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Abstract

This study explored the efficacy of a gratitude intervention (i.e., gratitude visit) to promote sport injury-related growth (SIRG). Participants (N=30) were purposefully assigned to either the experimental or non-treatment control group. The intervention required injured athletes to write and share a gratitude letter with an intended recipient. Social validation interviews (N=30) were conducted with the experimental group and recipients (e.g., parents, siblings, partners, physiotherapists). Findings revealed a significant difference between the experimental and control group over time for one growth dimension (i.e., relating to others). Other growth dimensions were nonsignificant. Findings illustrate the importance of aligning interventions with growth dimensions.

Keywords: Adversarial Growth, Perceived Benefits, Posttraumatic Growth, Stress-Related Growth, Stress, Trauma

1 **Using Gratitude to Promote Sport Injury-Related Growth**

2 Sporting injuries often trigger a multitude of stressors for athletes (e.g., incapacitation,
3 pain, isolation) that can result in maladaptive thinking patterns (e.g., catastrophizing) and
4 negative feeling states such as anxiety and depression (Appeneal, Levine, Perna, & Roh, 2009;
5 Breitmeyer & David, 2017; Morris, Tod, & Eubank, 2017). Consequently, injury is frequently
6 considered a negative event with debilitating consequences (Wadey & Evans, 2011).
7 Challenging this dominant perspective, a growing body of literature has identified that sporting
8 injuries can also act as a catalyst for positive change, which has been labelled as *sport injury-*
9 *related growth* (SIRG) and defined as perceived positive changes resulting from sport injury-
10 related experiences (Roy-Davis, Wadey, & Evans, 2017). Examples of indicators of SIRG
11 include personality development (Udry, Gould, Bridges, & Beck, 1997), an increased ability
12 to understand and regulate one’s emotions (Wadey, Evans, Evans, & Michell, 2011), and
13 strengthened social relationships (Salim, Wadey, & Diss, 2016). These indicators have been
14 corroborated by coaches and parents (Podlog, Kleinert, Dimmock, Miller, & Shipherd, 2012;
15 Wadey, Clark, Podlog, & McCullough, 2013) and identified to enhance injured athletes’
16 subjective well-being (Wadey, Podlog, Galli, & Mellalieu, 2015). Yet, despite these novel
17 findings, it is important to acknowledge that several studies have shown SIRG is not inevitable
18 (Brewer, Cornelius, Van Raalte, & Tennen, 2017; Salim, Wadey, & Diss, 2016; Wadey, Roy-
19 Davis, Evans, Howells, Salim, & Diss, 2019). Consequently, it is now time for future research
20 to examine *how* to promote SIRG in injured athletes.

21 To date, only one intervention study has been conducted that aimed to promote SIRG.
22 Building upon a systematic program of research that identified emotional disclosure to be a
23 mechanism to SIRG (Salim, Wadey, & Diss, 2015, 2016), Salim and Wadey (2018) examined
24 the efficacy of a 4-week emotional disclosure intervention in a population of athletes who are
25 less likely to disclose emotions (i.e., low in dispositional resilience). Injured athletes were

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1 assigned to one of three groups (i.e., written disclosure, verbal disclosure, or control).
2 Consistent with standardized instructions from Pennebaker and Beall (1986), participants in
3 the experimental groups were either asked to write *or* talk about their deepest thoughts and
4 feelings regarding their recent sporting injury. Participants completed x4 20minute sessions. In
5 contrast to the written disclosure group for whom was no significant effect, findings supported
6 the efficacy of verbal disclosure in promoting SIRG. Using a social validation protocol (i.e.,
7 semi-structured interviews) to act as a means of evaluating whether the changes following the
8 intervention were meaningful (Kazdin, 1997), Salim and Wadey reported that the participants
9 explained how the intervention enabled them to re-story their injury experience into a
10 structured format they could ultimately learn from. Indicators of SIRG included a heightened
11 awareness of the self in the context of the wider environment (e.g., how their actions have
12 consequences, how they need to be more compassionate to their bodies). Whilst these
13 preliminary findings are encouraging, it is important to recognize that this intervention
14 operated at an intrapersonal level (i.e., verbalizing thoughts and feelings to *oneself*).
15 Consequently, this intervention is more likely to enhance certain indicators of SIRG operating
16 at this level (e.g., *self*-awareness) rather than others (e.g., enhanced relationships).

17 For those researchers interested in targeting other levels of analysis (e.g., interpersonal),
18 alternative interventions will likely need to be considered (cf. Wadey, Day, Cavallerio, &
19 Martinelli, 2018). Given Howells, Sarkar and Fletcher's (2017) recent systematic review
20 identified growth following adversity (e.g., injury) in athletes could be collapsed across three
21 levels: intrapersonal indicators (e.g., awareness of the self), interpersonal indicators (e.g.,
22 enhanced relationships), and physical indicators (e.g., physically stronger), it is important that
23 future research now builds upon Salim and Wadey's (2018) study to identify alternative and
24 diverse ways of nurturing growth. Considering there is growing recognition in the psychology
25 of sport injury literature that social support plays a critical role in the way athletes cope with

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1 and rehabilitate from sport injury (e.g., Bianco, 2001, Tracey, 2003; Rees, Mitchell, Evans, &
2 Hardy, 2010), interventions that operate at an interpersonal level could be a particularly fruitful
3 avenue of research. Empirical evidence suggests that social support can enhance the well-being
4 of injured athletes by reducing distress (e.g., Bianco, Malo, & Orlick, 1999), preventing
5 perceptions of isolation (Podlog & Eklund, 2004), and by increasing motivation (Bianco,
6 2001), rehabilitation adherence (Evans, Hardy, & Fleming, 2000), and self-confidence
7 (Magyar & Duda, 2000). Yet, this body of empirical research is largely one-directional; it
8 explores how social support can benefit the *injured athlete*. Thus, researchers have ignored
9 how the support exchanges from, friends, family members, teammates, coaches, and medical
10 staff might result in interpersonal growth-related outcomes (e.g., strengthen relationships).

11 From reviewing other fields of research (cf. Davis et al., 2016; Dickens, 2017; Wood,
12 Froh, & Geraghty, 2010) and considering Salim and Wadey's (1998) study highlights the
13 importance of verbal disclosure in promoting growth, one way to promote SIRG at an
14 interpersonal level could be using gratitude interventions. Informed by the positive psychology
15 movement (Seligman & Csikszentmihalyi, 2000), gratitude interventions were touted as one of
16 the 'first fruits' of positive psychology (Emmons & McCullough, 2003). Although defined by
17 some as a trait (viz. Wood, Maltby, Stewart, & Joseph, 2008), others define gratitude as a
18 positively valenced emotion directed towards appreciating the helpful actions of other people
19 (McCullough, Kilpatrick, Emmons, & Larson, 2001). Cross-sectional and longitudinal
20 research suggests gratitude is related to both positive relationships and the characteristics
21 needed for their development and maintenance (Wood et al., 2010). To illustrate, gratitude has
22 been shown to strengthen relationships and promote relationship formation and maintenance
23 (Algoe, Haidt, & Gable, 2008), as well as relationship satisfaction (Algoe, Gable, & Maisel,
24 2010). Experimental evidence also suggests gratitude can promote conflict resolution and
25 increase reciprocally helpful behaviour (Baron, 1984; Tsang, 2006). These associations can be

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1 explained by drawing on the *theory of sport injury-related growth* (Roy-Davis et al., 2017) that
2 suggests injured athletes whom recognise and *feel* grateful are more likely to *express* their
3 gratitude through engaging in pro-social behaviors (e.g., reciprocating acts of kindness) that
4 can lead to SIRG indicators such as strengthened relationships. However, a shortcoming of this
5 theory is that it does not stipulate what activities promote gratitude.

6 Gratitude interventions can be classified into two types. The first operates at an
7 intrapersonal level and involves listing things for which one is grateful to cultivate appreciative
8 feelings (e.g., gratitude journaling). The second operates at an interpersonal level and involves
9 expressing one's gratitude to the person to whom one is grateful (e.g., writing and expressing
10 gratitude letters) in the form of a gratitude visit. For example, Seligman, Steen, Park, and
11 Peterson (2005) conducted a study in which adults wrote a letter to a benefactor thanking them
12 and had to read it to the benefactor in person within one-week. Compared to a control group
13 who had to write about early childhood memories, those who went on the gratitude visit
14 reported more happiness and less depression post-test and 1-month follow-up. A shortcoming
15 of this study however is that it only explored intrapersonal outcomes and it did not account for
16 the participants' and recipients' acceptability of the intervention procedures and the importance
17 of the elicited outcomes (Kazdin, 1977). Since this preliminary study, a number of studies have
18 examined the efficacy of gratitude interventions and extended Seligman et al.'s methodology.
19 For example, Froh, Kashdan, Ozimkowski, and Miller (2009) reported that there was a need to
20 extend the literature to identify potential moderators of the treatment response. That is, are
21 certain people more inclined to derive benefits from gratitude interventions? It was
22 hypothesized that people high in positive affect may reach an 'emotional ceiling' and, thus, are
23 less susceptible to experiencing gains that follow a gratitude intervention. Comparatively,
24 people low in positive affect may need more positive events to 'catch up' to the positive

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1 experiences of their peers. Put another way, gratitude might be a less frequent, more novel
2 experience for those low in positive affect.

3 In a sample of children and adolescents from a parochial school, Froh et al. (2009)
4 examined whether positive affect moderated a gratitude intervention and emotional well-being.
5 Students (N=89) were randomly assigned one of two conditions: experimental (i.e., gratitude
6 visit) or control group (i.e., writing about daily events). In the experimental condition, similar
7 to the procedure outlined by Seligman et al. (2005), students were asked to think of the people–
8 parents, friends, coaches, teammates, and so on—who have been especially kind to them but
9 whom they have never properly thanked. The students then chose one person who they could
10 meet individually for a face-to-face meeting in the next week and then wrote a gratitude letter
11 to this individual and delivered it in person. Findings indicated children and adolescents low
12 in positive affect in the gratitude condition, compared with youth in the control condition,
13 reported greater gratitude and positive affect at post-treatment and greater positive affect at the
14 2-month follow-up. Given these findings, specific individuals—such as those low in positive
15 affect—may benefit more from gratitude interventions. Furthermore, these findings echo a
16 recent meta-analysis of gratitude interventions (N=26 studies). Davis et al. (2016) concluded
17 the benefits of gratitude interventions would not be fully realised unless people are given
18 opportunities to develop the habit of expressing gratitude outwardly to others (cf. Lambert et
19 al., 2010; O’Connell, O’Shea, & Gallagher, 2017). Considering gratitude has a strong
20 prosocial, interpersonal focus (Emmons & Mishra, 2011), it makes sense for gratitude to be
21 practiced in vivo with other people (Wong, Blackwell, Mitts, Gabana, & Li, 2017).

22 This first aim of this study is to examine the efficacy of a gratitude visit to promote
23 SIRG in athletes who have experienced a serious injury. Based on previous gratitude research
24 (Davis et al., 2016; Wood et al., 2010) and the theory of sport injury-related growth (Roy-Davis
25 et al., 2016), it was hypothesized that there will be a significant difference between the

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1 experimental and control group in that the experimental group will report more SIRG. The
2 second aim is to understand the participants' and recipients' postintervention appraisal of the
3 acceptability of the intervention procedures (e.g., What did the participants and recipients think
4 of the intervention? Were there any negative side effects?) and the importance of any elicited
5 outcomes (e.g., What were the outcomes? Did the participants value them?). The rationale for
6 the study is twofold. First, SIRG is a timely concept in the current climate. Not only has SIRG
7 been associated with improved sporting performance (Salim & Wadey, 2018), but also
8 increased well-being (Wadey et al., 2016). Given the increased research attention on athletes'
9 well-being (Henriksen et al., 2018; Rice et al., 2016), we believe this study to be timely.
10 Second, the psychology of sport injury literature is dominated by interventions that operate at
11 an intrapersonal level (e.g., goal-setting, imagery, self-talk; Cupal & Brewer, 2001; Evans &
12 Hardy, 2002; Hare, Evans, & Callow, 2008). Therefore, it is important that we now seek to
13 build an evidence-base of interventions that operate at an interpersonal level. Wiese-Bjornstal
14 (2009) reported, "Injury affects more than the injured; it often also holds health-related
15 consequences for the network of family, friends, teammates, coaching staff and even the larger
16 communities" (p. 64-65).

Method

18 Sample and Participant Selection

19 Criterion-based and maximum-variation sampling were used to identify participants
20 (Sparkes & Smith, 2014). The criteria were twofold. First, participants had to have been injured
21 through sport for a minimum of 4-weeks. This study was only interested in *sport*-related
22 injuries, and previous researchers have used 4-weeks as the length of time to define a *serious*
23 sport injury (Bianco, Malo, & Orlick, 1999). Second, participants had to be in the return to
24 sport phase of recovery (i.e., within 6-months of returning to sport following rehabilitation).
25 Rather than conducting the gratitude intervention at injury onset or rehabilitation, this criterion

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1 was chosen because it provided the participants with an increased ‘window’ to recognize that
2 they had received a benefit and the external source of that benefit (Emmons & McCullough,
3 2003). Participants who met these criteria were then matched across the experimental and
4 control groups using maximum variation sampling. The aim was to match the groups as much
5 as possible across several predetermined characteristics (i.e., sex, sport type, competitive level,
6 type of injury, and severity of injury), which have been shown to effect psychological responses
7 to injury (Brewer & Redmond, 2017). When a match was obtained for a participant already
8 assigned to a group, the new participant was assigned to the other group. This procedure
9 ensured any changes identified were the result of the intervention rather than demographic
10 differences between groups.

11 The final sample consisted of 30 former injured athletes who were college students. All
12 agreed to participate and provided written informed consent. Fifteen participated in the
13 experimental group and 15 in the control group (M age=21.8 years; *SD*=2.5). Participants
14 represented several individual and team sports (i.e., athletics, cricket, gymnastics, hockey,
15 judo, netball, rugby league, rugby union, soccer, volleyball), ranging from recreational to
16 international levels of competition. Injuries sustained were pulls, tears, breaks, and
17 dislocations. All participants had recovered from their injuries and returned to full training
18 and/or competition at the time of this study. For an overview of participate demographics, see
19 Tables 1 and 2. The aim of this study and the intervention itself also required the participants’
20 recipient of the gratitude visit participated. Recipients were parents (i.e., mother, father),
21 grandparents (i.e., grandma, grandpa), siblings (i.e., sister), partners (i.e., girlfriend, boyfriend),
22 and physiotherapists. All recipients agreed to participate and provided informed consent.

23 **Procedure**

24 Ethical approval was sought and granted from the authors’ University’s Research and
25 Ethics Committee. Participants were recruited by contacting gate-keepers to sporting clubs

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1 (e.g., coaches, physiotherapists, team captains). This dialogue entailed the purpose of the study
2 and whether they would grant permission to recruit potential participants from their club. All
3 clubs that were contacted agreed that the first author could approach their athletes for potential
4 participation. For those athletes who met the selection criteria, they were invited to participate;
5 all agreed, provided written informed consent, and were assigned to either the experimental or
6 control group. They were then required to complete a demographic data sheet and two
7 quantitative measures: Post Traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996)
8 and the Gratitude Questionnaire-Six Item Form (GQ-6; McCullough, Emmons, & Tsang,
9 2002) pre-intervention (i.e., Time 1).

10 Heeding recommendations in the literature (Dickens, 2017; Wood et al., 2010), it was
11 decided that the control group would be a neutral non-treatment (measurement only) control
12 group. That is, participants were only required to complete the questionnaires at the same time
13 as the experimental group: pre- and post-intervention (immediately after the intervention), and
14 three-month delayed follow-up. Our rationale for using a non-treatment control group rather
15 than an alternative activity condition such as listing hassles experienced that day (i.e., negative
16 intervention control group) or performing random acts of kindness (i.e., positive intervention
17 control group) is that they have been identified to underestimate or overestimate the efficacy
18 of gratitude interventions. Dickens (2017) reported:

19 Studies should consider using neutral comparison groups as the simplest way to test for
20 efficacy of interventions, as negative comparisons may exaggerate effects and positive
21 comparisons may hide effects. By comparing to neutral, one is able to ask the question:
22 “How does gratitude improve personal outcomes”? without being distracted by the
23 detrimental effects of negative interventions or the comparable effective of other
24 positive interventions (p. 204-205).

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1 Participants in the experimental condition were provided with instructions from
2 Seligman et al. (2005) on the gratitude visit: “*Reflecting back on your injury experience, you*
3 *have one-week to write and then deliver (read out loud) a letter of gratitude in person to*
4 *someone who has been especially kind to you, but who has never been properly thanked*”. This
5 process was broken down for the participants into three progressive steps: (a) think of someone
6 who did something important for you during your injury experience, yet who you feel you have
7 not probably thanked; (b) reflect on the benefits you received from this person, and write a
8 letter expressing your gratitude for all they did for you; and (c) arrange to deliver the letter
9 personally, read it out loud to them and spend some time with the person talking about what
10 you wrote. The participants then completed the PTGI post-intervention (i.e., Time 2) and at a
11 3-month delayed follow-up (i.e., Time 3). The GQ-6 was only completed at Time 1.

12 Following the gratitude task and consistent with the procedures of Froh et al. (2009), a
13 ‘completion of the gratitude intervention form’ was emailed to all benefactors of the
14 participants to assess treatment integrity. The form asked benefactors to check ‘yes’ or ‘no’ if
15 the participant had read the gratitude letter in person to them. We received emails back from
16 all benefactors, confirming treatment integrity. Participants were then invited to take part in a
17 social validation interview. Each interview was conducted face-to-face, lasting between 45 and
18 103 minutes (M duration=56.5 min, SD =16.5). Furthermore, each of the recipients of the letters
19 also took part in a social validation interview, lasting between 35-75 minutes (M
20 duration=49.3min, SD =13.7). Because the control group was non-treatment, participants were
21 not required to participate in a social validation interview.

22 Measures

23 **Growth.** As there is no measure of SIRG, the PTGI (Tedeschi & Calhoun, 1996) was
24 used to assess growth at Time 1 (i.e., pre-intervention), Time 2 (i.e., post-intervention), and
25 Time 3 (3-month delayed follow-up). The PTGI is a 21-item questionnaire designed to assess

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1 individuals' perceptions of whether they experience positive outcomes following a stressful
2 event. Our rationale for using this measure over other potential measures (e.g., Park & Lechner,
3 2006) is that rather than being unidimensional the PTGI has five subscales: relating to others
4 (7 items; e.g., I have a greater sense of closeness with others), new possibilities (5 items; e.g.,
5 I developed new interests), personal strength (4 items; e.g., I discovered that I am stronger than
6 I thought I was), spiritual change (2 items; e.g., I have a better understanding of spiritual
7 matters) and appreciation of life (3 items; e.g., I changed my priorities about what is important
8 in life). Therefore, this measure will enable us to ascertain if the intervention impacts certain
9 subscales and not others. To ascertain athletes' perceptions of growth following injury, the
10 original stem was modified from "*Indicate for each of the statements below the degree to which
11 this change occurred in your life as a result of the crisis/disaster*" to "*Indicate for each of the
12 statements below the degree to which this change occurred in your life as a result of your injury
13 experience*". Items are scored on a scale from 0 (*I did not experience this change as a result of
14 my injury experience*) to 5 (*I experienced this change to a very great degree as a result of my
15 injury experience*). Higher scores correspond to greater perceived growth. Tedeschi and
16 Calhoun provided evidence to support the scale's internal consistency and test-retest reliability.
17 Subsequent studies have provided further support for the factor structure of the PTGI (Linley,
18 Andrews, & Joseph, 2007; Taku, Cann, Calhoun, & Tedeschi, 2008). Cronbach's alpha
19 coefficients ranging from .84 to .98 were obtained for the PTGI subscales in this study.

20 **Gratitude.** The GQ-6 (McCullough et al., 2002) was used to assess dispositional
21 gratitude at Time 1 (i.e., pre-intervention) to examine if there was a difference in dispositional
22 gratitude between the experimental and control group that might account for any variance in
23 the resultant findings. The GQ-6 is a 6-item questionnaire designed to assess individuals'
24 proneness to experience gratitude in daily life. Items include four positively worded items (e.g.
25 "*I feel thankful for what I have received in life*") and two negatively worded items (e.g., "*Long*

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1 amounts of time can go by before I feel grateful to something or someone”). Items ask about
2 how frequently and intensely participants experience gratitude and are scored on a scale from
3 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores correspond to greater levels of
4 dispositional gratitude. McCullough et al. (2002) provided evidence to support the internal
5 consistency and test-retest reliability. Subsequent studies have provided further support for the
6 validity and reliability of the GQ-6 (e.g., Wood, Maltby, Gillett, Linley, & Joseph, 2008). A
7 Cronbach’s alpha coefficient of .74 was found for this study.

8 **Social Validation**

9 Rather than using questionnaires or a structured interview guide (Kazdin, 1977), a semi-
10 structured interview guide was developed for social validation purposes (Page & Thelwell,
11 2013). This qualitative method of data collection was chosen to understand the former injured
12 athletes’ and recipients’ perceptions of the process of the intervention and the importance of
13 potential outcomes. The semi-structured nature also provided the flexibility to enable the
14 interviewee to talk freely around pre-determined questions, whilst also allowing the interviewer
15 to explore any areas that arose spontaneously (Kvale & Brinkmann, 2009). The guide consisted
16 of five sections. The first two sections explained the objective of the study and sought to gain
17 rapport with the participants. The third and fourth sections focused on the acceptability of the
18 intervention protocol (e.g., What did you think of the intervention?) and the potential impact
19 of the intervention respectively (e.g., What effect, if any, did the intervention have on you?
20 What do these outcomes mean to you?). The concluding section invited the participants to add
21 to anything previously discussed. Neutral non-directional probes (e.g., Can you give me an
22 example? What do you mean?) were used throughout (Kvale & Brinkmann 2009).

23 **Data Analysis**

24 The quantitative data were analyzed using SPSS 21.0 and involved four steps. First, the
25 data were screened to check for accuracy and statistical assumptions. Second, means and

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1 standard deviations were calculated for the study's variables (Table 3). Third, an ANOVA was
2 conducted to compare dispositional gratitude between groups at Time 1 (i.e., pre-intervention).
3 Fourth, a mixed-design (Group x Time) analysis of variance was conducted to assess growth
4 subscales between the experimental and control group over time: Time 1 (pre-intervention),
5 Time 2 (post-intervention), and Time 3 (3-month delayed follow-up). Follow-up Bonferroni-
6 corrected pairwise comparisons tests were used to isolate mean differences.

7 The interview data were analyzed using thematic analysis (Braun, Clarke, & Weate,
8 2016). First, the first author familiarized herself with the data, which involved transcribing the
9 data and repeat reading. Next, initial codes were generated by identifying interesting features
10 of the data in a systematic fashion across the data. Once the data had been coded, data relevant
11 to each code were collated. Next, how these different codes combined to form an overarching
12 theme and involved thinking about the relationship between codes and themes. The themes
13 were then reviewed in relation to the coded extracts, the entire data set, and the overall story
14 regarding the participants' experiences both during the process of the intervention and the
15 outcome. Finally, producing the report involved ensuring that the write-up provided a concise,
16 coherent, logical, non-repetitive, and interesting account of the data.

17 Two strategies were used to enhance the methodological rigor of the qualitative data
18 analysis process. First, the co-author acted as a 'critical friend' throughout (Faulkner &
19 Sparkes, 1999). To illustrate, the first author presented her interpretations of the data on a
20 regular basis to the coauthor, who provided a theoretical sounding board to encourage
21 reflection upon, and exploration of, alternative explanations and interpretations as they were
22 identified in relation to the data. As part of this process of critical dialogue, the first author was
23 required to make a defensible case that the available data supported her interpretations.
24 Second, member reflections on our analytical interpretations were also sought to enhance the
25 study's methodological rigor (Smith & McGannon, 2017). This involved sharing and

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1 dialoguing with the participants about the study's findings and providing opportunities for
2 additional data and insight. To elaborate, this process involved discussing with our participants
3 their experiences of the processes and outcomes of the intervention, which helped to further
4 co-construct and crystallize the identified themes.

5 **Results**

6 **Preliminary Analysis**

7 Participants completed data entry for all study variables. Before proceeding to the main
8 analysis, two preliminary analyses were conducted. First, a potential difference between the
9 experimental and control group for dispositional gratitude was examined at Time 1. An
10 independent T-Test revealed no significant difference ($t[28, 27] = .25, p > .05$). Second,
11 differences between the experimental and control group for the growth subscales were
12 examined at Time 1. A one way ANOVA revealed no significant differences between groups
13 for relating to others ($t[1, 29] = .116, p > .05$), new possibilities ($t[1, 29] = .04, p > .05$), personal
14 strength ($t[1, 29] = .14, p > .05$), spiritual change ($t[28, 27] = .25, p > .05$) and appreciation of life
15 ($t[1, 29] = .28, p > .05$). Because of these findings, dispositional gratitude and growth were not
16 controlled for in the main analyses.

17 **Main Analysis**

18 Findings revealed a significant Group x Time interaction for the growth subscale
19 relating to others (Wilks's $\lambda = .78, F [2, 27] = 25.68, p < .001, \eta p^2 = .65$). Post hoc tests indicated
20 and mean values illustrated the experimental group reported greater relating to others between
21 Time 1 (pre-intervention) and Time 2 (post-intervention) and Time 1 and Time 3 (3-month
22 follow-up) than the control group. No significant difference was found between Time 2 and
23 Time 3, thus, indicating that relating to others remained stable between post-intervention and
24 the 3-month follow-up. No significant effects were found for the remaining growth subscales:
25 new possibilities (Wilks's $\lambda = .90, F [1, 27] = .90, p = .24, \eta p^2 = .10$), spiritual change (Wilks's

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1 $\lambda=.93$, (F [2, 27]=.92, $p=.41$, $\eta p^2=.19$), appreciation of life (Wilks's $\lambda=.91$, (F [1, 28]=.26,
2 $p=.62$, $\eta p^2=.078$), or personal strength (Wilks's $\lambda=.77$, (F [2, 27]=9.321, $p=.33$, $\eta p^2=.08$).

3 **Social Validation: Injured Athletes**

4 **Processes.** Five themes were identified that reflected the athletes' experiences of the
5 gratitude visit: *Feeling Lucky*, *Feeling Grateful*, *Guilt*, *I'm Embarrassed to Say This ...*, and
6 *Feeling Good*. The first theme, *Feeling Lucky*, reflected the participants' raised awareness of
7 the people in their social support network and the challenge of deciding who to write the letter
8 to. One participant expressed:

9 I know there were plenty of people who *said* they would be willing to help, but once I
10 got thinking about the amount of people who *did* help me, I started to realize just how
11 lucky I am. The hardest part was choosing who to address the letter to. It just made me
12 feel so, lucky I guess, because I know a lot of people are not as fortunate as me to have
13 so many good people in their lives.

14 The second theme, *Feeling Grateful*, encompassed the athletes becoming aware from
15 writing the letter what the recipients had done and how they had gone out of their way to help
16 them, expecting nothing in return. One participant reflected:

17 I just started listing what my dad had done for me. The list got longer and longer! To
18 him it might have seemed like small-things, like helping me up the stairs or helping me
19 get some shopping, but, at the time, those were *really* big-things to me. I just never
20 realized at the time to what degree he had helped me. I felt so grateful to him.

21 Although *feeling grateful* was reported as a pleasurable experience for the participants,
22 they also expressed that raising their awareness of the recipient's efforts had made them feel
23 guilty. The third theme, *Guilt*, reflected an unpleasant emotional experience for the
24 participants, whereby they felt they had compromised their own moral standards. They came
25 to the realization from writing the letter that they had not properly thanked or *expressed*

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1 gratitude to the recipients for the help that they had provided. During their rehabilitation, they
2 reported being more concerned with their recovery and returning to sport. One participant
3 recalled:

4 It was a nice feeling writing a letter to my girlfriend for helping me. Then I suddenly
5 felt guilty for how ungrateful I had been to her whilst I was injured. I thanked her at the
6 time because I should, but there is a real difference between saying thank you and *really*
7 appreciating the help someone has given you. During my injury, I just wanted to get
8 better. I wasn't grateful to her at the time because all I was focused on was getting back
9 to competing again. I feel quite ashamed to admit that.

10 The fourth theme, *I'm Embarrassed to say this ...*, reflected how the participants' felt
11 when reading out the letter out loud to the recipient. They reported feeling exposed, silly,
12 awkward, and self-conscious, resulting in nervous-laughter and physical symptoms (i.e.,
13 becoming 'red-faced', heart racing, and palms sweating). One participant reflected:

14 I felt silly, I mean really, silly; I just couldn't stop laughing at first, but it wasn't that
15 funny. I think I was just really embarrassed, and my mum started smiling and I couldn't
16 tell whether she found it funny or was happy. I don't know, I just felt a little silly reading
17 it out loud at first. I mean, this isn't something I've ever done before. But as I kept
18 reading I felt less embarrassed because it turned into me just chatting and saying how
19 much she had helped me ... I would have much preferred that my mum just read the
20 letter to herself, but I think reading it to her gave it more meaning, more emotion.

21 The final theme, *Feeling Good*, reflected how the participants' felt after reading the
22 letter and during subsequent exchanges between them and the recipient that immediately
23 followed (i.e., smiling with one another, laughing out loud together, hugging each another, and
24 recounting memories from the injury). The athletes' expressed feeling a 'wave' of happiness,
25 grinning from 'ear-to-ear', and how they had enjoyed the overall experience. One participant

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1 expressed: “It’s like smiling became contagious; they started smiling, then I started smiling. It
2 made me feel so happy.’ Another participant reflected:

3 When I started seeing my grandma smiling and a glint in her eye, I could see how happy
4 she was, and I felt happy too. I never thought that a letter of thanks would make her so
5 happy. When I finished reading it to her, she gave me the biggest cuddle ... Normally
6 with letters you never get to see the reaction of the person receiving it. But from reading
7 it out, I could. And it meant a lot to me. It was such a nice thing to do.

8 **Outcomes.** Five themes were identified that reflected the participants’ reported
9 outcomes of the gratitude visit: *Feeling Closer*, *Doing More Together*, *Returning the Favor*,
10 *Feeling Better about Me*, and *Seeing Others’ True Colors*. The first theme, *Feeling Closer*,
11 reflected a greater sense of warmth and a renewed dynamic between them and the recipient.
12 One participant described: “It’s hard to explain, but I just feel closer to him [boyfriend] because
13 of it. There’s an energy between us now that we haven’t had in a while.” Another reported:

14 I think it’s easy to take others that you’re close to for granted sometimes. You’re just
15 both going through the motions; the days keep rolling by. You don’t *really* talk when
16 you get home. You can be two independent people. But something like this task, helped
17 to bring me and my mum closer together. It made me stop and appreciate her, and I feel
18 much closer to her now because of it.

19 The second theme, *Doing More Together*, encompassed the participants spending more
20 time with the recipient by talking with them more in the evenings and making plans together
21 at the weekends. One participant expressed: “We talk more now. Rather than, ‘Did you have a
22 good day?’ Yes or no. It’s more ‘Tell me about your day’. And I listen. I mean, this weekend
23 we are going to the beach together, which we haven’t done in ages.” However, not only did
24 they spend more time together, the athletes also tried to identify ways in which they could be
25 helpful for the recipient and acting upon these opportunities (i.e., *Returning the Favor*). This

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1 theme included going to the shops for them, cooking them some food, giving them lifts in the
2 car, and running errands (e.g., posting letters). One participant stated: “Realizing how much
3 they did for me. I felt I wanted to do something in return. So, one evening, I made him a lasagna
4 when he got home, which made him smile and gave us some time to talk”.

5 The fourth theme, *Feeling Better About Me*, reflected a positive affective state and an
6 increased sense of self-satisfaction experienced by the athletes. One participant reported, “I
7 feel better about me from doing this. I like myself more. It’s a nice thing to do. And it’s
8 something I should do more. We should all do more.” Another expressed:

9 Being a full-time athlete, you become quite selfish. It requires a lot of training and
10 sacrifices. Not going out at weekends, early nights. And it’s all about me really. How
11 can I make myself the best athlete? After a while, you do become increasingly selfish
12 and inward looking. What I liked about this task is that it allowed me to do something
13 nice for someone else. It wasn’t about me, but I did feel good about myself afterwards.

14 The final theme, *Seeing Others’ True Colors*, encompassed the athletes learning who
15 their *real* friends were and realizing who they could (not) turn to during difficult times. One
16 participant expressed, “People always say you know who your real friends are when you are at
17 your worst. And I think I was at my worst when I was injured; I was a nightmare to be around.
18 But it was good to recall who struck by me and who didn’t.” Another reported:

19 There is that saying isn’t there, “It’s during the hard times that you see people’s true
20 colors.” It was not just about who showed up when the chips were down, but also who
21 didn’t. After I had written my letter, I sat and thought about people who I would have
22 hoped were there for me during my injury and were not. Some of those ‘friends’ I did
23 not hear from during the whole time I was injured. I guess this task just opened my eyes
24 to things like that.

25 **Social Validation: Recipient**

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1 **Processes.** Four themes were identified that reflected the recipients' experiences of the
2 process of receiving the letters from the participant: *I Wasn't Expecting That*, *Feeling*
3 *Embarrassed*, *Overcome with Emotion*, and *Feeling Valued*. The first theme, *I Wasn't*
4 *Expecting That*, encompassed the participants not knowing what was happening, not knowing
5 the athletes were going to read the letter out loud, and not knowing the content of the letter.
6 One participant reported, "To be honest, I didn't really know what was going on. He said did I
7 have 10 minutes, because he wanted to read me something. As I sat there, and he started
8 reading, well, I wasn't expecting that." Once the athlete had started to read the letter, the
9 recipients reported *Feeling Embarrassed*. One expressed, "I started laughing initially and
10 feeling uncomfortable; I guess, I felt embarrassed. I do not take compliments very well. To
11 hear him read the letter out loud to me, I couldn't help but feel embarrassed." However, the
12 participants reported that this embarrassment soon passed, and they then felt *Overcome with*
13 *Emotion*. One expressed, "I just burst into tears! What a lovely thing to do. I felt so
14 overwhelmed by it all." Another recalled:

15 As she started to read out the letter, everything stopped. I stopped thinking about
16 everything else. It was such a special experience. I could feel myself welling up. I
17 wanted to get up and hug her, but I sat on my hands to stop myself. What a golden
18 moment. I was overcome with emotion. I could feel a tear running down my cheek as
19 she spoke. I was grinning from 'ear-to-ear'! It felt good to hear those things. It was such
20 a beautiful moment, one that I will cherish.

21 The fourth theme, *Feeling Valued*, encompassed being acknowledged and not taken for
22 granted, being reminded of the things you do without being asked or with any expectation or
23 ulterior motive, and feeling appreciated. A physiotherapist reported, "I was just doing my job.
24 But it was nice to feel valued. Not many people say thank you." Another reported:

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1 Being a parent, it's largely a one-way relationship. You do so much for your children.
2 You cook for them, clean for them, drive them here and there and so on. Sometimes
3 they say thanks, but often they forget. And a lot of the stuff you do for them, you do
4 without thinking. Hearing my son say how much it meant to him to have me help him
5 is something he has never done before. I felt valued, and I felt, important.

6 **Outcomes.** Four themes were identified that reflected the recipients' perceived
7 outcomes following the gratitude intervention: *A Memory*, *Feeling Closer*, *Two-Way*
8 *Relationship*, and *Pay-It-Forward*. The first theme, *A Memory*, reflected how the intervention
9 had created a memory for them, which could be recalled from re-reading the letter. One
10 participant expressed: "What this whole process has done is created a memory, something I'll
11 never forget." Another recipient reflected:

12 I think life's all about creating memories. Most days are forgotten. But I will remember
13 this one, I will cherish it. What's also nice is that I have the letter itself. I've put it in a
14 box where I keep all the things I hold dear. And I can always go back to it remind
15 myself of this day.

16 The second theme, *Feeling Closer*, reflected a greater sense of warmth and a renewed dynamic
17 between them and the athlete. One parent expressed: "It's really put the spark back in our
18 relationship. I feel we have come out of a lull. It's reminded me what a great friendship we
19 have and how close we really are." As well as feeling closer, they also reported that the
20 relationship subsequently became a *Two-way Relationship* rather than one-way. It was reported
21 that the athletes started to do more for them around the house, took more of an interest in them,
22 and wanted to spend more time together. One participant expressed:

23 I've really noticed a change in his day-to-day behavior. He's really trying to help
24 around the house more and wants to spend more time with us at the weekend. I guess,

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1 change, and appreciation of life). These findings might be explained because these dimensions
2 operate at an intrapersonal level (cf. Wadey et al., 2018). Whilst the gratitude-visit enhanced
3 relational outcomes, alternative interventions are likely to be needed to enhance other growth
4 dimensions. This finding has important implications for future researchers and applied
5 practitioners, suggesting there needs to be an alignment between the type of intervention and a
6 targeted growth dimension. Yet, researchers and applied practitioners must remain critical of
7 these implications, considering the limitations of this study (i.e., small sample size, no
8 manipulation check, and limited moderating variables accounted for pre-intervention).

9 Extending previous gratitude intervention research, the second aim of this study was to
10 understand the participants' and recipients' postintervention appraisal of the acceptability of
11 the intervention procedures (e.g., What did the participants and recipients think of the
12 intervention? Were there any negative side effects?) and the importance of any elicited
13 outcomes (e.g., What were the outcomes? Did the participants value them?). In terms of
14 perceived outcomes, the qualitative findings expanded our understanding of the quantitative
15 findings. Both the injured athletes and their recipients reported feeling closer to one another
16 and spending more time together, which reflects growth at an affective and behavioral level; a
17 finding that is supported by Hobfall et al. (2007) who believe that growth following adversity
18 is most beneficial when translated into action. Furthermore, the behaviors not only included
19 the dyad doing more together, it also encompassed the injured athlete returning the favour to
20 the recipient and the recipient 'paying-it-forward' to others within their social support network.
21 This supports previous researchers who have shown gratitude interventions to lead to repaying
22 of kind gestures, altruism, and prosocial behaviour (Algoe, Haidt, & Gable, 2008; Froh, Sefick,
23 & Emmons, 2008; Michie, 2009). Finally, another perceived outcome beyond growth that was
24 identified was increased subjective well-being (i.e., *Feeling Better About Me*). This finding has
25 important theoretical and applied implications such that interventions operating at an

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1 interpersonal level can also have intrapersonal outcomes, which supports the multilevel model
2 of sport injury (Wadey et al., 2018) that suggests that levels of influence (i.e., intrapersonal,
3 interpersonal, institutional, cultural, and policy) are interdependent and can affect one another.
4 Thus, an intervention directed at one level can have knock-on-effects at other levels.

5 Regarding the intervention procedures (i.e., processes), findings suggest that the
6 process of delivering the gratitude-visit led to positive affect for the injured athlete and their
7 recipient (i.e., *Feeling Good, Feeling Grateful, Overcome with Emotion, Feeling Valued*),
8 which supports previous studies (for reviews, see Davis et al., 2016; Dickens, 2017). For
9 example, it was reported by the injured athletes that the intervention led to them to *feel* grateful
10 towards their recipients. This finding supports the theory of sport injury-related growth (Roy-
11 Davis et al., 2017), indicating that this positive emotion is a mechanism to SIRG. Further, it
12 extends previous research as there is little evidence to show gratitude interventions operate
13 through the mechanism of increased gratitude (Wood et al., 2010). However, it is important
14 that future researchers and practitioners recognise some people might feel uncomfortable
15 writing and sharing gratitude letters (Dickens, 2017). The participants in this study did report
16 feeling guilty and/or embarrassed during the intervention. This finding extends previous
17 gratitude research, which continues to report that there are no downsides to practicing gratitude
18 interventions (Dickens, 2017). Whilst no negative perceived outcomes were identified in this
19 study, considering the negative affect experienced during the process of delivering and
20 receiving the intervention, we would agree with Wood et al. (2010) that future researchers
21 examine if there is a negative side associated with gratitude interventions. Are there costs
22 associated with gratitude? Under what conditions does gratitude become maladaptive? For
23 example, if injured athletes attribute the causes of their successful recovery to other people
24 rather than their own doing might this result in impaired well-being (cf. Abramson, Seligman,
25 & Teasdale, 1978). For now, Dickens (2017) recommends that future researchers should tailor

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1 interventions to individuals. That is, rather than imposing an intervention *on* them, work *with*
2 them to co-construct an intervention. This aligns with Lyubomirsky (2007) idea of the ‘person-
3 activity-fit’, where understanding what works best for any given individual is likely to
4 maximize positive change.

5 From an applied perspective, there are many reasons why gratitude-visits should
6 become embedded in professional practice. First, the gratitude-visit is easy to understand
7 (Dickens, 2017). Second, people seem to enjoy them; in fact, evidence suggests that
8 participants are more likely to remain in an intervention that assigns gratitude activities relative
9 to those that assign homework (Geraghty, Wood, & Hyland, 2010). Third, the emotion of
10 gratitude is pleasant to experience (Gallup, 1999). Fourth, gratitude interventions offer another-
11 oriented way to enhance personal well-being (McCullough, Kilpatrick, Emmons, & Larson,
12 2001). Fifth, if a person does not experience gratitude they are less likely to notice help and
13 less likely to reciprocate the help they do notice (McCullough et al., 2001). Additionally,
14 people who are not thanked are less likely to provide help in future (Carey, Clicque, Leighton,
15 & Milton, 1976; Rind & Bordia, 1995). Finally, interventions recommended in the psychology
16 of sport injury literature largely operate at an intrapersonal level; therefore, we need to consider
17 interventions operating at other levels, especially considering that a fallacy in the culture of
18 sport exists that athletes’ success is wholly determined by individual effort and ability
19 (Wagstaff, 2016). Rather, athletes’ success is also dependent on one’s relationships with a
20 systematic collective of stakeholders (e.g., coaches, managers), support staff (e.g., scientific,
21 medical), and networks (e.g., family, friends). Therefore, gratitude interventions offer one-way
22 to enhance these relationships and the context of sport injury can offer a place to do so. Yet,
23 before implementing gratitude intervention in professional practice, researchers and
24 practitioners must recognise and be mindful of the study’s limitations.

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1 Although this study makes a novel contribution to the psychology of sport injury
2 literature in that it is the first study to examine the efficacy of a gratitude intervention with
3 injured athletes, it is important that practitioners and future researchers are aware of its
4 limitations. First, the sample size for the gratitude intervention (N=15) and control (N=15)
5 groups were small. Despite being consistent with other experimental studies in the psychology
6 of sport injury literature (e.g., Mankad & Gordon, 2010; Salim & Wadey, 2018), given the low
7 statistical power there is an increased risk for Type II error. Future research should conduct
8 gratitude interventions with larger samples. Second, no manipulation check was conducted
9 during the gratitude intervention to examine whether the experimental group did experience an
10 increased feeling of gratitude in comparison to the control group. Future research should ensure
11 a manipulation check is accounted for in the procedure and appropriate measures are utilised
12 to evidence the manipulation check was effective. Considering a manipulation check was not
13 used and therefore this study offers limited support for the effectiveness of the intervention
14 itself, researchers and practitioners should remain sceptical whether a *gratitude* visit does elicit
15 changes in *gratitude*. Third, we included limited pre-intervention quantitative measures to
16 identify what factors moderate the effect of a gratitude intervention on growth-related
17 outcomes. Future research should seek to better understand if there is a subset of athletes who
18 would benefit more (and less) from expressing gratitude to others. For example, positive affect
19 (Froh et al., 2009), extraversion (Sheldon & Lyubomirsky, 2004), and trait gratitude
20 (McCullough et al., 2002) could be considered as potential moderating factors that influence
21 treatment effects. Fourth, the PTGI (Tedeschi & Calhoun, 1996) was used to assess growth.
22 Although previous sport injury researchers have used the PTGI (e.g., Brewer et al., 2017), it
23 was not developed for (injured) athletes and its content validity could be questioned. Future
24 research should seek to develop a reliable and valid measure of SIRG. A final limitation of this
25 study is that it prescribed to the participants the gratitude intervention (i.e., the participants

1 were told to write and read a letter out loud). Future research should consider more novel and
2 creative ways of expressing gratitude that are co-constructed with participants.

3 **References**

- 4 Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans:
5 Critique and reformulation. *Journal of Abnormal Psychology, 87*(1), 49-74.
6 doi:10.1037/0021-843X.87.1.49
- 7 Algoe, S. B., Gable, S. I., & Maisel, N. C., (2010). It's the little things: Everyday gratitude as
8 a booster shot for romantic relationships, *Personal Relationships, 17*, 217-233.
9 doi:10.1111/j.1475-6811.2010.01273.x
- 10 Algoe, S. B., Haidt, J., & Gable, S. L. (2008). Beyond reciprocity: Gratitude and relationships
11 in everyday life. *Emotion, 8*, 425-429. doi:10.1037/1528-3542.8.3.425
- 12 Appaneal, R. N., Levine, B. R., Perna, F. M., & Roh, J. L. (2009). Measuring postinjury
13 depression among male and female competitive athletes. *Journal of Sport & Exercise*
14 *Psychology, 31*, 60-76. doi:10.1123/jsep.31.1.60
- 15 Baron, R. A. (1984). Reducing organizational conflict: An incompatible response approach.
16 *Journal of Applied Psychology, 69*, 272-279. doi: 10.1037/0021-9010.69.2.272.
- 17 Bianco, T. (2001). Social support and recovery from sport injury: Elite skiers share their
18 experiences. *Research Quarterly for Exercise and Sport, 72*, 376-388. doi:
19 10.1080/02701367.2001.10608974
- 20 Bianco, T., Malo, S., & Orlick, T. (1999). Sport injury and illness: Elite skiers describe their
21 experiences. *Research Quarterly for Exercise and Sport, 70*, 157-169. doi:
22 10.1080/02701367.1999.10608033
- 23 Brewer, B. W., Cornelius, A. E., Van Raalte, J. L., & Tennen, H. (2017). Adversarial growth
24 after anterior cruciate ligament reconstruction. *Journal of Sport & Exercise*
25 *Psychology, 39*, 134-144. doi:10.1123/jsep.2016-0210
- 26 Brewer, B. W., Redmond, C. (2016). *Psychology of Sport Injury*. Champaign, IL: Human
27 Kinetics
- 28 Breitmeyer, A., & David, O. (2017). Managing injury and loss: The use of rational emotive
29 behavior therapy (REBT) with a collegiate football player. In M. Turner (Ed.), *The use*
30 *of Rational Emotive Behavior Therapy in Sport and Exercise*. Oxford: Routledge.
- 31 Carey, J. R., Clicque, S. H., Leighton, B. A., & Milton, F. (1976). A test of positive
32 reinforcement of customers. *Journal of Marketing, 40*, 98-100.
33 doi:10.1177/002224297604000413

SPORT INJURY-RELATED GROWTH

- 1 Cupal, D. D., & Brewer, B. W. (2001). Effects of relaxation and guided imagery on knee
2 strength, reinjury anxiety, and pain following anterior cruciate ligament reconstruction.
3 *Rehabilitation Psychology, 46*, 28-43. doi:10.1037/0090-5550.46.1.28
- 4 Davis, D. E., Choe, E., Meyers, J., Wade, N., Varjas, K., Gifford, A., . . . Worthington, E. L.
5 (2016). Thankful for the little things: A meta-analysis of gratitude
6 interventions. *Journal of Counseling Psychology, 63*, 20-31. doi:10.1037/cou0000107
- 7 Dickens, L. R. (2017). Using gratitude to promote positive change: A series of meta-analyses
8 investigating the effectiveness of gratitude interventions. *Basic and Applied Social*
9 *Psychology, 39*, 193-208. doi:10.1080/01973533.2017.1323638
- 10 Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An
11 experimental investigation of gratitude and subjective well-being in daily life. *Journal*
12 *of Personality and Social Psychology, 84*, 377-389. doi:10.1037/0022-3514.84.2.377
- 13 Emmons, R. A., & Mishra, A. (2011). Why gratitude enhances well-being: What we know,
14 what we need to know. In K. M. Sheldon, T. B. Kashdan, & M. F. Steger (Eds.), *Series*
15 *in positive psychology. Designing positive psychology: Taking stock and moving*
16 *forward* (pp. 248-262). New York, NY, US: Oxford University Press
- 17 Evans, L., & Hardy, L. (2002). Injury rehabilitation: A goal-setting intervention study.
18 *Research Quarterly for Exercise and Sport, 73*, 310-319.
19 doi:10.1080/02701367.2002.1060902
- 20 Evans, L., Hardy, L., & Fleming, S. (2000). Intervention strategies with injured athletes: an
21 action research study. *The Sport Psychologist, 14*, 188-206. doi: 10.1123/tsp.14.2.188
- 22 Froh, J. J., Sefick, W. J., & Emmons, R. A. (2008). Counting blessings in early adolescents:
23 An experimental study of gratitude and subjective well-being. *Journal of School*
24 *Psychology, 46*, 213-233. doi:10.1016/j.jsp.2007.03.005
- 25 Froh, J. J., Kashdan, T. B., Ozimkowski, K. M., & Miller, N. (2009). Who benefits the most
26 from a gratitude intervention in children and adolescents? Examining positive affect as
27 a moderator. *The Journal of Positive Psychology, 4*, 408-422.
- 28 Gallup. (1999). Survey results on “Gratitude”, adults and teenagers. *Emerging Trends, 20* (4-
29 5), 9.
- 30 Geraghty, A. W. A., Wood, A. M., & Hyland, M. E. (2010). Attrition from self-directed
31 interventions: Investigating the relationship between psychological predictors,
32 intervention content and dropout from a body dissatisfaction intervention. *Social*
33 *Science & Medicine, 71*, 30-37. doi:10.1016/j.socscimed.2010.03.007

SPORT INJURY-RELATED GROWTH

- 1 Hare, R., Evans, L., & Callow, N. (2008). Imagery use during rehabilitation from injury: A
2 case study of an elite athlete. *The Sport Psychologist*, *22*, 405-422.
3 doi:10.1123/tsp.22.4.405
- 4 Henriksen, K., Schinke, R., Moesch, K., McCann, S., Parham, W., Larsen, C. H., & Terry, P.
5 (2019). Consensus statement on improving the mental health of high performance
6 athletes. *International Journal of Sport and Exercise Psychology*, *1-8*
7 doi:10.1080/1612197X.2019.157047
- 8 Hobfoll, S. E., Hall, b. J., Canetti-Nisim, D., Galea, S., Johnson, R. J., & Palmieri, P. A. (2007).
9 Refining our Understanding of Traumatic Growth in the Face of Terrorism: Moving
10 from Meaning Cognitions to Doing what is Meaningful. *Applied Psychology*, *56*, 345-
11 366. doi: 10.1111/j.1464-0597.2007.00292.x
- 12 Howells, K., Sarkar, M., & Fletcher, D. (2017). Can athletes benefit from difficulty? A
13 systematic review of growth following adversity in competitive sport. *Progress in*
14 *Brain Research*, *16*, 37– 48. doi:10.1016/bs.pbr.2017.06.002
- 15 Kazdin, A. E. (1977). Assessing the clinical or applied importance of behavior change through
16 social validation. *Behavior Modification*, *1*, 427–452. doi:10.1177/014544557714001
- 17 Kinard, B. R., & Kinard, J. L. (2013). The effect of receipt personalization on tipping behavior.
18 *Journal of Consumer Behaviour*, *12*, 280-284. doi:10.1002/cb.141
- 19 Kvale, S., & Brinkman, S. (2009). *Interviews: Learning the craft of qualitative research*
20 *interviewing*. Thousand Oaks, CA: Sage.
- 21 Lambert, N. M., Clark, M. S., Durtschi, J., Fincham, F. D., & Graham, S. M. (2010). Benefits
22 of expressing gratitude: Expressing gratitude to a partner changes one's view of the
23 relationship. *Psychological Science*, *21*, 574-580. doi:10.1177/0956797610364003
- 24 Linley, P., Andrews, L., & Joseph, S. (2007). Confirmatory factor analysis of the posttraumatic
25 growth inventory. *Journal of Loss and Trauma*, *12*, 321-332
26 doi:10.1080/15325020601162823.
- 27 Lyubomirsky, S., Sousa, L., & Dickerhoof, R. (2006). The costs and benefits of writing,
28 talking, and thinking about life's triumphs and defeats. *Journal of Personality and*
29 *Social Psychology*, *90*, 692–708. doi:10.1037/0022-3514.90.4.692
- 30 Magyar, T. M., & Duda, J. L. (2000). Confidence restoration following athletic injury. *The*
31 *Sport Psychologist*, *14*, 372-390. doi: 10.1123/tsp.14.4.372
- 32 Mankad, A., & Gordon, S. (2010). Psycholinguistic changes in athletes' grief response to injury
33 after written emotional disclosure. *Journal of Sport Rehabilitation*, *19*, 328-342. doi:
34 10.1123/jsr.19.3.328

SPORT INJURY-RELATED GROWTH

- 1 McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual
2 and empirical topography. *Journal of Personality and Social Psychology*, *82*, 112-127.
3 doi:10.1037/0022-3514.82.1.112
- 4 McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a
5 moral affect? *Psychological Bulletin*, *127*, 249-266. doi:10.1037//0033-
6 2909.127.2.249.
- 7 Michie, S. (2009). Pride and gratitude: How positive emotions influence the prosocial
8 behaviors of organizational leaders. *Journal of Leadership & Organizational*
9 *Studies*, *15*, 393-403. doi:10.1177/1548051809333338
- 10 Morris, R., Tod, D., & Eubank, M. (2017). From youth team to first team: An investigation
11 into the transition experiences of young professional athletes in soccer. *International*
12 *Journal of Sport & Exercise Psychology*, *15*, 523-539.
13 doi:10.1080/1612197X.2016.1152992
- 14 O'Connell, B. H., O'Shea, D., & Gallagher, S. (2017). Feeling thanks and saying thanks: A
15 randomized controlled trial examining if and how socially oriented gratitude journals
16 work: Feeling thanks and saying thanks. *Journal of Clinical Psychology*, *73*, 1280-
17 1300. doi:10.1002/jclp.22469
- 18 Page, J., & Thelwell, R. (2013). The value of social validation in single-case methods in sport
19 and exercise psychology. *Journal of Applied Sport Psychology*, *25*, 61-71.
20 doi:10.1080/10413200.2012.663859/
- 21 Park, C. L., & Lechner, S. C. (2006). Measurement Issues in Assessing Growth Following
22 Stressful Life Experiences. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of*
23 *posttraumatic growth: Research & practice* (pp. 47-67). Mahwah, NJ, US: Lawrence
24 Erlbaum Associates Publishers.
- 25 Podlog, L., & Eklund, R. C. (2004). Assisting injured athletes with the return to sport transition.
26 *Clinical Journal of Sport Medicine*, *14*, 257-259. <https://journals.lww.com/cjsportsmed>
- 27 Podlog, L., Kleinert, J., Dimmock, J., Miller, J., & Shipherd, A. M. (2012). A parental
28 perspective on adolescent injury rehabilitation and return to sport experiences. *Journal*
29 *of Applied Sport Psychology*, *24*, 175-190. doi:10.1080/10413200.2011.608102/
- 30 Rees, T., Mitchell, I., Evans, L., & Hardy, L. (2010). Stressors, social support and
31 psychological responses to sport injury in high- and low-performance standard
32 participants. *Psychology of Sport and Exercise*, *11*, 505-512.
33 doi:10.1016/j.psychsport.2010.07.002

SPORT INJURY-RELATED GROWTH

- 1 Rice, S. M., Purcell, R., De Silva, S., Mawren, D., McGorry, P. D., & Parker, A. G. (2016).
2 The mental health of elite athletes: A narrative systematic review. *Sports Medicine*, *46*,
3 1333-1353. doi:10.1007/s40279-016-0492-2
- 4 Roy-Davis, K., Wadey, R., & Evans, L. (2017). A grounded theory of sport injury-related
5 growth, *Sport, Exercise, and Performance Psychology*, *6*, 35–52.
6 doi:10.1037/spy0000080
- 7 Salim, J., & Wadey, R. (2018). Can emotional disclosure promote sport injury-related growth?
8 *Journal of Applied Sport Psychology*, *30*, 367-387.
9 doi:10.1080/10413200.2017.1417338
- 10 Salim, J., Wadey, R., & Diss, C. (2015). Examining hardiness, coping and stress-related growth
11 following sport injury, *Journal of Applied Sport Psychology*, *28*, 154–169. doi:
12 10.1080/10413200.2015.1086448
- 13 Salim, J., Wadey, R., & Diss, C. (2016). Examining the relationship between hardiness and
14 perceived stress-related growth in a sport injury context. *Psychology of Sport and*
15 *Exercise*, *19*, 10–17. doi: 10.1016/j.psychsport.2014.12.004
- 16 Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction.
17 *American Psychologist*, *55*, 5-14. doi:10.1037/0003-066X.55.1.5
- 18 Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive Psychology
19 Progress: Empirical Validation of Interventions. *American Psychologist*, *60*, 410-421.
20 doi:10.1037/0003-066X.60.5.410
- 21 Sheldon, K.M., & Lyubomirsky, S. (2004). Achieving sustainable happiness: Prospects,
22 practices, and prescriptions. In P.A. Linley, & S. Joseph (Eds.), *Positive psychology in*
23 *practice* (pp. 127–145). New York: John Wiley.
- 24 Smith, B., & McGannon K. (2017). Developing rigor in qualitative research: Problems and
25 opportunities within sport and exercise psychology. *International Review of Sport and*
26 *Exercise Psychology*. DOI:10.1080/1750984X.2017.1317357
- 27 Sparkes, A., & Smith, B. (2014). *Qualitative research methods in sport, exercise and health:*
28 *From process to product*. London, UK: Routledge.
- 29 Taku, K., Cann, A., Calhoun, L. G., & Tedeschi, R. G. (2008). The factor structure of the
30 posttraumatic growth inventory: A comparison of five models using confirmatory
31 factor analysis. *Journal of Traumatic Stress*, *21*, 158-164. doi:10.1002/jts.20305
- 32 Tedeschi, R.G., & Calhoun, L.G. (1996). The Posttraumatic Growth Inventory: Measuring the
33 positive legacy of trauma. *Journal of Traumatic Stress*, *9*, 455- 471. doi:
34 <https://doi.org/10.1002/jts.2490090305>

SPORT INJURY-RELATED GROWTH

- 1 Tracey, J. (2003). The emotional response to the injury and rehabilitation process. *Journal of*
2 *Applied Sport Psychology, 15*, 279-293.
- 3 Udry, E., Gould, S., Bridges, D., & Beck, L. (1997). Down but not out: athlete responses to
4 season-ending injuries. *Journal of Sport & Exercise Psychology, 19*, 229-248.
5 Retrieved from <http://journals.humankinetics.com>.
- 6 Wadey R., Roy-Davis, K., Evans, L., Howells, K., & Salim, J., & Diss C. (2019). Sport
7 psychologists' perspectives on facilitating sport injury-related growth. *The Sport*
8 *Psychologist*. doi: 10.1037/spy0000080
- 9 Wadey, R., & Evans, L. (2011). Working with injured athletes: Research and practice. In S.
10 Hanton & S. D. Mellalieu (Eds.), *Professional Practice in Sport Psychology: A review*
11 (pp. 107–132). London, UK: Routledge.
- 12 Wadey, R., Clark, S., Podlog, L., & McCullough, D. (2013). Coaches' perceptions of athletes'
13 stress-related growth following sport injury. *Psychology of Sport and Exercise, 14*,
14 125–135. doi:10.1016/j.psychsport.2012.08.004
- 15 Wadey, R., Day, M., Cavallerio, F., & Martinelli, L. (2018). The multilevel model of sport
16 injury: Can coaches impact and be impacted by injury? In R. Thelwell & M. Dicks
17 (Eds.), *Professional Advances in Sports Coaching: Research and Practice* (pp. 336-
18 357). New York, NY: Routledge.
- 19 Wadey, R., Evans, L., Evans, K., & Mitchell, I. (2011). Perceived benefits following sport
20 injury: a qualitative examination of their antecedents and underlying mechanisms.
21 *Journal of Applied Sport Psychology, 23*, 142-158. [http://dx.doi.org/](http://dx.doi.org/10.1080/104132002010.543119)
22 [10.1080/104132002010.543119](http://dx.doi.org/10.1080/104132002010.543119)
- 23 Wadey, R., Podlog, L., Galli, N., & Mellalieu, S. D. (2016). Stress-related growth following
24 sport injury: Examining the applicability of the organismic valuing
25 theory. *Scandinavian Journal of Medicine & Science in Sports, 26*, 1132-1139.
26 doi:10.1111/sms.12579
- 27 Wagstaff, C. R. D. (2017). *The organizational psychology of sport: Key issues and practical*
28 *implications*. Oxford: Routledge.
- 29 Wiese-Bjornstal, D. M. (2009). Sport injury and college athlete health across the lifespan.
30 *Journal of Intercollegiate Sport, 2*, 64-80. doi:10.1123/jis.2.1.64
- 31 Wong, Y. J., McKean Blackwell, N., Goodrich Mitts, N., Gabana, N. T., & Li, Y. (2017).
32 Giving thanks together: A preliminary evaluation of the Gratitude Group
33 Program. *Practice Innovations, 2*, 243-257. doi: <http://dx.doi.org/10.1037/pri0000058>

SPORT INJURY-RELATED GROWTH

- 1 Wood, A. M., Froh, J. J., & Geraghty, A. W. A. (2010). Gratitude and well-being: A review
2 and theoretical integration. *Clinical Psychology Review, 30*, 890-905.
3 doi:10.1016/j.cpr.2010.03.005
- 4 Wood, A. M., Maltby, J., Stewart, N., & Joseph, S. (2008). Conceptualizing gratitude and
5 appreciation as a unitary personality trait. *Personality and Individual Differences, 44*,
6 621-632. doi:10.1016/j.paid.2007.09.028