



Citation for published version:

Roberts, G, Arnold, R, Gillison, F, Colclough, M & Bilzon, J 2021, 'Military veteran athletes' experiences of competing at the 2016 Invictus Games: A qualitative study', *Disability and Rehabilitation*, vol. 43, no. 24, pp. 3552-3561. <https://doi.org/10.1080/09638288.2020.1725655>

DOI:

[10.1080/09638288.2020.1725655](https://doi.org/10.1080/09638288.2020.1725655)

Publication date:

2021

Document Version

Peer reviewed version

[Link to publication](#)

This is an Accepted Manuscript of an article published by Taylor & Francis in *Disability and rehabilitation* on 20/2/2020, available online: <https://www.tandfonline.com/doi/full/10.1080/09638288.2020.1725655>

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Military veteran athletes' experiences of competing at the 2016 Invictus Games:

A qualitative study

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Abstract

Purpose: Previous research has championed sport as a form of recovery for military veterans. Nevertheless, there is a lack of research on military veterans' experiences of international sporting competitions. The aim of this study was to explore military veterans' experiences of participation at the 2016 Invictus Games.

Methods: Fifteen military veterans (10 male, 5 female) who participated in the 2016 Invictus Games were recruited. Semi-structured interviews were conducted to explore experiences pre, during, and post competition, and analyzed using applied thematic analysis.

Results: Three overarching themes were identified: *Sources of motivation* consisted of a range of veteran specific motives for getting involved with and continuing participation with the Games. *Team and culture stressors* encapsulated organizational demands related to the attitudes and behaviors of a sports team operating within the context of the Invictus Games. *Impact of the games* comprised veterans' perceptions of positive and negative consequences of being involved with the Games.

Conclusions: The study provides insight into the multitude of motives military veterans have for engaging in sport, whilst also demonstrating the novel organizational demands that veteran athletes encounter. The findings also offer preliminary insight regarding the impact of the Games and the potential for psychoeducation program implementation to support athletes post-Games.

Keywords: affect, competition, rehabilitation, sport, stress, well-being

1 Competitive sport has been championed as a pathway of recovery for wounded,
2 injured, and sick (WIS) military veterans due to its associated physiological, psychological,
3 and social benefits [1,2]. To provide WIS military veterans with an opportunity to accrue
4 these benefits, the Invictus Games (IG – also referred to as “the Games”) was created and
5 developed. Specifically, the IG is an international sporting event that aims to “use the power
6 of sport to inspire recovery, support rehabilitation, and generate wider understanding and
7 respect for WIS Servicemen and women” [3]. Having completed its fourth iteration in 2018,
8 the IG has seen approximately 2,000 competitors take part in 23 days of competition (across
9 all four iterations; [3]). At the IG, WIS military veterans from 18 different countries compete
10 in up to 12 adaptive sports (e.g., wheelchair basketball, powerlifting, indoor rowing). With a
11 focus of the Games being inclusion for all, the criteria for participation has been broadened
12 from initially comprising standard parasport criteria (i.e. physical, sensory, or intellectual
13 impairments) to now including those with physical illnesses (e.g. cancer) and mental health
14 conditions (e.g., post-traumatic stress disorder). Given that limited research has been
15 conducted to date on the IG, the purpose of this study was to explore military veterans’
16 experiences of the event.

17 Research conducted by Lovell and colleagues [4] was one of the first studies to
18 explore the experiences of military veterans participating in a sporting competition.
19 Specifically, interviews were conducted with veterans who had spinal cord injuries and were
20 competing at the First International Ex-Service Wheelchair Games. Two pertinent points
21 were raised from this study: (i) WIS military veterans need and want to preserve a connection
22 with the military in any form they can and (ii) positive and new relationships develop within
23 competition between services and nations. Lovell et al. [4] argued, therefore, that
24 competitive, international sporting events could aid WIS military veterans in their
25 rehabilitation as it enables them to feel connected with their past whilst also aiding the

1 formation of a new identity. Developing this further, sport, and being a sport performer in
2 particular, is seen as a way of creating a new identity and one that can lessen the negative
3 effects of 'losing' their previous military identity [5]. These conclusions are useful in
4 identifying some initial guiding motives for military veterans to participate in sport; however,
5 future research is required to further explore reasons for participation in a more diverse
6 sample of military veterans.

7 The extant research that examines participation of WIS military veterans in sporting
8 events typically focuses on the outcomes of participation for the veterans. For example,
9 Cordova et al. [6] examined participation at the National Disabled Veterans Winter Sports
10 Clinic and found that disabled veterans' total leisure satisfaction and self-satisfaction scores
11 improved over the course of the study. Furthermore, Sporer et al. [7] found that veterans
12 with a disability, participating at the National Veterans Wheelchair Games and the Winter
13 Sports Clinic rated overall improvements in self-esteem and quality of life. Moreover,
14 veterans at these events spoke of the chance to interact with other veterans with a disability,
15 develop acceptance of their disability, and enhance their mobility skills as important
16 outcomes of participation. Notwithstanding the variety of positive outcomes identified in
17 extant research, studies to date have primarily focused on the competition itself [4,7], without
18 taking into consideration the period prior to, or post-competition. It is envisaged that asking
19 participants to reflect on the entire competition period (i.e. pre, during, and post) would help
20 researchers to develop knowledge and insight into how sporting competitions, as a whole, are
21 experienced by WIS military veterans.

22 Despite the positive outcomes for military veterans previously reported in the
23 literature, it has been suggested that operating in demanding environments, such as
24 international competition, may also lead to undesirable outcomes for sport performers, such
25 as negative emotions and increased strain [8]. It is essential that future research examine

1 these potential negative outcomes, alongside their positive counterparts to provide a more
2 balanced reflection of military veterans' holistic sporting experiences especially concerning
3 international competition. To underpin such investigations, the transactional theory of stress
4 [9] can be adopted. This theory defines stress as an ongoing and dynamic process that
5 involves individuals transacting with their environment [9]. Research conducted on athletes
6 with disabilities has examined various components of the transactional theory of stress,
7 including stressors [10], cognitive appraisals [11], coping strategies [12], and emotions [13].

8 The first quantitative examination of such person and environment transactions in a
9 military veteran population competing in sport was Roberts et al. [14] who tracked military
10 veterans ($N = 40$) in the build up to, during, and post an international sports competition (the
11 Invictus Games). The most frequently encountered demands were team and culture related
12 stressors, and these were shown to increase in the build-up to the Games. Roberts et al. [14]
13 demonstrated that a number of stress-related variables (e.g., organizational stressors,
14 appraisals, and coping) predicted performance, well-being, and mental health. Furthermore,
15 the intensity of organizational stressors was associated with increases in salivary cortisol at
16 competition. There is a need for future research to advance this study to explore some of the
17 psychosocial factors that may help explain its findings. Specifically, it would be useful to
18 explore veterans' motives for participation in competitive sports events such as the IG.
19 Understanding motives for participation at the IG could offer scholars unique insight into
20 WIS military veterans' cognitions and what predicts behaviors, as well as provide
21 practitioners with valuable information that can inform their promotions of competitive sport
22 involvement as a recovery tool. In addition, future inquiry should provide further insight into
23 the team and culture stressors encountered by military veterans in the build up to the IG, as
24 well as extending knowledge and understanding regarding what may be the other impacts of
25 IG involvement for military veterans [14].

1 female), who ranged in age from 24 to 51 ($M_{\text{age}} = 41.20 \pm 7.89$) and had been competing in
2 their main Invictus Games sport for an average of 4.20 years ($SD = 6.18$). Participants
3 identified themselves as having various physical impairments ($n = 10$), illnesses ($n = 1$), and
4 experiencing co-morbidities ($n = 4$); and reported that they had had their injury/impairment
5 for an average of 7.67 ± 6.65 years. Participants were competing in seven different sports
6 (viz. Archery, Indoor Rowing, Road Cycling, Swimming, Track and Field Athletics,
7 Wheelchair Basketball, Wheelchair Rugby) with athletes competing in one sport ($n = 3$), two
8 sports ($n = 6$), or three or more sports ($n = 6$) whilst at the competition. Six participants had
9 no prior competition experience in their main sport, whereas the remainder had competed
10 within the sport from three months to 20 years ($M_{\text{years}} = 4.20 \pm 6.18$) at standards ranging
11 from club to national level.

12 ***Procedure***

13 After obtaining institutional ethical approval, all participants who had taken part in
14 the Roberts et al. [14] study were contacted via email to inform them about the nature of this
15 study and to invite them to participate. Participants were recruited using a convenience
16 sampling technique. This method was chosen as it allowed for a range of participants whose
17 reflections in relation to the IG, led to a variety of information-rich experiences [18]. Fifteen
18 participants responded and were then contacted with further information regarding what
19 involvement would entail and their ethical rights (e.g., confidentiality, right to withdraw,
20 anonymity). A convenient time and location for the interview was then arranged with
21 participants. Prior to the interviews, all participants provided informed consent. The
22 interviews were semi-structured in nature, were conducted face-to-face ($n = 11$) or over
23 Skype ($n = 4$), lasted for an average of 51 minutes (range: 36-67 minutes), and conducted
24 within eight weeks post-IG involvement. The interviews were digitally recorded in their
25 entirety using a Dictaphone and subsequently transcribed verbatim.

1 *Interview Guide*

2 The interview guide was developed with the aim of gaining an in-depth insight into
3 participants' experiences and informed by the study's research questions. The guide started
4 with introductory questions to explore the reasons behind choosing to participate at the IG
5 and participants' experiences in the build-up to the Games (e.g., "Why did you get involved
6 with the Invictus Games?"; "What were your preparations for the Games?"). The questions
7 then progressed to explore participants' involvement at the IG itself and their views on the
8 team and culture (e.g., "In the build-up to the Games, what was your experience of the
9 team?"; "Was there anything about the team or culture that you felt was demanding?").
10 Questions were also asked which addressed the perceived impact that military veterans felt
11 their involvement at the Games had on them (e.g., "What impact do you feel being involved
12 in the IG has had on you?"; "Did your involvement in the IG impact your recovery
13 process?"), as well as whether they would recommend the IG to anyone else who was
14 eligible. The final section encouraged participants to discuss any further, relevant issues and
15 reflect on the interview and whether they were able to tell their story fully. In order to
16 encourage greater depth of reflection on the topics discussed in the interview, the interviewer
17 employed a combination of strategies, including clarification (e.g., "Did I understand you
18 when you said..."), elaboration (e.g., "Would you mind telling me about that?"), and general
19 probes (e.g., "Why do you think this was the case?") [19].

20 *Data Analysis*

21 Data was analyzed using applied thematic analysis as set out and explained in Guest
22 et al. [20]. This approach was deemed most appropriate as it offered abductive reasoning,
23 which as a whole ensures that limits are not defined, provides a 'scaffold' to explore
24 constructs, and fosters innovation in the analysis of data [20]. Abductive reasoning can best
25 be explained as, "inference to the best explanation" [20] and encourages the use of inductive

1 and deductive types of analysis to yield the most plausible explanation. To elaborate on this
2 approach, the lead author immersed himself in the transcripts and noted meaningful raw-data
3 extracts, as well as overt patterns, which developed throughout the interviews. The coding
4 process then evolved through inductive analysis and involved identifying meaningful patterns
5 of responses then examining them in comparison to the rest of the data. Code labels were
6 produced as a result and formed the basis for categorizing data into more concrete content
7 codes. Each content code identified was given an accompanying definition (see Table 1).
8 Where crossover of codes occurred, some codes were edited, merged, or deleted for clarity
9 (see, e.g., Figure 1). Content codes were subsequently combined and categorized under
10 themes, which were then considered in regards to relationships between codes and themes
11 and how these best represented the data [20]. As a result, all content codes were categorized
12 under one of three overarching themes (i.e., sources of motivation, team and culture stressors,
13 and impact of the games). Deductive reasoning was engaged with later in the process,
14 particularly in relation to the labelling of overarching themes. This approach is not
15 uncommon in qualitative research and accepts that researchers can be informed and guided
16 by previous literature, as was the case with this study [20]. Throughout the analysis, equal
17 weighting and credence were given to each participant's experiences.

18 <Figure 1>

19 ***Trustworthiness***

20 In order to achieve dependability, the lead author audited the codebook throughout the
21 analysis process. Specifically, changes to the codebook were recorded (see, e.g., Figure 1) to
22 ensure that any decisions made were logical and transparent [21]. For confirmability, a
23 researcher with appropriate academic experience acted as a 'critical friend' [22] who was
24 unfamiliar with the literature and worked as an independent, second-coder. The 'critical
25 friend' coded extracts using the codebook of content codes before comparing and discussing

1 coding decisions (six times in total), to encourage reflection on alternative explanations and
2 interpretations of the data [23]. To address credibility, the researchers looked to engage all
3 participants with their data to check for both clarity and accuracy [24]. Participants were
4 provided with their interview transcripts for review and afforded the opportunity to review
5 and edit what they said. All participants confirmed they were happy with the transcripts and
6 so no further changes were made. To enable readers to judge the transferability of the
7 findings, codes and detailed quotes are provided in the results section [21].

8 **Results**

9 The results presented in this section represent the interview responses from all 15
10 participants. Results are organized under three overarching themes: sources of motivation,
11 team and culture stressors, and impact of the Games. The theme ‘sources of motivation’
12 comprised of eight content codes, ‘team and culture stressors’ had six content codes, and
13 ‘impact of the Games’ had one content code. Table 1 provides further detail on the content
14 codes including the definition created for each, whilst Table 2 illustrates the participants’
15 contributions to the content codes generated.

16 <Table 1>

17 <Table 2>

18 ***Sources of Motivation***

19 The sources of motivation theme identified motives for getting involved with and
20 subsequently continuing participation with the IG. The eight content codes within this theme
21 were *optimal health and well-being, inspiration from previous competitors, reconnection with*
22 *previous military life, recovery from injury/illness, being a role model, team membership,*
23 *goal achievement, and social support.* Achieving *optimal health and well-being* was the most
24 frequently cited motive by military veterans for getting involved with the IG. It was
25 suggested that achieving previous fitness requirements from their military occupation through

1 sport was important, since they perceived this would have the desired effect of maintaining or
 2 improving their health and well-being. The following quotation illustrates this code:

3 I feel that I have already overcome the initial difficulties of accepting my
 4 injury and my new limitations, and now is all about how do I maintain my
 5 level of skill as well as try to incorporate more fitness and health...I want to
 6 be the healthiest and fittest that I can be. (Participant 12; <M_{age}; >M_{years} with
 7 injury/impairment; <M_{years} in main IG sport)

8 In addition, many of the participants identified *inspiration from previous competitors*
 9 as a motive for participating in the IG. Specifically, this content code included descriptions of
 10 veterans being inspired by the competitors at previous iterations of the Games: “They [the
 11 2014 Games] were incredible. Some of the men and women who were competing had some
 12 truly inspirational stories and seeing them performing really inspired me to go and try some
 13 new sports” (Participant 7; >M_{age}; <M_{years} with injury/impairment; <M_{years} in main IG sport).
 14 For other participants there was a desire for *reconnection with previous military life*: “I
 15 actually missed that camaraderie and support that the military family offers each other and
 16 was so apparent at the 2014 Games” (Participant 9; >M_{age}; >M_{age}; >M_{years} with
 17 injury/impairment; >M_{years} in main IG sport). Alongside these reasons, WIS military veteran
 18 athletes were motivated for *recovery from injury/illness* reasons, as one-athlete stated when
 19 highlighting their reasons for taking part: “The number one motivation ... was to continue on
 20 my upward trajectory in my recovery” (Participant 13; >M_{age}; >M_{years} with injury/impairment;
 21 <M_{years} in main IG sport).

22 A number of athletes described how they were motivated by *being a role model to*
 23 others, as the following quote from one athlete highlights:

24 [I wanted] to be a role model to my daughter. I don't want my disability to
 25 define me for the rest of my life. I mean, I know that it will but I don't want

1 that label when my daughter thinks of me in the future. I want her to see that I
 2 held down my job, was a successful athlete, and that I had a fulfilled life. If I
 3 can show her that I can win gold medals and be competitive, then she can
 4 hopefully feel capable of doing that and more in the future. (Participant 3;
 5 $<M_{\text{age}}$; $>M_{\text{years}}$ with injury/impairment; $<M_{\text{years}}$ in main IG sport)

6 For most WIS military veteran athletes, *team membership* and the benefits that came
 7 with this was a reason for their initial and continued participation in the IG. Specifically, it
 8 was clear that the Games offered an opportunity to be back among teammates, “wear the UK
 9 flag”, and have a sense of belonging. One participant, when asked about being selected for
 10 the team, described this motive:

11 I have a passion for team sports and I am desperate to be a part of a team,
 12 particularly one as cohesive and driven [as the UK team]. I really wanted to be
 13 a part of a successful team whilst I still could be; it was a part of my life post-
 14 Service that I needed, feeling part of a team. (Participant 8; $>M_{\text{age}}$; $<M_{\text{years}}$ with
 15 injury/impairment; $<M_{\text{years}}$ in main IG sport)

16 For other participants, participating in the IG fulfilled a desire for *goal achievement*,
 17 with example goals ranging from accruing medals to just getting out to the Games. For some
 18 military veteran athletes *social support* was an important support for motivation, with
 19 significant others (e.g., parents, friends, colleagues) encouraging and supporting athletes from
 20 the beginning of the process to participate. Athletes highlighted that social support came from
 21 multiple sources, which maintained their participation: “I had all different people giving me
 22 advice and support throughout which was really helpful ... and kept me going all the way to
 23 the Games” (Participant 1; $<M_{\text{age}}$; $<M_{\text{years}}$ with injury/impairment; $>M_{\text{years}}$ in main IG sport).

24 ***Team and Culture Stressors***

25 The team and culture stressors theme encapsulated specific organizational demands

1 related to the attitudes and behaviors of a sports team operating within the context of the IG.
2 The six content codes within this theme were as follows: *teammates' personality and*
3 *attitudes, conflicting goals, teammates' behaviors and interactions, cultural norms, roles and*
4 *responsibility, and team disparity*. One of the most frequently cited team and culture stressors
5 was that of *teammates' personality and attitudes*. Example demands included dealing with
6 "different personalities" (e.g., introverted vs. extroverted individuals) and teammates'
7 attitudes not being team-focused, with these demands identified as being particularly
8 prominent in the build-up to and during competition. Also prevalent were stressors relating to
9 *conflicting goals*, whereby individual goals were reported to conflict with team goals, as
10 highlighted by one athlete below:

11 So those guys and girls who are there to win at all costs, they are the best of
12 the best, and all that stuff. They are the ones telling you to go out and do your
13 best but behind their eyes, you see them judging you if you don't bring back a
14 medal or [if] you are just there for the experience, that's alien to them.

15 (Participant 14; > M_{age} ; < M_{years} with injury/impairment; < M_{years} in main IG
16 sport)

17 Another team and culture stressor was *teammates' behaviors and interactions*.
18 Example stressors included those who "acted superior" and questioned others motives, as
19 well as differences of opinion surrounding best practices and how teams were run (e.g.,
20 disagreements over when to train etc.)

21 A stressor that was encountered prior to and at the competition was *cultural norms*,
22 and specifically the pressure placed upon performers to conform to the shared expectations
23 and rules that were set within the team (e.g., adopting a "win at all costs" mentality or
24 engaging in dark humor). Dark humour can be defined as, "a kind of humour that treats
25 sinister subjects like death, disease, deformity, handicap, or warfare with bitter amusement

1 and presents such tragic, distressing, or morbid topics in humorous terms” [25]. Of concern
2 for a few was the return to a military environment, despite this being a part of their life that
3 they had considered finished. The following quote explains the pressure placed upon one
4 athlete to re-conform to the military team culture:

5 I didn't find it easy to begin with. I had got used to being away from the
6 military mentality and the stupid jokes and banter, but putting myself back in
7 that situation was different. I don't think I had thought about how different the
8 mentality was when I was away from it. (Participant 6; $<M_{age}$; $<M_{years}$ with
9 injury/impairment; $>M_{years}$ in main IG sport)

10 Furthermore, there was an expectation from a few athletes that reintegration with the
11 military culture would bring about positive interactions such as increased camaraderie.
12 However, a few noted that they did not experience these positive outcomes to the extent that
13 they expected and so this became a stressor for them. Nevertheless, not all participants
14 perceived cultural norms in the same manner. Indeed, many cited that “military mentality”
15 and camaraderie were positive reasons for remaining involved throughout the competition
16 period and expressing gratefulness for being a part of it once again: “But for me, that [IG]
17 represented the best bits of military camaraderie in [the] support that everyone offered and it
18 was what I was looking for” (Participant 11; $<M_{age}$; $<M_{years}$ with injury/impairment; $<M_{years}$ in
19 main IG sport).

20 Participants also encountered *roles and responsibility* stressors. Specifically, some
21 athletes expressed difficulty in performing in sport as well as performing multiple roles
22 effectively (e.g., competitor, family member, and supporter). A further stressor identified
23 within this theme was *team disparity*. One example of this occurred when participants
24 perceived that there were unequal levels of media attention and financial support offered to
25 different athletes. Media exposure was new for many participants and familiarizing

1 themselves with the exposure was an identified demand. A small number of participants felt
 2 that others were using the media exposure for personal gain (e.g., career advancement).
 3 Linked to this, participants reported “favorite” athletes for media coverage, particularly
 4 during competition when coverage was at its peak. In terms of team disparity linked to
 5 financial concerns, this involved perceived unequal funding for equipment and financial
 6 support before and after the Games (e.g., some athletes offered financial support whilst others
 7 generated debt in order to compete).

8 *Impact of the Games*

9 The impact of the games theme comprised of participants weighing the pros and cons
 10 of their involvement with the IG and ultimately determining the influence the Games had on
 11 them. Participants tended to start answering the impact-related questions by reporting on the
 12 positive benefits experienced as a result of the IG, including improvements in physical and
 13 mental health, performance, and social interactions, as well as describing the experience as a
 14 positive next step in their lives. For example:

15 Overall, a very positive impact [of the IG on participant]. I think, like I said, I
 16 am physically in a better place than I was before being involved in the Games.
 17 I have managed to take a massive step forward and have shown the docs that I
 18 could recover and do something with my life. I am in a better place in my
 19 mind as a result; though I never really let, my injuries get me down. And I
 20 have met and become friends with loads of different, interesting people. I
 21 genuinely cannot think of any negatives to being involved with the Games.
 22 (Participant 2; $>M_{age}$; $>M_{years}$ with injury/impairment; $<M_{years}$ in main IG
 23 sport)

24 Similarly, another athlete highlighted improvements in performance:

25 There may have been the odd hiccup in practice for both [sports] but by the

1 time I got to the Games I actually got personal bests in everything I did. Huh,
 2 that's actually quite good. (Participant 12; $<M_{age}$; $>M_{years}$ with
 3 injury/impairment; $<M_{years}$ in main IG sport)

4 Although all participants recognized the potential positive benefits of competing at
 5 the IG, a small number also reported negative experiences such as a perceived lack of future
 6 goals post-IG: "There wasn't really much of a direction or anything to follow...[but] I sat
 7 with the wife and we discussed everything and options [and that helped]" (Participant 14;
 8 $>M_{age}$; $<M_{years}$ with injury/impairment; $<M_{years}$ in main IG sport). Another common negative
 9 outcome expressed by participants were feelings of "post-games blues", as described in the
 10 following quotes:

11 I now feel pretty sh**ty about life and the fact that I now don't have the
 12 necessary goals moving forward. Like I feel so demotivated at the minute and
 13 I wouldn't have had that had I not gone to the Games. (Participant 9; $>M_{age}$;
 14 $>M_{years}$ with injury/impairment; $>M_{years}$ in main IG sport)
 15 Mentally I wasn't in a good place either [post-Games]. ...I make it sound
 16 horrible but I think that it was just a combination of everything...physical
 17 exertion, stress...that had made me feel like I was running on low battery for a
 18 while. (Participant 5; $>M_{age}$; $<M_{years}$ with injury/impairment; $<M_{years}$ in main
 19 IG sport)

20 Despite the quotes offered above, the same participants were eager to highlight that
 21 they also experienced "highs" throughout the period of the Games with fluctuations between
 22 both "highs and lows". The following quote provides an example of the positive and negative
 23 outcomes of involvement in the IG: "I have had a bad post-Games experience, but that
 24 doesn't mean that I don't appreciate what the Games did for me whilst I was preparing for
 25 and competing at them" (Participant 9; $>M_{age}$; $>M_{years}$ with injury/impairment; $>M_{years}$ in main

1 IG sport). All participants ultimately stated that they would recommend the IG to anyone who
2 was eligible, as exemplified by one athlete:

3 One hundred percent I would [recommend the IG to future military veterans].

4 Despite the hardships along the way, the list of positives are so numerous and
5 varied, even if you are not fortunate enough to win a medal. (Participant 5;

6 $>M_{age}$; $<M_{years}$ with injury/impairment; $<M_{years}$ in main IG sport)

7 **Discussion**

8 This study reports on WIS military veterans' experiences of participation at the 2016
9 IG. The findings have firstly provided novel insight into what motivated WIS military
10 veterans to participate in international sporting competitions with motives around optimal
11 health and well-being and reconnection with previous military life being prevalent for this
12 population. Secondly, the results highlight that team and culture stressors are prevalent for
13 WIS military veteran athletes, as has been previously identified for able-bodied or disabled
14 athletes. Whilst some of these stressors are similar to other athlete populations, WIS military
15 veteran athletes also encountered unique stressors (e.g., reengaging with 'military culture' or
16 disparities within their team), which presented challenges to team cohesion. Thirdly, by
17 allowing WIS military veterans to reflect on both the positive and negative aspects of the
18 Games, it was evident that the event provided predominantly positive outcomes, though
19 experiences fluctuated along a continuum of experiencing both highs and lows throughout the
20 competition. Finally, in terms of the integration of themes, it was clear from the veterans'
21 narratives that when sharing their original motives with fellow team members, there were
22 many differences in individuals' reasons for engaging with the Games that could create some
23 disparity in expectations and the onset of team and culture organizational stressors (e.g.,
24 conflicting goals). In accordance with theory, it is likely that individuals exhibit variance in
25 responses to such stressors, which is subsequently illuminated in the reported impact of the

1 IG and participants reporting both pros and cons to participation at the event.

2 Many of the motives reported by military veterans for competing in the IG relate to a
3 need to feel part of a team or group, and a need to connect. Participants felt that the
4 involvement of significant others (i.e. friends and family) and their own desire to be a role
5 model for them, also ensured they were motivated to compete and make the most of their
6 experience. Exploring this through the lens of Self-Determination Theory (SDT; [26]) may
7 help to interpret these findings. Within SDT, one of the three basic psychological needs
8 known to be important for autonomous functioning is relatedness. Relatedness is defined as
9 an individual's inherent propensity to feel a sense of belonging and connectedness with
10 others [27]. Participants demonstrated the desire for relatedness, through various motives
11 including goal achievement (e.g., similar goals), inspiration from others (e.g., similar
12 experiences of injury with previous competitors), reconnection (e.g., through the military
13 team), and team membership (e.g., desire to be part of a team). This is consistent with past
14 research that suggests that military veterans seek connection with other veterans as they
15 typically share experiences and other commonalities [7]. Training and competing alongside
16 other military veterans may have created a connection between participants and encouraged a
17 sense of belonging in terms of the wider IG team [4]. This has been reflected in previous
18 research focusing on engaging WIS military veterans with physical activity [28], which has
19 demonstrated that fostering cohesion and belongingness are important factors in maintaining
20 engagement with physical activity. This study also highlights other factors that should be
21 considered when engaging military veterans in competitive sport, including motives of being
22 a role model and social support. Going forward, we can draw from the SDT literature about
23 how to foster greater relatedness, such as coaches and managers facilitating group co-
24 operative tasks, showing interests in athletes as individuals beyond the sporting context, and
25 ensuring teams articulate shared values [29].

1 Turning to these other identified motives for participation, a number of military
2 veterans also reported what may be considered intrinsic motives (e.g., optimal health and
3 well-being, recovery from injuries and/or illnesses). Many appeared to pursue intrinsic goals
4 that focused around improving personal bests or being able to get to the starting line of their
5 race. As seen in previous literature focused on training camps [30], participants were able to
6 determine their level of skill and ability through internal control and adjust their level of
7 motivation to remain competitive. It can be posited that participants in this study who were
8 preparing for the IG highlighted the presence of this level of internal regulation and that it
9 proved to be a positive factor as they were motivated to improve themselves (e.g., recovery
10 from injuries and/or illnesses), which by their own descriptions, may have translated to
11 improved performances. The emergence of social support as a motive for participation
12 highlights the importance that others can play in keeping WIS military veteran athletes
13 engaged with competition [31].

14 A finding of interest was the diversity, and in some instances the novelty, of team and
15 culture organizational stressors present in this population's experience of the IG. Past
16 research has suggested that team and culture stressors were the most frequently reported
17 organizational stressors in the build-up to the Games [14]. The present study provides greater
18 insight into what the specific team and culture stressors encountered by these military
19 veterans may be. One of the most frequently cited stressors was that of teammate's behavior
20 and interactions, with particular reference to those who "acted superior". Within the context
21 of the IG, this stressor was reported to have increased in the build-up to and at the games;
22 with individuals taking it upon themselves to "take charge and lead" the different teams, even
23 if they had not been given a leadership role. This led participants who perceived this
24 experience, to be negatively affected as they were being instructed to follow someone that
25 had put themselves in a position of power rather than have "earnt the right" to be in charge.

1 As military rank does not exist in the IG setting (bar perhaps team captains), these reported
2 assertions of dominance may have caused issues and arguments highlighted by some of the
3 team members. Previous research with a similar athlete population [10], has suggested that
4 athletes who made negative comments or were argumentative created pressure for other
5 athletes on the team. This study extends that by identifying additional team-related demands
6 that contribute to the experience of stress such as individual perceptions of superiority and
7 differences in opinions of importance within a team structure [32].

8 Conflict surrounding goals was a particularly prominent stressor for participants,
9 particularly the disparity between individual and team goals. Although goal conflict is a
10 stressor also reported by able bodied and disabled athletes [10,33], it is suggested that the
11 underpinning reasons and causes could be different for a military veteran population. A
12 conflict of goals may have occurred due to the differences in the injuries or illnesses of team
13 members, which may have been exacerbated in the build-up to the Games through attendance
14 at training camps when inter-personal differences become more apparent. As highlighted in
15 previous research [30], at training camps, individuals are able to compare their level of skill,
16 ability, support received, and goals against teammates. These comparisons of skill and ability
17 may have had negative effects as individuals felt pressure to emulate or better teammates who
18 may be further along their recovery journey or had had more experience in the sport at the
19 training camps. A further source of tension or conflict between teammates was in perceived
20 injustices in relation to financial support and media coverage received, which ultimately may
21 have undermined team cohesion. This may link back to the finding of athletes and conflicting
22 goals, whereby they realize their assumption that everyone would be putting in the same
23 efforts towards the same goals is no longer true. Research has demonstrated that differences
24 in goals and expectations can cause, typically avoidable, stress in others if not expressed
25 correctly between teammates [33]. The findings of the current study are interesting, as within

1 this predominantly para-sport population, the perception of team disparity (e.g., ability, goals,
2 support) appears to challenge participants' perceptions of team cohesion, something that will
3 ultimately impact upon team functioning and overall performance.

4 Another potential reason for conflict of goals occurring may be linked to how often
5 the team came together prior to the Games. Research on other team sports [34,35] suggests
6 that teams who have a longer period together are able to discuss, plan, and set goals together,
7 well in advance of competition. Participants in the present study reported that there was not
8 much time for these discussions to take place due to training and media duties taking priority
9 prior to the Games. This challenge may have been exacerbated further for the team, as there
10 was only a seven-month period from the announcement of the Games to the first day of
11 competition. Arguably, such a short build-up to the Games would limit team management in
12 building a common set of goals and values. This is an area that coaches and practitioners
13 could look to improve with more time spent as a team, and dedicated sessions on team goal
14 setting being incorporated into training prior to competition.

15 A further team and culture organizational stressor that military veterans perceived was
16 pressure to conform to military cultural norms, such as adopting a "win at all costs" mentality
17 or engaging in dark humor. For those who experienced them, these cultural norm stressors
18 came to the fore in the build-up to the Games as the team culture was being developed during
19 this period [34]. Some participants actively sought out components of military cultural norms
20 that they had not experienced for a period of time (e.g., camaraderie), as has been shown in
21 other past research with military veterans [28,30]. As suggested by a few participants in this
22 study, the positive military cultural norms (e.g., camaraderie) they were anticipating were not
23 seen nor experienced and so this became a stressor for them. In contrast, a number of
24 participants reported that the development of cultural norms based on military service (e.g.,
25 dark humor, win at all costs mentality) placed a demand upon themselves that they felt they

1 were not able to cope with. This is despite previous literature suggesting that military
2 veterans are eager to be involved with activities post-Service due to the culture that still
3 surrounds activities for military veterans [5]. This finding appears unique to military veterans
4 due to the requirement to re-integrate with an organizational culture that they had already left,
5 either willingly (e.g., pre-voluntary release) or through no fault of their own (e.g., medically
6 discharged) [36].

7 Previous research examining military sports camps [36] and other sporting
8 competitions [4,7] has identified benefits of participation including improvements in physical
9 functioning, quality of life, and social interactions. The findings of this study suggest that this
10 is also the case for IG athletes and expands this work by demonstrating that military veterans
11 report also experiencing increases in confidence, motivation, mental health, and performance.
12 Taking social interactions first, according to the participants, the IG offered them
13 opportunities to engage with and develop friendships with military veterans from other
14 nations. This is a benefit identified in previous research [7,37], but this study enhances
15 understanding of further benefits of social interactions, with participants expressing that
16 sharing their experiences with others not only offers them support but allows them to receive
17 support as well. Furthermore, the generation of “positive next steps” (or future goals)
18 communicates the sense that the IG has been the impetus for participants to look forward and
19 access new possibilities that had been considered unattainable. In this way, the Games acted
20 as a stimulus for participants to find a personally valuable and meaningful goal both for their
21 further engagement in rehabilitation and recovery, and in physical activity. This finding also
22 aligns with SDT, which specifies that having a personally meaningful rationale for a given
23 behavior is fundamental for the development of autonomous forms of motivation [29].
24 Autonomously motivated activities are associated with greater enjoyment, effort, and well-
25 being outcomes, as well as greater persistence over the longer term. The fact that engagement

1 in the Games provided this rationale for rehabilitation and recovery, which are behaviors
2 outside the specific domain of sport, suggest that the Games, and other sporting events like
3 them (e.g., the Warrior Games in the US), could be useful in engaging WIS military veterans
4 more actively in rehabilitation services. This furthers physical activity research [37] as, when
5 examined through an SDT [26] lens, it suggests that involvement in the IG can lead to greater
6 feelings of autonomy (e.g., feeling empowered), competence (e.g., feeling effective and
7 capable through athletic performance), and relatedness (e.g., developing friendships with
8 fellow military veterans), as well as the associated health, well-being, and performance
9 benefits.

10 In contrast to the perceived positive outcomes, previous research has also noted that
11 post major international competition (i.e. an Olympic Games) athletes may experience a
12 period named the ‘blues’ [38,39]. To elaborate, the ‘blues’ appear to be characterized by
13 individual’s experiencing decreases in motivation, feelings of loss, negative emotions, and
14 identity challenges [38,39]. As well as experiencing a decrease in motivation and negative
15 emotions, some military veterans in this study reported limited coping resources and a lack of
16 future goals post-IG. Despite scholarly understanding of the concept being in its infancy [38],
17 the current findings highlight that the term “post-games blues” has filtered into the military
18 environment and can be experienced by veteran athletes. It is suggested that practitioners
19 working with military veterans consider previous intervention program suggestions [39] that
20 have been developed for addressing reported “post-games blues”.

21 *Strengths and Limitations*

22 The nature of the sample can be considered a strength of the current study, as military
23 veteran athletes are an understudied population within the sport science literature. Another
24 strength of the study was that veterans with varying injury characteristics or those who
25 exhibited comorbidities were included. Nevertheless, the experiences of a larger sample of IG

1 athletes who are WIS, from different countries, and who compete in a variety of sports,
2 would offer a broader range of experiences to examine in future research.

3 A potential limitation of this study is the timing of the interviews. Specifically, they
4 were conducted six weeks post-IG; therefore, whilst this was deemed appropriate for the
5 current study given that it provided participants time to reflect since the end of the Invictus
6 Games, it may have meant that participants could not fully recall their experiences [40]. In
7 future research, scholars are encouraged to consider conducting repeated interviews through a
8 competitive period (i.e. before, during, and after an event) [40]. Furthermore, extending the
9 time in which experiences are recorded (e.g., six months, one year, five years post IG) would
10 enable scholars to ascertain the sustainability of the Games' impact on military veterans.

11 The findings of this study highlight a number of implications for applied practice.
12 First, this study suggests that WIS military veteran athletes' motives for competing at the IG
13 are numerous and varied. An interesting line of future research would be for practitioners to
14 draw from this work and identify athlete motives for participating. Once identified, and
15 guided by the Self-Determination Theory (SDT; [26]), practitioners could use individualized
16 strategies (e.g., provide optimal challenge and encourage group cohesion [41]) to demonstrate
17 to individual athletes that their motives, although unique to them, may also resonate with
18 other WIS veteran athletes in the team. This will not only help to better identify military
19 veteran athletes' motives for participation but also potentially reduce the negative impact
20 differing motives may have on conflicting goals (e.g., between the team and individuals) and
21 subsequently, team cohesion. Second, with team and culture organizational stressors
22 identified by military veterans in the findings, practitioners and coaches are now more aware
23 of the potential for these stressors to be present throughout the IG and the potential impact
24 these stressors can have. Consequently, practitioners could attempt to address these by
25 working on teams' relatedness and communication (i.e., facilitating group co-operation

1 through team-bonding sessions [42,43]), which may in turn help to foster team culture
2 particularly considering some participants' team-related motives for engaging with the
3 Games. Literature from occupational stress research [44] suggests that primary stress
4 management strategies (i.e., taking action to modify or eliminate sources of stress), such as
5 analyzing roles and establishing goals in dedicated team meetings and tasks, may address
6 issues surrounding conflicting goals and multiple roles identified within this study.
7 Furthermore, if the aforementioned team and culture stressors cannot be reduced, then
8 practitioners can consider supporting military veteran athletes through the provision of
9 secondary stress management interventions [44]. In particular, they could support military
10 veterans to develop optimal appraisal and coping strategies [11,12]. Third, it is important for
11 practitioners to be aware of the potential negative effects of competing at an international
12 sports competition, and what impact these may have on military veterans. In line with
13 Howells and Lucassen's [38] suggestions, offering all athletes support and psychoeducation
14 about the post-IG period prior to competition and providing anticipatory and proactive coping
15 strategies (i.e., reflection and reframing [38]) through dedicated training sessions, may help to
16 limit potential negative experiences post-IG [39,45].

17 In conclusion, the present study has furthered knowledge and understanding on WIS
18 military veterans' experiences of taking part in a high-profile competitive sporting event. The
19 study provides insight into the multitude of motives that military veterans have for engaging
20 in sport (including 'reconnection with previous military life' and 'being a role model to
21 others'), whilst also demonstrating the novel organizational demands that veteran athletes
22 encounter (e.g., re-engaging with military culture). The findings also provide preliminary
23 insight regarding the impact of the Games, including both positive and negative outcomes of
24 engagement. Practically, these novel findings can significantly guide practitioners working
25 with WIS military veterans, in developing and implementing interventions and support that is

1 appropriately designed to encourage participation, foster relatedness, reduce or manage
2 potential stressors, and help military veterans to plan effectively for life post-Games.

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Acknowledgements

20 The authors would like to thank Max Simms for his useful advice and support of the
21 data analysis process.

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Declaration of interest statement

24 This research did not receive any specific grant from funding agencies in the public,
25 commercial, or not-for-profit sectors. The authors report no conflict of interest.

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Appendices

Table 1
Content code definitions.

Code	Definition (Use this code...)
Sources of motivation	
Optimal health and well-being	...for descriptions of how sport for health and well-being purposes motivated participants to participate at the IG.
Inspiration from previous competitors	...for descriptions of participants being inspired to participate at the IG because of previous IG competitors and other athletes.
Reconnection with previous military life	...for descriptions of participants being motivated to participate at the IG in order to reconnect with the military.
Recovery from injury/illness	...for descriptions of participants who are using the IG participation as part of their recovery process.
Social support	...for descriptions of participants motivated to participate at the IG due to social support.
Being a role model	...for descriptions of participants who are motivated to participate at the IG due to wanting to be a role model to others.
Team membership	...for descriptions of participants motivated to participate at the IG due to being a part of a team.
Goal achievement	...for descriptions of participants motivated to participate at the IG due to their desire to accomplish goals.
Team & culture stressors	
Teammates personality and attitude	...for descriptions of demands relating to personalities and attitudes of teammates.
Conflicting goals	...for descriptions of demands relating to conflict between individual team member and overall team goals.
Teammates behavior and interactions	...for descriptions of demands relating to teammates behavior and interactions.
Roles and responsibility	...for descriptions of demands relating to team roles & responsibilities.
Cultural norms	...for descriptions of demands relating to military influenced cultural norms.
Team disparity	...for descriptions of demands relating to perceived disparity between teammates in terms of attention and funding.
Impact of the games	...for descriptions of participants weighing up the positive and negative outcomes of competing at the IG.

Table 2
Participants contribution to content codes.

Code	Total	Participant														
	No	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Sources of motivation																
Optimal health and well-being	(13)	X	X	X	X	X	X		X	X	X	X	X	X		X
Inspiration from previous competitors	(13)	X	X	X	X		X	X	X	X	X		X	X	X	X
Reconnection with previous military life	(8)	X		X		X			X	X		X		X	X	
Recovery from injury/illness	(13)	X	X		X	X	X	X	X		X	X	X	X	X	X
Social support	(15)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Being a role model	(8)	X		X	X			X	X	X			X		X	
Team membership	(15)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Goal achievement	(11)		X		X	X	X	X	X		X	X		X	X	X
Team & culture stressors																
Teammates personality and attitude	(6)				X		X	X		X				X	X	
Conflicting goals	(7)		X	X	X		X	X		X					X	
Teammates behavior and interactions	(6)					X	X	X		X				X	X	
Roles and responsibility	(5)	X	X	X			X						X			
Cultural norms	(3)						X			X				X		
Team disparity	(5)	X		X		X				X		X				
Impact of the games	(15)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Note. X = interview extract including code; Numbers in parentheses indicate number of participants who mentioned the code; The count does not indicate the significance or meaningfulness of the code [15].

Theme
<p>Broad Opening Question Why did you get involved with the IG?</p> <p>Subsequent Question So, was that your main motivation to participate in the Games?</p> <p>Theme Assigned <i>Sources of motivation</i></p>
Content Code
<p>Trend / Raw Data “[I was] encouraged to get back involved with my military family and I missed the camaraderie... I liked the team atmosphere that was being created, y’know, with us all wearing team kit and asked to travel around together etc.”</p> <p>Content Code <i>Reconnection with previous military life</i></p> <p>Suggested Definition Use this code for descriptions of participants being motivated to participate in order to reconnect with the military.</p> <p>Finalised Content Code <i>Reconnection</i> code kept and <i>Team membership</i> code created.</p> <p>Finalised Definition <i>Reconnection</i> - Use this code for descriptions of participants being motivated to participate in order to reconnect with the military – Raw data: “[I was] encouraged to get back involved with my military family and I missed the camaraderie.” <i>Team membership</i> - Use this code for descriptions of perceived to compete due to being a part of a team – Raw data: “I liked the team atmosphere that was being created, y’know, with us all wearing team kit and asked to travel around together etc.”</p>

Figure 1. Example of the code generation process.