participation (sport as a potential
381 profession or sport as a means of maintaining activity and desired levels of fitness). Potential
382 roles desired within programs included valued participant, ambassador ("I try and see myself as
383 much as an ambassador as possible. The charities I support are often disability or adapted PA,
384 and the people that I support are usually involved in PA in one way, shape or form." Henry),
385 instructor ("I actually do want to teach disabled people to swim (…) I think it's the joy they get
386 when they actually realize that they can swim and they can do things. It gives me such pleasure
387 because they have such pleasure from it." Judy), peer mentor ("I can offer deep insight."
388 Bradley), and supportive individual for teammates ("I get a lot of reward psychologically from
389 seeing others achieve around me or helping others achieve." Matthew).

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390 Having a role within a PA group or program was identified as an element of a quality
391 experience as it helped participants feel more included, and purposeful, and want to continue
392 their participation:

393 That slightly selfish side of me that wants to have a purpose to something and gain some
394 personal achievement and challenge. But I get a lot of reward psychologically from
395 seeming others achieve around me or helping others achieve. (Matthew)

396 Other participants connected the importance of having a role and feeling a sense of worth with
397 regaining the meaning and purpose they had enjoyed about their military lives. One participant,
398 Louis, highlighted this aspect of having a role when discussing his new position as an advocate
399 for his fellow injured veterans:

400 When you join the military you're important, you're told that you're part of something
401 bigger, you're part of a very large machine that defends people and looks after the country
402 and the world. Then, when you're injured, you're a broken part of that machine that gets
403 taken out and replaced, and that sort of impacts on you mentally quite a great deal. (…)
404 I'm seeing this now, my sort of transformation is I'm going into battle for them [fellow
405 injured veterans] and for me it's sort of I've been empowered now and I feel sort of like I
406 did like I was in the military. (…)

407 **Independence and choice.** Participants wanted independence and choice within the
408 structure of a PA program. Independence was described as scenarios where participants were
409 given some freedom within the structure of the program, particularly in relation to their
410 impairment: "when they let you go and they're close by in case something goes wrong, but
411 they're not holding your hand. They're a couple of feet behind or a couple of yards behind you.

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412 You're basically on your own." (Bradley). Participants also expressed a desire for independence
413 when receiving assistance from program staff:

414 Soon as they try to help me up the hill to push me I'm like, "Don't touch my wheelchair,
415 I'll do it!" (…) I don't like being thought of as being in a – I know I'm in a wheelchair but
416 I don't need help. I'll need help when I'm 65 or 70! (Tom)

417 Independence could be fostered through these actions demonstrated by program staff, and as
418 such required a level of knowledge on behalf of staff as to when or where to intervene or assist.

419 The concept of choice related to having options when participating in a program. Ideal
420 program experiences were described as those that offer multiple activities with opportunities to
421 play at many levels (e.g. recreational or competitive). Providing different sport options so that
422 participants could choose one that matched their needs could also foster choice ("I went to about
423 six different sports which flicked my switch inside me." Alan). These quality experiences
424 allowed participants to make decisions regarding how they wanted to be involved in PA.

425 **Conditions supporting access to a quality experience**

426 In their discussion of quality, participants made clear that to enable full participation,
427 programs must not only include elements that create a quality experience but should also have
428 conditions in place that permit access to the experience. Whereas some models of participation
429 include access and opportunities as an element of participation on par with other quality
430 elements (Hammel et al., 2008), we position these structures as precursors or necessary
431 conditions, which must be in place for quality elements to be fostered and for quality
432 participation experiences to occur. This perspective is similar to Moll and colleagues (2015)
433 who identify factors that can impact participation.

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434 Three key themes representing factors that foster access to a quality experience emerged:
435 (1) the physical environment; (2) the social environment; and (3) program structure. As these
436 factors have been identified in previous literature (c.f., Martin Ginis, Ma, Latimer-Cheung, &
437 Rimmer, 2016), we provide only a brief overview as a basis for enabling access to quality PA
438 tailored to injured veterans. In an effort to advance understanding of full participation in PA, our
439 focus is on interpreting these findings in the context of a quality PA experience. (Supporting
440 quotes for access themes are included in Table 2.)

441 **Physical environment.** Participants described accessibility, including the design of the
442 physical environment (i.e., built environment) and feeling comfortable within the built
443 environment (i.e., practicality of the environment), as crucial for whether or not they took part in
444 a program or chose to return. Geography also emerged as important. Programs taking place in
445 easy-access central locations, as opposed to programs that continuously change location or which
446 require travel, were considered preferable (i.e., central location). Many participants also
447 appreciated nature-based PA (i.e. the outdoors).

448 The experiences discussed highlight a number of concerns relating to accessing a quality
449 experience. For example, participants voiced a disconnect between environments being labeled
450 accessible but lacking in comfort or accessible components. In these scenarios, participants could
451 not engage in the program to the desired level or had to focus on accessibility concerns to such
452 an extent that PA performance suffered, while others had to travel long distances for more
453 accessible training facilities. Thus, engagement, a further element of quality participation
454 identified by Martin Ginis, Evans, and colleagues (2016) was impacted when the physical
455 environment was lacking in necessary accommodations. Poor accessibility also limited
456 independence as participation required reliance on program staff for basic access and travel

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457 needs (e.g. carrying participants up stairs). These less than optimal contexts, which promote a
458 feeling of being "disabled" by the PA program, decreased the quality of the experience.
459 A second finding was the value placed on outdoor PA, a context that has begun to emerge
460 as a preferred location for PA for veterans (Caddick, Smith, & Phoenix, 2015). Within the
461 current study, the outdoors related to the quality elements of challenge, discussed in this paper,
462 as well as mastery, included in the review by Martin Ginis, Evans, and colleagues (2016).
463 Participants identified the unknown aspects of the outdoors as providing continuously novel
464 challenges, and opportunities for risk, resulting in a sense of mastery.
465 **Social environment.** When considering social aspects of the environment that can
466 support or impede a quality experience two sub-themes emerge: (a) the role of family and friends
467 in fostering a quality experience either through their participation or by being a supportive
468 presence; and (b) the general public's positive or negative response to the participants' injury.
469 The further emergence of social elements as a condition for quality participation
470 underscores the importance of programs considering social aspects of participation. The two
471 sub-themes highlight the ways in which individuals in an environment can promote or hinder
472 participation and experiences of disability (Thomas, 1999). When family and friends promote
473 PA to individuals with a physical disability PA motivation and involvement can increase
474 (Littman et al., 2014). Extending this notion, participants suggested that the support of family
475 and friends, and in some cases their actual involvement, has the potential to promote quality
476 experiences. For example, participants indicated that engaging in PA with family and friends
477 helps to create a sense of belongingness. Participation of family and friends also increased
478 enjoyment, thus increasing the quality element of engagement (Martin Ginis, Evans, et al.,
479 2016).

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480 The second sub-theme focusing on the general public links the social environment to a
481 further aspect of quality: acceptance. Participants discussed how the perceived negative actions
482 of others (e.g. staring) and a lack of acceptance adversely impact the program experience. The
483 potentially harmful impact of this social interaction highlights the need for program organizers
484 to consider who might be present in the PA environment, and the resulting implications.
485 **Program Structure**. Participants identified a need for well-structured programs (i.e.
486 programs with structured daily plans, different streams for different levels of ability, and run
487 according to a military structure). They also described two further aspects of programs that
488 enable access to a quality PA experience: (a) requirements for coaches or instructors to promote
489 participation and safety; and (b) general programmatic barriers
490 The first sub-theme relates to a continued area of research within PA for individuals with a
491 disability: coaches' training and background (Falcão et al., 2015; McMaster, Culver, &
492 Werthner, 2012). Interest in this topic stems from issues that also arose in participant interviews,
493 specifically coaches' lack of training and knowledge (McMaster et al., 2012), which may result
494 in safety fears and limit full participation. Within this study, participants described requirements
495 that were thought to result in a coach who could teach PA skills, support independence, and help
496 them feel safe. Participants wanted coaches that would be tough and not overprotective. They
497 often felt let down if someone was scared to push them because of their disability. However,
498 participants also wanted a coach or instructor to be understanding, know their abilities and
499 limits, and provide encouragement both on and off the field. Participants also requested that
500 coaches be understanding of their military background and experiences (e.g. be knowledgeable
501 about the military, and the circumstances and implications of their injury and recovery process

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502 such as the challenges of transitioning to civilian life). The feedback provided by participants
503 may aid in creating appropriate coaching training, and supporting the development of coaches.
504 Participants' extensive discussion of general programmatic barriers including safety (e.g.
505 some participants wanted on-on-one instruction to alleviate concerns), injury (e.g. warmer
506 environments were described as better for nerve damage), resources (e.g. program costs and
507 participants' financial position), and PA opportunities (e.g. PA classification barriers that limit
508 PA options), demonstrates the prominence of barriers preventing access to quality PA
509 experiences. The obvious solution is developing programs that address these barriers, as well as
510 providing skilled instruction and coaching. However, it is important to consider the feasibility
511 of addressing all programmatic barriers and coaching/instruction needs. For example, it may be
512 difficult for programs with limited funding to provide all the necessary resources to fully support
513 veteran's participation or to continuously involve all interested participants. However, attempts
514 can be made to improve access to government funding either for the program or the participant,
515 and to provide equipment. Programs also may not have the resources to develop their own
516 military-specific training for instructors. An option is to rely on PA certification from other
517 organizations supplemented with an introduction to the unique needs of veterans.

518 **Discussion**

519 To achieve full participation, both the quantity and quality of an experience must be
520 considered (Imms & Granlund, 2014). However, while quantity can be understood or measured
521 as the amount of involvement, little is known about quality participation in PA, as well as how it
522 may be fostered, particularly among veterans with a physical disability. This study aimed to
523 explore views of a quality PA experience among veterans with a physical disability. The findings
524 provide insight into PA- and military-specific elements of quality participation and conditions for

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525 accessing quality participation experiences. The contributions of the study findings for
526 extending theory and practice are considered below.

527 **Group Cohesion**

528 Considering the key theme of cohesion, and its subthemes, within the context of the
529 extant literature, the theoretical contribution of the results becomes apparent. In their
530 conceptualization of quality participation among people with a physical disability, Martin Ginis,
531 Evans, and colleagues (2016) identified belongingness as an important experiential component of
532 participation. Through our theme of cohesion, however, participant responses suggest that
533 belongingness emerges through a combined and multidimensional group experience with peers
534 rather than simple positive relationships with a few individuals.

535 The current study further extends the conceptualization of belongingness by providing
536 insight into additional and perhaps context specific experiential aspects important for fostering
537 cohesion or belongingness within PA. For example, the role of communication, camaraderie, and
538 shared focus are not addressed in Martin Ginis, Evans, and colleagues' (2016) conceptualization
539 of belongingness but emerged as important in the current study. Furthermore, the current study
540 emphasizes the interaction between social and task dimensions of participation, whereas others
541 have mostly focused on the social aspects of participation (e.g. Hammel et al., 2008). These
542 differences potentially arise due to context. Belonging or connection within PA presents a set of
543 tasks and relationships that are different from other participatory contexts such as social intimacy
544 and spirituality, which are included in other perspectives of participation (Hammel et al., 2008).
545 Thus, the current study's conceptualization extends the understanding of how social aspects of
546 quality should be understood and defined. The findings also suggest that other conceptualizations
547 may require modification if implemented within a PA setting.

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548 In addition to considering the current findings within the context of participation
549 frameworks, it is also interesting to examine the findings in the context of the literature in sport
550 and exercise psychology. Cohesion in PA for individuals with disabilities, particularly how it is
551 defined and fostered, is an emerging area of research (Falcão, Bloom, & Loughead, 2015). The
552 sub-themes from the current investigation suggest similarities to previous definitions of cohesion
553 in PA for individuals without a disability (Carron et al., 1998). Participants discussed dynamic
554 interactions (e.g. communication and acceptance), and a focus on unity and a common bond (e.g.
555 camaraderie), with the goal of meeting personal and group goals (e.g. a shared focus). However,
556 there are potential challenges to creating cohesion which may be unique to veterans (e.g. trust as
557 important for communication, acceptance of different injury types). Further knowledge of how to
558 meet participant needs while dealing with some of these challenges is necessary.

559 **Challenge**

560 Challenge as a critical part of a quality PA experience also relates to other
561 conceptualizations of participation (Martin Ginis, Evans, et al., 2016; Moll et al., 2015). The
562 conceptualization of challenge within the current study further extends Martin Ginis, Evans, and
563 colleagues' (2016) framework by highlighting the importance of both physical and mental
564 challenges, and suggesting potential relationships or interactions amongst different elements of
565 quality. Participants linked challenge and being successful at a challenge as critical for feeling a
566 sense of mastery and meaning, two other elements of quality participation identified by Martin
567 Ginis, Evans, and colleagues. This finding also relates closely to Moll and colleagues' (2015)
568 dimension of experience entitled "developing capabilities and potential." Moll and colleagues
569 view mastery experiences as involving challenge in order to achieve meaningful goals, and build
570 skills. These differing views underscore the complexities of accurately conceptualizing and

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571 effectively fostering quality participation, highlighting again potentially context-specific aspects
572 of quality.

573 Within the literature on veterans' PA, challenge has often been discussed in terms of the
574 types of PA experiences and program goals (Jackson, 2013). Challenge changes service
575 members' conceptualization of PA. They move from engaging in PA to achieve health benefits
576 to using it as an opportunity to demonstrate to themselves and others that they have achieved
577 growth and resilience, and overcome the trials of their injuries (Munroe, 2014). Challenge is
578 described as something to be enjoyed, and seen as necessary for reaching one's potential and
579 being able to realize the new possibilities that were present in life post-injury (Munroe, 2014).

580 **Having a Role**

581 This theme relates directly to elements expressed in different conceptualizations of
582 participation (Hammel et al., 2008; Martin Ginis, Evans, et al., 2016; Moll et al., 2015). In these
583 conceptualizations, having a role can be linked to dimensions of a participation experience
584 including personal and societal responsibility, having an impact and supporting others, meaning,
585 and contributing to community and society (Hammel et al., 2008; Martin Ginis, Evans, et al.,
586 2016; Moll et al., 2015). All identify the way in which this element makes the individual feel
587 that he or she is being empowered, making an impact, being useful, and contributing towards the
588 attainment of meaningful personal and societal goals (Hammel et al., 2008; Martin Ginis, Evans,
589 et al., 2016). Within the current study, having a role is seen as a way of contributing to the
590 community that helped foster one's growth post-injury, and in this way may also feed into the
591 sense of belonging that a veteran feels towards his or her community. This study extends upon
592 previous conceptualizations by highlighting specific roles that may be beneficial in fostering a

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593 quality experience within a PA program or event. This specificity will aid PA program
594 organizers in determining how to foster quality experiences.
595 The importance of having a role in a program and developing a sense of responsibility
596 and meaning can potentially be optimally understood in the context of veteran and identity
597 research. A veteran's identity and social status is challenged following injury (Brittain & Green,
598 2012; Green, 2013). Veterans may feel that others view them differently as a result of injuries,
599 and may also lose a sense of purpose and belonging (Green, 2013). Thus, if PA provides an
600 opportunity to have a new role and purpose within a valued community, the positive impact on a
601 veteran's identity and PA experience could be unique and vital to well-being. Conversely, if
602 individuals are not satisfied in their roles (e.g. feel rejected, burdensome, lack confidence, or lack
603 information) their enjoyment, performance, and engagement with the program, or group may be
604 negatively impacted (Beauchamp, Bray, Eys, & Carron, 2005; Embuldeniya et al., 2013).
605 **Independence and Choice**
606 Independence and choice as elements of a quality PA experience relate to
607 conceptualizations of participation identified in different contexts. For example, Hammel and
608 colleagues (2008) identify the importance of a participant feeling personally powerful within a
609 participation context (i.e. control and choice). As in the current study, the importance of being
610 able to choose and independently make a decision regarding the method and time of participation
611 was recognized as an important element through which individuals with a disability, such as
612 veterans, can develop agency and learn to self-advocate (Hammel et al., 2008). This theme is
613 also present within Martin Ginis, Evans, and colleagues' (2016) conceptualization, which
614 includes independence, choice, and control within "autonomy." The current study thus
615 demonstrates the applicability of this element within PA, while extending previous research to

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616 highlight methods participants identify for fostering independence and choice within a structured
617 PA program.

618 Within this theme, there is also additional opportunity for interpretation based on the
619 veteran PA literature. Burke and Utley (2013) highlight that it may not always be possible to
620 provide autonomy based on the nature of the challenge. However, while extreme physical
621 challenges may limit opportunities for independence and control, participants may nevertheless
622 still feel autonomous if able choose whether to participate in the program, or if able to provide
623 insight during planning and preparation. In other, less extreme contexts, the stories relayed by
624 participants regarding the importance of being involved in decision making, having choice, and
625 feeling independent, provide indications of how practitioners could create quality experiences.

626 **General Considerations**

627 The results can also be considered within the context of the social relational model of
628 disability (Thomas, 1999). The social relational model highlights that individuals can experience
629 disability at the public level through structural elements (e.g. elements of the physical
630 environment) and social interactions with others (e.g. the relationships one has with peers,
631 program staff, or family members), as well as at a personal level through the way that individuals
632 may internalize societal views and responses to disability (e.g. feeling independent or able to
633 contribute through meaningful roles; Thomas, 1999; Reeve, 2004). The findings of the current
634 study correspond to the different levels of this model (e.g. having a role as internalizing societal
635 views, or cohesion as an example of social interactions). Thus, if the elements are implemented
636 to create a quality PA experience, and access factors are considered, programs may lessen
637 feelings of disablism, and increase participants' sense of empowerment.

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638 Considering our results within the context of the social relational model also suggests
639 important cautions for program administrators. For example, the sub-theme of acceptance
640 provides an example of when negative social interactions may be present. If internalized, the
641 resulting feelings of vulnerability and exclusion may impact self-perception and limit
642 participation. Also, as the concept of quality participation gains momentum, ideally quality
643 elements will be integrated into program mandates. However, if organizations feel obligated to
644 integrate quality elements into programs or disrupted by the changes required, and make these
645 feelings known, individuals with physical disabilities may feel that they are being a burden
646 (Reeve, 2004). The ramifications could be detrimental to well-being (Reeve, 2004), particularly
647 for veterans who may still be in the process of developing their identity post-injury and finding
648 their place in civilian life. A collaborative participatory approach to integrating quality
649 participation into organizations may help to address this potential issue. Thus, by exploring the
650 findings and their implications within the context of the social relational model, it is apparent
651 that PA participation does not exist in a vacuum but interacts with multiple structural and
652 psychosocial factors, which must also be considered so as to not marginalize the participant.
653 The current study builds upon the previous conceptualizations by highlighting methods
654 through which the four quality elements could be fostered, providing a more complete
655 understanding of a quality PA experience. As a result, the findings from the current study can
656 also be considered from the perspective of practitioners who wish to develop quality PA
657 programs. For example, cohesion as a component of a quality PA experience highlights the
658 primacy with which program staff and organizers must consider the social nature of their
659 activities. To foster cohesion, organizers should consider whether features of the program
660 encourage camaraderie, communication, acceptance, and shared goals. At a broader group level,

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661 they should consider who is involved in the activities. Peers are a valued source of PA
662 information and support within the current study, and indeed within the literature on military and
663 civilians with physical and psychological disabilities for many individuals with a physical
664 disability (Caddick, Phoenix, & Smith, 2015; Letts et al., 2011; Wu & Williams, 2001). Thus,
665 when appropriate, organizers should consider organizing programs based on peer groups when
666 striving to develop a quality PA experience. However, consideration must be given to the
667 identity of these peers as either veterans or civilians, and the nature of their injuries.

668 The authors do, however, caution that from a practical perspective it also is important to
669 consider individual preferences. Personal preferences may impact what elements of quality
670 participation shape perceptions of a quality experience. For example, one veteran may place
671 greater value on independence and choice than having a role. Program providers should leave
672 space for individuals to express what they need from a program to fulfill their own program
673 goals and to create their own quality experience. As a further example, in terms of program
674 implementation, challenge is often considered in terms of the type of activity (e.g. difficult or
675 extreme physical challenges such as mountain climbing expeditions; Burke & Utley, 2013) or the
676 program structure (e.g. implementing team and individual challenges to stretch individuals
677 beyond comfort zones to built mastery but within a controlled and safe environment; Jackson,
678 2013). When implementing challenge individually rather than as a team, program staff should
679 also consider that challenge is an individual benchmark, and that different levels of challenge or
680 different activities may be required to fulfill individual participants' challenge needs.

681 **Limitations**

682 A first limitation is that the current exploration did not consider any potential cultural
683 differences in participant views. This should be examined further as access to care, support, and

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684 PA experiences may vary according to country. We also did not consider how experiences vary
685 as a result of injury characteristics and presence of comorbidities (e.g. post-traumatic stress
686 disorder) due to sample size. Specifically, our sample did not include a sufficient number of
687 participants demonstrating each characteristic to make these distinctions. A further limitation of
688 this study is that male veterans are over-represented in this sample, a common concern within
689 military health research (Yano et al., 2010). Potential gender differences may exist in how
690 veterans perceive and experience quality, as well as what elements may be most important in
691 meeting quality needs within a PA context. Thus, future studies could consider the gendered
692 dynamics of participation and how they might influence perceptions of quality. Finally, the study
693 did not include the perspective of non-physically active individuals. As individuals engaging in
694 PA, the participants likely have more positive views of their PA experiences. Future research
695 could benefit from those who tried PA and dropped out or never engaged in PA to understand
696 their perspective on their experiences, and their views of quality.

697 **Conclusion**

698 The findings provide the first research-based conceptualization of quality PA experiences
699 for veterans with a physical disability. Future research can evaluate the elements identified, as
700 well as determine the generalizability of its components to other populations with disabilities, or
701 veterans with psychological or sensory injuries. The results of this study represent a significant
702 contribution to the literature on PA participation, as well as veterans' rehabilitation and transition
703 to life post-injury.

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Table 1.

Demographic information

Name	Country	Gender	Age	Years since injury	Injury Cause	Status during Injury	Injury	Type of PA Participation
Matthew	UK	Male	31	3	Blast injury	Active duty	SCI; Mild TBI	Competitive
Paul	UK	Male	33	8	Blast injury	Active duty	Right leg above knee amputation	Physical Challenge
Hugh	UK	Male	33	3	Blast injury	Active duty	Double lower leg amputation; shoulder nerve damage	Competitive
Louis	UK	Male	39	15	Sports injury	Active duty	Double ankle injury	Recreational & Competitive
Alan	UK	Male	54	21	Blast injury	Active duty	Right leg above knee amputation	Competitive
Judy	UK	Female	50	15	Training injury	Active duty	Shoulder injury; MS	Competitive
Richard	UK	Male	31	7	Blast injury	Active duty	Left leg below knee amputation; Missing finger on hand	Competitive & Physical challenge
Patricia	UK	Female	65	35	Sports injury	Active duty	SCI	Recreational & Competitive
Henry	UK	Male	30	9	Blast injury	Active duty	Right leg above knee amputation	Competitive
Arnold	USA	Male	30	3	Blast injury	Active duty	Left leg below knee amputation	Recreational
Ben	USA	Male	47	26	Fall	Veteran	SCI	Recreational
Reggie	USA	Male	68	49	Fall	Active	Left arm above elbow amputation	Recreational

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						duty		
Bradley	USA	Male	61	4	Blast injury [a]	Veteran	Double above knee amputation; Burns to 60% of body	Recreational
Danny	USA	Male	47	29	Fall	Veteran	SCI	Competitive
Tom	USA	Male	53	8	Motorcycle accident	Veteran	SCI	Competitive
John	Canada	Male	33	6	Blast injury	Active duty	SCI	Competitive
Celeste	Canada	Female	45	26	Training injury	Active duty	SCI	Competitive
William	Canada	Male	48	17	Fall	Active duty	SCI; PTSD; Knee Injury	Recreational

Note. All names are pseudonyms assigned to participants. PA: Physical activity; UK: United Kingdom; USA: United States of America; MS: Multiple Sclerosis; PTSD: Post-traumatic Stress Disorder; SCI: Spinal Cord Injury; TBI: Traumatic Brain Injury. Participants whose participation is labeled as “recreational” are those who participate in organized PA programs. The frequency of participation of recreational participants varied based on location and availability of programming, and could include weekly participation or participation in programs several times a year. Competitive participants included experience at local, regional, national, and international levels of competition. If labeled as competitive, participants were involved in PA competitions or training several times a week or every week either during their season or all year. Participants labeled as participating in physical challenges took part in one to three physical challenges a year, with additional training that varied in frequency throughout the year. Participation frequency could vary based on injury and/or complications related to the physical disability. [a] Participant experienced blast injury as a veteran, as he had volunteered to return to a conflict zone through a civilian employment opportunity.

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Table 2.

Quotes for the overarching theme "conditions enabling access to a quality experience"

Themes	First-level sub-themes	Second-level sub-themes	Supporting quote
Physical environment	Accessibility	The built environment	"I think I'm thinking more along the lines of a disabled person now rather than an able person, where if you turn up at a venue where you're going to be playing the sport you instantly look for access needs. Are there going to be disabled toilets? Disabled showers? (…) Sometimes you're more concentrating on those factors rather than the game that you've got coming up or who you're playing against and whether you can beat them. Whereas you're thinking more about: Where can I leave my chair? Where can I leave my stud? What do I do if I need the bathroom half way through?" (Hugh)
		Practicality of the environment	"They build a facility and they'll build one cubicle for disabled and six for able-bodied because the population ration would suggest you only need one disabled toilet. (…) The long-term view of these people is wrong because if you've got two wheelchair basketball teams competing you've got 24 disabled people there in wheelchairs, and you've got one disabled toilet and shower so that's not ideal. That, to a lot of disabled people, isn't good because it makes them not want to – they'll say "Oh, I'm not going to bother having a shower. I'll wait and I'll drive three hours and get home and have a shower." That's not right." (Alan)
	Geography	Central location	"I'm two and a half hours away. (…) There's nobody out here who can develop a plan for a cyclist or someone who is on a recumbent bike." (William)
		The outdoors	"There's the risk. You're not in charge. You need to be calculated but you're not in charge because a tree can fall in your way at any given time and that's you! So you need to be calculated and careful. It's precision on the edge of serious pain." (Paul)

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Social environment	Role of family and friends	n/a	"A lot of marriages or relationships will break down when somebody gets severely injured. (…) It can fracture those relationships. So by acknowledging the existence of the rest of the family as part of the team, I think that really helps keep those numbers a little bit on the better side." (Arnold)
	The general public's response to injury	n/a	"There's no sympathy there. (…) When I go swimming, for instance, the looks you get are unbelievable. (…) You hop down the side of the pool, you jump into the pool, and they think "Oooh, that guy hasn't got a leg!" (Alan)
Program structure	Requirements for coaches or instructors to promote participation and safety	Coaching knowledge	"You have to have people that have a clue. If you just hire teenagers or college students that have not been around wounded warriors, the atmosphere and relationships are going to be very poor because they don't know anything about you. They don't know anything about IEDs. They're not familiar with blast injuries. They're going to just irritate you and ask really really insensitive questions. They're not going to be able to even assist you with the adaptive sports because they don't have a clue what's wrong with you. (…) The ideal is training. (…) I've had people that just stand there, like a deer in the headlights when you're struggling, and they don't know what to do." (Bradley)
		Tough	"I don't need somebody to hold my hand. Just direct me in what I'm supposed to do and I'll do it. That's the military thing too is just it comes from the top. The sergeant tells you, your boss tells you to do something and it's ok. Give me the guidelines and let's do it." (Tom)
		Not limiting participant based on disability	"She's very knowledgeable. She's a recognized rower, trainer, coach. However, she's dealing with a disabled guy and so she takes a step back instead of having that sharp tongue that she should have like "Come on! Dig deep! Pull harder! Ten more!" That doesn't exist." (Paul)
		Understanding	"Someone that knows me and knows what I need to take me to the next level and the next level, and to pick me up when things haven't gone well." (Hugh)

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	General programmatic barriers	Climate	"I suffer with the cold – my extremities because of nerve damage I've not got a great deal of temperature control. Hot sunny environments make me feel a lot better. (…) I'm a lot more relaxed and enjoy the time there which allowed me to train harder." (Matthew)
		Safety	"The experience was positive because safety was at the forefront of everything. They don't want anyone to get injured or killed and no one was injured or killed so that's as good as it gets." (Bradley)
		Program and participant resources (e.g. finances, equipment, accommodation)	"The way a lot work is the first time they pay for it - it's kind of set up for introduction I guess and so after that they won't pay for it. So it kind of takes it out a bit. I can't do it anymore. So a lot of them come and go. They do it for free the first time and then I got to let it go cause I can't pay for it." (Danny)

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Highlights

- Quality elements of participation are identified, as well as methods for fostering elements
- Quality elements include group cohesion, challenge, having a role, and independence and choice
- Certain conditions, such as environmental and program features, enable access to quality experiences

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