Researching Growth Following Adversity in Sport and Exercise:

Methodological Implications and Future Recommendations

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**Abstract**

A novel concept that is gaining momentum in the field of sport and exercise psychology is growth following adversity. Specifically, researchers are interested in how participation in sport and exercise may act as a catalyst for self-development following a traumatic or stressful event. This interest and the resultant qualitative studies have led to a significant body of research, which has been subjected to systematic review and synthesis. Yet, while these reviews have consolidated our understanding of the research *outcomes*, minimal attention has been paid to the methodological *processes*. This aim of this study, therefore, is original in that it aims to critically review qualitative research conducted on growth in the context of sport and exercise from a methodological perspective, and provide recommendations for researchers who intend to investigate this phenomenon. Aligned with the aims of this study, a narrative review was conducted due to its fluid and flexible nature. Four methodological considerations are critically reviewed, each posing questions to the reader: *Is it Necessary to Establish Growth?* *The Difficulties with Expecting Growth*, *The Inseparability of Adversity and Growth*, and *How to Story Adversity and Growth*. It is recommended that future researchers use prolonged engagement and diverse qualitative methodologies, and consider novel questions such as the embodied experiences of growth and the potential for vicarious growth. Ultimately, we hope this narrative review leads future researchers to be more reflective in their methodological choices, thus enhancing the integrity and quality of qualitative research examining growth following adversity.

**Keywords:** growth, adversity,positive psychology, stress-related growth, trauma

**Introduction**

While research into growth has recently gained momentum within the field of sport and exercise psychology, Joseph (2011) illustrates that the overall concept of growth following adversity is not new. Instead, the narrative of growth has provided the structure for many long-standing mythological stories, folktales, and popular early literature. Such stories have been framed by the shattering effects of adversity, the negative life changes incurred, and the heroic journey to emerge from the experience as physically, morally, and/or psychologically stronger. Yet these narratives are not only confined to historical and literary stories. Indeed, researchers in sport and exercise psychology have recently begun to illuminate the potential that sport and exercise may hold for promoting growth after adversity. For example, researchers have explored how growth has been experienced through participation in a variety of sports including dragon boat racing (McDonough *et al.* 2011), mountain climbing (Burke and Utley 2013), boxercise (Hefferon *et al.* 2012), and elite sports performance (Day 2013). For the purposes of this study, we use the terminology sport and exercise. This terminology is used in reference to any structured physical exertion, including both competitive and non-competitive experiences and excluding incidental physical activity (e.g., physical activity at work) and physical activity for utilitarian purposes (e.g., walking for transport).

This recent amelioration of research focusing on growth has provided a strong foundation for understanding the role played by sport and exercise after a range of adverse events. Specifically, researchers have used a qualitative approach to understand what sport participation means after a life threatening illness such as cancer (Burke and Sabiston 2010), acquired disability (Day and Wadey 2016), spinal cord injury (Crawford *et al.* 2014), sports-related injury (Wadey *et al.* 2011), and a range of adversities experienced as an athlete (Galli and Reel 2012). The common factor in these studies is that participants could describe at least one aspect of their lives that had improved following their experience of adversity or trauma. For some, while participation in sport had caused adversity (i.e., sports-related injury), their continued rehabilitation and return to sport allowed them to perceive benefits (e.g., Wadey *et al.* 2011), for others participation in sport or exercise provided a deliberate strategy to thrive after the trauma associated with disability or illness (e.g., Day and Wadey 2016).

Given the growing breadth of research that has explored growth in sport and exercise, it is important to highlight the variety of terminologies that have been used to describe growth related experiences. In particular, the literature can be distinguished by the type of adverse experience. Here, the focus of research has been either on experiences of trauma (e.g., Crawford *et al.* 2014), or on stress and adversity (e.g., Galli and Reel 2012). The distinction here is that trauma should be defined as exposure (as a direct victim, witness, or indirect victim) to actual or threatened death, serious injury, or sexual violation (DSM-V), whereas adversity refers to difficult periods in people’s lives (Joseph 2011). Thus as Park (2010) highlights, trauma experiences involve a more severe life event, are less commonplace, and involve restructuring of basic life assumptions, often leading to enduring and permanent changes. Despite these differences, individuals have reported beneficial changes following both trauma (e.g., Day 2013) and adversity (e.g., Howells and Fletcher 2016). These changes are suggested to typically occur across five broad dimensions: improved relationships, changes in life philosophy, changes in self, changed priorities, and enhanced spiritual beliefs (Tedeschi and Calhoun 1996). However, more contemporary research has also depicted a new dimension: a new awareness of the body, where there is a heightened connection to and awareness of the physical self (see Hefferon *et al.* 2010).

To help qualitative researchers interpret their findings, there are a number of theories and models to drawn from, including Nerken’s (1993) model of growth following loss, Mahoney’s (1982) model of human change processes, Hager’s (1992) model of chaos and growth, Tedeschi and Calhoun’s (1995) functional-descriptive model, Christopher’s (2004) biopsychosocial-evolutional view, and Joseph *et al.*’s (2012) affective-cognitive processing model of post-traumatic growth. Yet, despite the breadth of theories and models available, the most drawn upon theory by sport and exercise psychologists is Joseph and Linley’s (2005) organismic valuing theory of growth through adversity. This theory suggests that the occurrence of a traumatic event may result in a ‘shattering effect’, causing the individual to question their pre-trauma beliefs and assumptions. In particular, the theory suggests that in order to experience growth, the individual’s response to trauma or adversity must indicate that their assumptive world has in some way been challenged. Without this challenge, the individual may be able to assimilate the new information from the trauma or adversity event into their existing beliefs. Where this challenge or shattering effect occurs, then the individual will need or make changes to accommodate this new information. These changes may be in a negative or a positive direction. It is positive accommodation that is proposed to lead to posttraumatic growth and beneficial changes. These changes indicate that the individual experiencing growth has developed beyond their pre-trauma levels of psychological and social functioning.

While other fields of psychology (e.g., clinical psychology) have been dominated by quantitative approaches to understanding growth, it is unsurprising that sport and exercise psychology researchers have predominantly used a qualitative approach. In particular, adversity is often associated with individual stories, further the research topic may be considered to be sensitive and exploratory in nature. In common with much of the qualitative sport and exercise psychology literature, the predominant method of data collection has been the use of one off interviews (Culver *et al.* 2012). Yet the need to build rapport with participants, gain trust, and understand the process of growth has also prompted authors to engage with participants over time. For example, Burke and Utley (2013) used an ethnographic case study approach to collect data while they climbed Mount Kilimanjaro with a group of injured ex-servicemen, Day (2013) conducted multiple life history interviews with Paralympic athletes, Roy-Davis *et al.* (2017) took a grounded theory approach and employed concurrent interviews with injured athletes throughout their recovery, and McDonough *et al.* (2011) conducted multiple interviews with breast cancer survivors at times considered to be key milestones for their dragon boat racing team. Indeed, as these studies demonstrate, participants’ lives are not static pictures; rather they are journeys experienced over time. Thus conclusions from this research have suggested the need for multiple points of data collection, observations, and prolonged engagement with participants. Further, researchers examining growth have also embraced the use of case studies (e.g., Kavanagh 2012). As Day and Wadey (2016) have emphasised, the use of case studies can provide a valuable method of representing the multitude of life changes that may occur after adversity, particularly allowing researchers to focus on the interaction between growth experiences and the context in which they occur.

Clearly, the concept of growth following adversity is a timely field of research in the sport and exercise psychology literature. Yet, while there are several reviews available for researchers to help them consolidate their knowledge and understanding of the empirical findings and grapple with the conceptual and theoretical issues within this area of research (e.g., Joseph and Linley 2006, Hefferon *et al.* 2009, Caddick and Smith 2014, Kampman *et al.* 2015, Wadey and Hanton 2015), minimal attention has been afforded to the methodological challenges of researching growth following adversity. Such considerations are important for several reasons: (a) they hold significant pedagogical value for neophyte qualitative researchers and more established researchers who seek to become well-versed in the challenges of doing qualitative research in a field of inquiry, (b) they encourage qualitative researchers to be more reflexive in their methodological choices and the implications of their decisions, and (c) they have the potential to improve the integrity and quality of future research by identifying methodological perils and pitfalls and examples of best practice. The aim of this study, therefore, is to conduct a narrative review of qualitative research conducted on growth in the context of sport and exercise from a methodological perspective, and to provide recommendations for researchers who intend to investigate this phenomenon.

**Method**

There are many types of reviews. Consistent with other sport and exercise psychology researchers who have used narrative reviews to good effect (e.g., Fletcher and Wagstaff 2009, Wadey and Evans 2011) and aligned with aims of this study, a narrative review was adopted for this study. Specifically, narrative reviews provide a storied summary of a range of primary studies, drawing conclusions into a holistic interpretation. As suggested by Polger and Thomas (2013), the strength of this type of review lies in its ability to outline the current state of knowledge, identify gaps in the literature, and highlight current best practice. In line with the methodological focus of our review, there were several reasons that a narrative review was selected. In particular, narrative reviews provide the flexibility to attribute more emphasis onto some studies than others (Garg *et al.* 2008). Our initial reading of the research area demonstrated that while some articles were rich in methodological considerations (e.g., McDonough *et al.* 2011), others focused primarily on research outcomes, including less methodological debate (e.g., Kavanagh 2012). Consequently, the use of a narrative review allowed us to place a greater emphasis on those articles with richer methodological detail. In addition, while alternative methods of review such as meta-analysis can ‘correct’ for studies not optimally designed (Noar and Maddock 2003), such studies provided us with valuable insights and comparisons.

While traditional narrative reviews most often include little detail on the methods used (Cipriani and Geddes 2003) our aim here is to enhance transparency, particularly given that narrative reviews often face criticism regarding their biased perspective (Noar and Maddock 2003). For the purposes of this review, there were two inclusion criteria. First, the study had to be a qualitative study that examined growth following adversity in a sport or exercise context. Second, the study had to be published in a peer-reviewed journal and be available in English; unpublished studies, dissertations, and conferences abstracts were omitted. To ascertain appropriate studies, three methods of research gathering were used. Research papers were identified and gathered by researching the following electronic databases: SPORTdiscus, PsychINFO, PsycARTICLES, PubMed, and Google Scholar. The search terms used were combinations of key terms related to growth (post-traumatic growth, stress-related growth, adversarial growth, benefit finding, perceived benefits, positive outcomes, thriving, and psychological well-being), adversity (posttraumatic stress, stress, adverse events) and combinations of sport or exercise. We did not limit our search to years of publication. The second method to search for relevant studies involved manually exploring sport and exercise psychology journals including: *Qualitative Research in Sport, Exercise and Health*; *Journal of Applied Sport Psychology*; *Journal of Sport and Exercise Psychology*; *Psychology of Sport and Exercise*; *The Sport Psychology*; *Journal of Clinical Sport Psychology*; and *Sport, Exercise, and Performance Psychology*. Finally, we examined the reference lists of eligible texts to identity additional studies that might meet the inclusion criteria.

In total, 21 relevant papers were identified. Each paper was subjected to the following questions: (a) What methodological considerations have been reflected upon and/or accounted for prior to, during and/or following this study? What strategies, if any, were put in place to account for these methodological considerations? (b)What are the suggestions made for future research and what are the methodological implications of these suggestions? Below we present our findings from each of these research questions, followed by a discussion of the future of research into growth following adversity in sport and exercise.

**Current methodological considerations**

***Is it necessary to establish growth?***

Defining growth and establishing whether growth has occurred has been illustrated as one of the key research difficulties in the sport and exercise literature. For some researchers, confirming that growth has occurred in participants has formed a necessary part of the research process. In particular, this necessity of confirming growth has led some researchers to embrace a mixed method approach which uses inventories to measure growth alongside the use of interviews. Galli and Reel (2012) used the Posttraumatic Growth Inventory (Tedeschi and Calhoun 1996) to measure growth following stressful events and thereby to select their interview sample. These authors note the possible conflicts of using a quantitative assessment tool alongside interviews, but suggested that despite this, interviews allowed participants to voice their own perspectives on growth without being restricted by items and themes included in the inventory. In line with this suggestion, Galli and Reel’s results revealed areas of growth not often included in traditional definitions and conceptualizations of growth and which were not measured by the Posttraumatic Growth Inventory (Tedeschi and Calhoun 1996).

Criticisms regarding the use of such inventories to measure growth and select participants may go beyond the use of a mixed method approach and instead provide the dilemma of not only *what* determines whether growth has been experienced but also *who*. The utilization of inventories to recruit participants for growth research encourages the application of researcher determined definitions of growth, perhaps preventing the opportunity for us to listen to a variety of growth stories and to understand the powerful social, cultural, and political contexts in which these experiences occur. Yet in addition to this criticism, such methods imply a realist ontology, assuming that a single, uniform and objective reality exists externally and independent from the participant (Sparkes and Smith 2014). Consequently, researchers should consider how their paradigmatic persuasion will influence how (or indeed whether at all) growth should be established, and with whom responsibility for establishing this lies (researcher or participant).

The alternative to measuring growth has been to use a wait-and-see approach following participant recruitment and data collection. For example, Day (2013) evaluated posttraumatic growth retrospectively having recruited a sample of athletes with an acquired disability who were taking part in trials for the 2012 Paralympic Games or who had already been selected for this event. Following life history interviews with seven participants she examined interview data to check that participants had discussed at least one of the growth dimensions suggested by previous literature. Thus recruitment for participants was based on the potential to have experienced growth rather than any established measure of growth. While all participants in this study had experienced at least one of the previously researched dimensions of growth, we should be wary that experiences of growth may go beyond our current definitions and consequently we should be open to novel presentations of growth experiences. Utilizing existing definitions, conceptualizations and inventories to categorize growth in a deductive manner may prevent the emergence of new concepts and new growth related experiences.

If we are to ascertain whether growth has occurred then it is also imperative that definitions and terminology associated with growth are consistent. Yet researchers have criticized the inconsistencies in growth related terminology, with Wadey *et al.* (2013) providing a useful outline of these inconsistencies, suggesting that a number of terms have been used in the literature including posttraumatic growth, stress related growth, perceived benefits, or benefit finding. In establishing whether growth has occurred researchers should first be cautious of the type of adversity that has occurred. Wadey *et al.* highlighted that the term posttraumatic growth should be reserved for those who have suffered traumatic experiences (see DSM-V) whereas terms such as stress-related growth or benefit finding should be used for events or conditions that do not reach this level of trauma. This perspective adopts a threshold-dependent definition of the trauma experienced, whereas other researchers have adopted a less stringent and broader approach that accounts for internal cognitions and affect. Indeed, experiences such as adversity can be difficult to define. In aiming to understand how elite athletes experience adversity and growth, Tamminen *et al*. (2013) reported that they did not include/exclude athletes based on the severity of their adversity. Their rationale for this decision was that the subjective experience of the event will influence the extent of an individual’s growth following adversity. Thus adversity experiences reported in their study were varied and included eating disorders, injuries, bullying, career transitions, sexual abuse, performance slumps, and coach conflicts. Importantly, as Joseph (2011) outlined, it is the subjective evaluation of demands which determines their severity. Thus it is essential to understand the context in which adversity occurs and the impact that adversity may have on each individual’s identity.

***The difficulties associated with expecting growth***

The growth narrative has become one of the most endorsed and celebrated stories following experiences of adversity and trauma. Tennen and Affleck (2009) described that Western culture has long held the premise that in the aftermath of trauma people will gain wisdom and live more productive lives. Further we are frequently provided with ‘heroic’ examples of athletes returning from injury and illness, thereby strengthening not only the personal desire for restitution but also the expectation that other people want to hear restitution stories (Sparkes and Smith 2013). Yet as Wortman (2004) suggested, we need to be cautious of expecting growth after trauma because those who are unable to achieve this may be made to feel like coping failures. In particular, Wortman emphasized that if growth is prevalent, this can become a new standard against which we measure the progress of survivors. Consequently, such standards may place a burden on those experiencing trauma and adversity, with outsiders expecting growth and survivors fearing negative judgements if they fail to achieve this. Such considerations have been well versed in the sport and exercise literature (e.g., Tamminen and Neely 2016), therefore highlighting a research quandary: how do we conduct research on growth after adversity when the very nature of our research exposes participants to expectations of growth?

There are two alternative suggestions to this quandary that have been provided in the sport and exercise literature: first, directly asking participants about growth but acknowledging some caution when interpreting the results, second avoiding the use of terminology associated with growth and allowing potential growth experiences to emerge from discussions. One example of directly asking participants about their growth experiences is provided by Crawford *et al.* (2014, p.401) who asked participants to “describe what you have learned (if anything) about life after spinal cord injury?” and “what specific benefits (if any) do you feel you have gained by competing in Parasport?”. In particular, the iteration of ‘if any’ may be used to highlight the acceptability of not experiencing benefits. Yet Crawford *et al.* warn that testimonies of growth from their participants should be interpreted cautiously as these positive stories may reflect illusions created to cope with the stressful experience, pressure to conform to social norms by reporting positive outcomes, and/or the presentation of successful coping believed to be desired by others.

These suggestions echo researchers such as Maercker and Zoellner (2004) who proposed that illusionary growth can occur following adversity to convince oneself of positive outcomes. Howells and Fletcher (2016) provided further clarification on how researchers can identify illusions of growth using indicators of illusionary growth (e.g., optimism) and identifying an absence of constructive growth (e.g., absence of action). Indeed their results demonstrated that even though their interviews avoided explicit terminology related to growth, some of the positive outcomes reported by swimmers following adversity were indicative of illusionary growth, particularly in the earlier phases of the growth process. For example, one participant found it difficult to articulate her meaning when she suggested positive life changes:

Interviewer: What do you mean when you say that you “grew as a person”?

Participant: Um… I don’t know. It’s hard to explain… I didn’t have my parents, I had to rely on myself. Experiences were completely different; you know, the culture. People are completely different out there [different country] than they are here [in home country]. Their sense of humor and things like that. Just having to figure things out for myself… (p.15).

Yet, on the other hand, Park and Helgeson (2006) suggested that people’s perceptions of growth may be more important in understanding their psychological experience than any measure of actual growth. Tedeschi and Calhoun (2009) echoed this suggestion, proposing that rather than meeting an individual with skepticism about their reports of growth, the most appropriate approach is to first assume that the individual’s perceptions have validity and are worth understanding. Joining the participant in his or her subjective experience can allow the individual to more fully express the understanding and perspectives that are forming in the aftermath of trauma.

McDonough *et al.* (2011) provided a valuable illustration of how participants may be interviewed on growth experiences without implying the inevitability and expectation of growth. In order to avoid imposing pressure on participants to appear positive in the wake of breast cancer, McDonough *et al.* reported that they did not use the words *posttraumatic growth* or ask specifically about any positive changes throughout the first four of their five interviews with each participant. During the fifth interview the concept of posttraumatic growth was explained to participants who were then invited to comment on the researchers’ interpretations of their experiences. Thus as McDonough *et al.* demonstrated, growth experiences can be allowed to emerge from discussions, rather than specifically prompting participants about how they perceive they have grown. Other researchers have taken a similar approach, avoiding the use of growth related terminology. For example, Galli and Reel (2012, p.303) asked participants “in what ways, if any, do you feel that you have changed as a result of this stressor?”, similarly Wadey *et al.* (2013, p.154) asked coaches to describe “what changes, if any, did your athletes experience following injury?”. Such studies demonstrate how the careful use of language during interviews may prompt participants to highlight both positive and negative changes.

While the two types of questioning about growth provide very different approaches, what remains imperative for each is that we consider the availability of a variety of narratives. The key here is allowing people to tell their stories, listening to what they say, and being open to learn from the participants’ experiences. In only asking participants about their growth experiences we risk the danger of valuing the “supercrip” hero above all others, a term used to describe a person with a disability who lives out the representation of disability as an adversity to be overcome (Wilson and Lewiecki-Wilson 2001). Valuing this supercrip narrative furthers the expectation that this is the most highly esteemed narrative. As Sparkes and Smith (2013) have warned, we must avoid simplistic definitions of a ‘good’ or ‘bad’ narrative for facilitating growth, instead questioning the narrative resources that are available to specific individuals and groups. Indeed, it is important that researchers recognise that growth might mean different things to different people. For example, one participant might become more selfless, whereas another might focus on their own needs for the first time. By allowing people to tell their stories and by listening to what they say, we can begin to understand the many ways that individuals experience adversity and growth.

***The inseparability of adversity and growth***

Despite the intuitively positive nature of researching growth, one of the most frequently cited considerations has been the need to recognise that those individuals who have experienced growth have also often experienced adversity, including physical and/or psychological trauma. What is crucial here is the notion that growth does not occur after adversity has passed, instead we grow from adversity, with the roots of our growth entangled in our adversity experiences. As Joseph’s (2011) work on trauma illustrates, trauma and growth should not be viewed as two ends of the same continuum, we do not progress from experiencing trauma to experiencing growth. Instead trauma and growth may be viewed as forming two separate continuums, therefore allowing them to co-exist.

These suggestions of the inseparable nature of trauma and growth have been well illustrated in the sport and exercise literature. First, the literature has highlighted that researchers must be aware of and willing to hear the negative experiences that underlie participant stories of growth. For example, as Day (2013) illustrated, while growth experiences may be reported following participation and mastery in sport, such accomplishments are often not achieved without extreme difficulties, feelings of depression, hopelessness and loss. Her research on Paralympic athletes with an acquired disability reported that during interview all seven participants described difficulties adjusting to life with a disability, while two participants described contemplating or attempting suicide. Thus it is imperative that researchers are aware of the negative stories and experiences that underlie experiences of growth. It is also important that scholars are aware that growth following adversity may not be an inspiring ending to an epic novel. Indeed, growth may come and go in a person’s life, and growth may be followed with setbacks and downturns in one’s life story.

Second, the literature has also demonstrated the importance of recognising that for some individuals, participation in sport itself can serve as the catalyst for negative experiences. For example, Crawford *et al.* (2014) described that in their sample of participants with an acquired spinal cord injury, one participant who had previously been an elite athlete withdrew from Parasport at the time of interview, reporting feelings of depression because he could not perform in the same manner as prior to his spinal cord injury. Similarly, McDonough *et al.’s* (2011) exploration of the dragon boat racing experiences of breast cancer survivors found that not all participants developed close connections to the team, with one participant describing that her interactions with the team reminded her of the possibilities of cancer recurrence. These studies demonstrate the difficulties that may be unveiled through discussion of sport participation. Yet further, as Day and Wadey (2016) have warned, not only may negative experiences occur from sports participation but these may co-exist within the same dimensions of reported growth. Their case study highlighted that while sport may often promote dimensions of growth such as enhanced relationships with others (e.g., new team-mates, meeting others with disabilities/similar experiences) it may also reveal the inadequacies of existing relationships (e.g., lack of understanding from family). Thus as Caddick *et al.* (2015) have suggested, we should be wary of the uncritical promotion of sport. In particular we should be mindful that one person’s obstacle to growth might be another’s resolution. It is only by allowing participants to tell their stories and by listening to what they have to say, can we understand both the many ways that individuals experience adversity and also the many ways they might experience growth.

***How to story adversity and growth***

As Joseph and Linley (2005) suggested, enduring distress is an important step in facilitating growth. Thus despite the inherently positive nature of researching growth related experiences in sport, researchers should be aware of the underlying difficulties that may be synchronous to these positive experiences and seek to unravel and invite participants’ responses about the paradox of sport participation following adversity. Yet as Carless (2008, p. 236) demonstrated, researchers can seek to “minimize the perils of the narrative journey” and the dangers that may arise from talking about, re-living, and revisiting life phases which are potentially traumatic. While a number of suggestions have been put forward to safeguard the participant and reduce the demands placed on them by the researcher, worryingly in a number of studies such procedures have also been notably absent. As Day and Martinelli (2016) proposed, we need to be cautious of presuming that the initiation of participation or return to participation in sport and exercise after adversity equates to psychological recovery and consequently, the ability to articulate past experiences. Thus it is imperative to consider how we can safeguard the research participant.

As Andersen and Ivarsson (2015) proposed, we need to consider how we can protect participants alongside gaining knowledge of what happens to people in situations that may be traumatizing. Primarily, suggestions for protecting participants have focused either on strategies used during interview or on the use of alternative methods to interviews which may be less demanding for participants. The use of multiple interviews may be particularly valuable for both researcher and participant when interviewing on growth. First, multiple interviews may allow the researcher time to engage in reflection between interviews, consult with a critical friend or mentor, and consider points for exploration in subsequent interviews. Second, it may provide opportunities for the researcher to build trust and rapport with the participant. As Hydén (2008) suggested, discussion of sensitive topics will be highly dependent on the joint enterprise between researcher and participant, thus the narration of experiences will be relationally defined. Yet authors such as Andersen and Ivarsson have questioned the limited accounts that are often presented by researchers regarding the relationship between interviewer and interviewee. What is important here is that developing relationships over time may not only enhance the research experience for the participant, but can in turn also allow us to better understand the process of growth, the context in which this occurs, as well as providing an indication of the quality of data.

For those studies which have used interviews to explore growth, suggestions for protecting the participant have often focused on enhancing participant control during the interview. For example, Day and Wadey (2016) proposed that it was important to allow participants control over the interview location and the order of interview topics, making interviews participant rather than researcher led. Day and Martinelli (2016) further these suggestions, reflecting on their work with injured athletes they proposed that the chronological start of a story is not always the most adaptive start for participants. Such suggestions provide important considerations given that the initial adversity experience will likely be at the start of most stories of growth. Thus participants may be asked to describe adverse or traumatic events at a time when rapport is at its weakest. Consequently participants may hold back from telling certain types of stories that may be perceived as difficult or emotional. Kvale and Brinkman’s (2009) metaphor of the interpretivist interviewer as a ‘traveler’ may provide a useful consideration here, suggesting that the ‘traveler’ constructs knowledge with the participant. As Smith and Sparkes (2016) illustrated, one implication of this traveler metaphor is that no knowledge is produced independently of the researcher. Thus it is important for the researcher interviewing about growth to consider the rapport and empathy that may need to be built before the participant feels comfortable to share and co-construct stories of adversity and trauma.

In addition to using interviews, a number of studies exploring growth experiences have advocated the use of participant observation to create a greater depth of data and enhance relationships with participants. Burke and Sabiston (2010) suggested that this method allowed the researcher to achieve ‘insider status’, gaining access to people sites and situations which may have been otherwise unavailable, thereby enhancing the richness of data. Such experiences may be challenging for researchers, particularly given that research on growth experiences often includes lengthy physical challenges. For example in Burke and Sabiston (2010), Burke described her nine day climb of Mount Kilimanjaro with a group of breast cancer survivors. While such physical feats may not be feasible for all researchers, Burke and Sabiston described the beneficial impact of being able to observe participants’ experiences, using these observations to complement and inform interviews, and providing discussion points as they occurred in the field.

What may be of particular importance with all of these methods used to protect the participant is that each involves prolonged engagement, with some researchers even observing first-hand the positive changes that may emerge from participation in sport and physical activity. Interestingly, while many authors focus on how to protect the participant, the potential impact on the researcher has rarely been considered. As Connolly and Reilly’s (2007) confessional tale on researching trauma highlights, listening to participant accounts of trauma can be problematic for the researcher:

I became the repository for the participant’s emotions and feelings, and in some instances, I was the sole person to hear the narrative. Unlike a psychotherapist who first hears and then assists the traumatized victim navigate through her or his recovery process, I heard their experiences and then was left to hold or bear their stories (p. 529).

Consequently it is imperative that as researchers we consider not only how to best protect the participant, but also consider the support that we may ourselves require.

Thus far our considerations have focused on existing methodological difficulties and how these may be overcome. Yet alongside these considerations for enhancing current research practice are a number of suggestions that may be drawn from the literature for advancing this research area. These suggestions focus on how future work might advance our understanding of growth through the use of novel methods of data collection and previously un-researched areas of interest. The following section outlines four main suggestions for future research as outlined by the growth literature.

**Future research recommendations**

***Use of longitudinal methods and prolonged engagement***

One of the most prominent reflections from researchers exploring growth after adversity or trauma has been the need to understand growth as a process. Frequently, researchers both within and outside of the sport and exercise domain have suggested that descriptions of growth continually change and evolve across a number of dimensions (e.g., enhanced spirituality, enhanced relationships, altered beliefs) as the individual accommodates and adapts following trauma or adversity. In particular, the focus of many growth researchers has been on illuminating and understanding this process, and specifically for sport and exercise researchers, in understanding how sport and physical activity may prompt these positive changes. Yet as our aforementioned methodological considerations have demonstrated, participants may find it difficult to articulate their growth experiences (Day and Martinelli 2016). Further, a number of researchers have also suggested that our understanding of the process of growth has been limited by the use of retrospective recall. For example, Galli and Reel (2012) suggested that retrospective interviews may limit our ability to fully understand the process of growth by only providing a post-stressor snapshot. While we should be wary of devaluing the many rich and detailed accounts of adversity and growth that have been presented using retrospective recall, many growth researchers (including Galli and Reel 2012) have nevertheless proposed that researchers should seek to obtain real-time accounts of growth experiences. Indeed, some progress has been made to understand growth experiences as they happen (e.g., McDonough *et al.* 2011, Burke and Utley 2013) yet this often requires considerable commitment from both participant and researcher. While some growth experiences may involve one single, memorable encounter (for example climbing a mountain, Burke and Sabiston 2010), most often the evolution of growth is slow, occurring over months or even years. Thus researchers suggesting the use of a longitudinal approach should consider the extensive time-frame that may be required to truly understand this process.

Caddick *et al.* (2015) provided a valuable example of extensive data collection with male combat veterans experiencing posttraumatic stress disorder who were all involved in a veterans surfing charity. Caddick observed the daily activities of the veterans over 18 months and across several contexts including charity surf camps, at the charity headquarters, and during a three week residential trip. Participant observation not only involved observing the daily activities of the veterans but also simultaneously taking part. Yet at present few qualitative studies have explored growth over time, particularly in the sport and exercise domain. Thus alongside a number of other authors (e.g., Sabiston *et al.*  2007, Tamminen *et al.* 2013) we suggest that future sport and exercise research should seek to engage with participants over a longer time frame, collecting data on multiple occasions. In particular, when considering that most growth research focuses on physical trauma, longitudinal research might seek to engage with participants from their very early experiences of rehabilitation. Crawford *et al.* (2014) provided an illustration of this suggestion, proposing that researchers investigating growth after acquired spinal cord injury should seek to begin any longitudinal examination immediately following the injury until integration or reintegration into sport. In particular, such suggestions may enhance the quality of growth research for a number of reasons. Not only may prolonged engagement allow the relationship between researcher and participant to be developed over time, but importantly, it may illustrate our openness to hearing a variety of narratives as life trajectories and experiences change. Consequently, such approaches may assist researchers in avoiding the difficulties of expecting growth, instead allowing the participant to more fully express a variety of stories as they form in the aftermath of trauma. What is of note is that sport and exercise researchers have shown little resistance to the notion of growth, particularly in studies of athletes and coaches. Here, growth stories may be seen to echo the dominant performance narrative of this athletic culture (Douglas and Carless 2009), in which skill, determination, and dedication can provide athletes with recognition and self-esteem among family and friends. In a similar vein, stories of growth may be celebrated, making it impossible for the athlete or coach to be much else. As researchers we must be mindful of hearing other stories that are silenced and think critically about the stories that we hear. Prolonged engagement with participants may assist researchers in showing openness to hearing these alternative stories.

***The embodied experience of growth***

In addition to exploring the process of growth over time, future research should also consider that growth experiences may differ depending on the type of trauma or adversity that has been experienced. Most often theories of posttraumatic growth do not consider the lasting effects of the damaged body, often failing to differentiate between acute and chronic trauma, single, multiple, and cumulative adversities. Research has often focused on trauma ‘survivors’, implying a finite timeframe and an ending to the trauma experience. Yet for many individuals, the physical impacts of trauma may be chronic and permanently alter the functioning of the body. Thus while many who experience acute trauma report growth through conquering physical illness or injury (Sabiston *et al.* 2007), for survivors with chronic symptoms, conversely, the body may serve as a salient and permanent reminder of trauma (Hefferon *et al.* 2010). Thus as Corvoda (2008) suggests, those with life changing injuries and life-threatening illness are never entirely posttraumatic.

It is imperative that we consider the role of the body when researching posttraumatic growth. As Hefferon *et al.* (2010) proposed there is a ‘place for the body and issues relating to the body in the facilitation and as a direct outcome of posttraumatic growth, especially when the trauma is directly related to the body’ (p. 241). Hefferon *et al.*’s (2009) review of the illness specific growth literature suggested that recovering and thriving from physical illness can create a new awareness and heightened importance of the body. Such suggestions have been echoed by Sparkes and Smith (2013) when considering physical trauma, emphasising that we should consider the novel body-self relationships that may occur after trauma, understanding how people create and engage with the body over time and in different sets of circumstances. Thus researchers should consider how participants can be encouraged to express their embodied experiences of growth, both when narrating their experiences and also in more creative and visual ways. Busanich *et al.* (2016) advocated the use of creative analytical practices when exploring fluid and complex experiences such as embodiment, suggesting that visual tools may assist participants as an additional form of expression. Thus growth researchers might explore how the body may both inhibit and facilitate growth, considering how participants can be empowered to express their embodied experiences.

***The potential for vicarious growth***

A third suggestion for future research is to consider growth from the perspective of others surrounding the individual who has experienced adversity or trauma. At present research considering significant others and growth has focused on gaining second hand stories of witnessed growth in the individual who has experienced adversity. For example, Wadey *et al.* (2013) explored sports coaches’ perceptions of stress related growth in their athletes after injury. Their findings first suggested that coaches’ perceptions were coherent with reports of growth from athletes and second identified novel types of growth and behavioural indicators of growth. Suggestions for using alternative perspectives (such as coaches) to confirm reports of growth have been common (e.g., Crawford *et al.*). Yet while the additional information offered by significant others may be valuable in understanding growth, some caution should be exercised in suggesting that these accounts can overcome the difficulties associated with establishing growth and validate whether an athlete has experienced growth or not. Instead, understanding growth from the perspective of others can allow us a richer understanding of how growth is developed.

An alternative to using the stories of significant others to enrich our understanding of growth is instead to consider the potential for vicarious growth. While the negative impacts of vicarious trauma have been considered in the sporting domain (e.g. Day *et al.* 2013) we have yet to consider the possibility of vicarious growth. Thus researchers with an interest in understanding the experiences of significant others might consider the growth experiences of family, team-mates and sports coaches. In addition, another population that might experience vicarious growth are researchers themselves. Indeed, ‘Qualitative research is existentially charged for respondents and for researchers’ (Massey *et al.* 1998, p. 353); therefore, this leaves open the possibilities for vicarious growth: closer relationships, more clearly developed priorities, and appreciation for life. Although directed at clinicians, Tedeschi and Calhoun’s (2009) views may hold relevance to researchers too:

Many psychologists who are researching PTG or who are working with patients facing difficult health problems may find themselves returning to their work because of the fascinating and encouraging stories of people who have done so well in desperate circumstances. Many of us may hope that we would do as well as our patients when tragedy befalls us. Perhaps we can learn some lessons from our patients that can be applied to our own lives, both now and in the future (p. 233).

Yet again here, just as growth may be intertwined with adversity for participants, it is important to consider that researchers will often come face-to-face with stories of pain, fear, and the ambiguities of how to lead a meaningful life. As a result they may experience hurt and struggle to protect themselves from the hurt they experience. Such considerations have been notably absent from the sport and exercise research literature, instead focusing on how the participant should be protected. While authors such as Connolly and Reilly (2007) have provided valuable confessional tales of working with trauma, no such insights are available from within the sport and exercise literature.

***The need for methodological creativity***

The final suggestion for future research on psychological growth is to encourage methodological creativity and the use of multiple methods and a wider variety of methodologies to open up new ways of understanding the process of growth. Current research has welcomed the use of multiple interviews and observation, yet these methods of data collection could be extended. Given the frequently advocated suggestion to embrace longitudinal methods, researchers might consider the use of written diaries or video diaries to allow participants to record their experiences over time (Day 2016). In particular, researchers such as Monrouxe (2009) have suggested that diary methods are useful for encouraging disclosure and may thus provide a more personal account of growth experiences that may not be revealed during interviews. Yet researchers might also consider that unsolicited diaries or other objects can also be used as a stimulus during interviews, allowing participants to reflect on their earlier experiences. As Day (2016) suggested, documents of life such as biographical objects, photographs, pictures, and audio recordings may all provide valuable information. In particular such objects may be valuable when asking participants to consider how life has changed following their experiences of adversity or trauma.

Finally, researchers might also consider the use of resources already available in the public domain. Autobiographies can provide a valuable insight into the lives of elite level athletes, which often include stories of overcoming adversity. Researchers such as Howells and Fletcher (2015) have demonstrated the insight that can be gained from such texts, providing an analysis of the adversity growth experiences in eight autobiographies of Olympic swimming champions. Yet further resources available might include the use of web-based resources such as Twitter, personal blogs, and Facebook (Sparkes and Smith 2014). While such resources may provide us with a highly edited version of personal experiences, they can nevertheless provide interesting insights into socio-culturally constructed stories of growth.

**Conclusion**

This narrative review provides the first overview of methodological implications for researching growth in a sport and exercise context.

While there are many different types of review, the use of a narrative review has allowed us to better comprehend the diversities and pluralities of understanding around qualitative research into growth. Consequently in outlining the main research quandaries that researchers are likely to encounter when examining this phenomenon we have been able to present a number of alternative perspectives and provide a critical commentary of these. In doing this we are mindful that narrative reviews have previously been criticised for their lack of objectivity. To overcome this potential criticism we have sought to include a detailed account of our review method, providing greater transparency of the narrative review process.

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Specifically, this review focuses on whether it is necessary to establish growth, the difficulties with expecting growth, the inseparability of adversity and growth, and how to story adversity and growth. Each of these methodological considerations poses several questions for the reader to reflect upon including: Who determines whether growth has been experienced? What’s the ‘right’ term to use to refer to growth? How should we ask participants about their growth experiences? Can growth mean different things to different people? Should trauma and growth be viewed as two ends of the same continuum? Is growth an inspiring ending to an epic novel? Can participating in sport and exercise do more harm than good? How can we best safeguard our participants? Are there inherent dangers in re-living traumatic experiences? Can researching trauma and growth impact the researcher?

Grappling with these questions, amongst others, we believe will help researchers to make more informed ethical and moral choices throughout the research process, which will not only help to safeguard the participants, but also importantly themselves. Further, these questions could be used in a pedagogical forum to provide neophyte researchers with the space to think about the challenges of doing qualitative research on this concept with a population who have experienced, or continue to experience, adversity in their lives. Indeed, although growth following adversity is a relatively new concept in sport and exercise psychology, we expect it will attract a great deal of research attention by future scholars, especially because it is a concept that resonates with the dominant culture within elite sport (Douglas and Carless 2009). Therefore, we need to prepare students to manage the tensions they are likely to encounter when doing this line of research. Other methodological recommendations for future researchers to consider include the need for prolonged engagement to understand growth as a process and the use of multiple methods of collection to create diverse ways of understanding this phenomenon (e.g., web-based resources such as twitter and personal blogs). Whatever the future may hold for the concept of growth, it is important that researchers continue to reflect on their methodological choices for the safety of our participants and ourselves, as well as the integrity and quality of our research.

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