

Coaches' Perspective on team resilience during major international competition

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Competing in major international competition has the potential to be a highly stressful activity. In order to understand how elite level teams are able to withstand this stress, the present study explored national team head coaches' experiences of team resilience. More specifically, it was aimed at (a) identifying team level resilient qualities and vulnerabilities; and (b) exploring how coaches might develop team resilience in preparation for international competition. To this end, semi-structured interviews with three national team head coaches were analysed using interpretative phenomenological analysis (IPA). Results indicate that team resilience during competition can be characterised by a collective resilient attitude and strong and shared leadership, whilst avoiding breakdowns in communication, failing leadership, and the inability to adapt flexibly. Furthermore, coaches should strategically develop resilience by focussing on learning from experiences, anticipating setbacks, and the use of planned disruptions.

KEY WORDS: Adversity, Elite sports, Planned disruptions, Positive adaptation, Team cognition.

By its very nature, elite sport has the potential to be highly stressful. This is perhaps particularly salient during major international competition (e.g., Olympic Games). Although some athletes undoubtedly thrive and reach peak performance during high-level competition, for other athletes the different stressors and changing demands associated with such events might combine into a potentially disruptive cocktail (Holt & Hogg, 2002; Kerr & Males, 2010; Wylleman, Reints, & Van Aken, 2012). It is, therefore, crucial to advance our understanding on how athletes are able to withstand and overcome stressors

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whilst simultaneously maintaining performance. More specifically, given their influence on athletes' psychological functioning and development (Gould, Dieffenbach, & Moffett, 2002), it might be especially worthwhile to explore coaches' perspectives on stress adaptation during competition.

Trying to understand why and how some athletes are able to positively adapt to stressors has led scholars to study resilience in sports. Resilience has been proposed as an important protective resource against the potential detrimental effects of stressors (e.g., Fletcher & Sarkar, 2012, 2013) and as such has been identified as a crucial psychological characteristic for athletic success (e.g., Gould et al., 2002; Rees et al., 2016). Studies exploring the nature of resilience in sports have primarily focussed on characteristics and processes at the individual level (e.g., Fletcher & Sarkar, 2012; Galli & Vealey, 2008). In general, these studies found that resilience reflects a dynamic and temporal process resulting from dynamic interactions between personal (e.g., challenge appraisals) and environmental factors (e.g., social support) (Bryan, O'Shea, & MacIntyre, *in press*).

Resilience is not limited to individual athletes however, but can be demonstrated at the team level as well (Morgan, Fletcher, & Sarkar, 2017). It has been suggested that such team resilience reflects an emergent adaptive outcome, resulting from dynamic individual-, contextual-, and team-level interactions (Bowers, Kreutzer, Cannon-Bowers, & Lamb, 2017; Gucciardi et al., 2018). At the collective level, Morgan, Fletcher, and Sarkar (2013) found that resilient teams in sports are characterised by a strong group structure (i.e., the shared norms and the formal roles), a shared mastery approach (i.e., a continued attitude towards learning and improvement), social capital (i.e., the quality of interactions and relationships), and collective efficacy (i.e., the team's perceived ability for success). Furthermore, these team-level characteristics are underpinned by key collective processes such as transformational leadership, shared team leadership, team learning, positive emotions, and team identity (Morgan, Fletcher, & Sarkar, 2015). The study of Morgan et al. (2015) highlights the role of leadership dynamics, positive interactions, and collective identity, while also recognizing that team resilience can result from the development of collective knowledge structures relevant to the task performance (see also Gucciardi et al., 2018). This collective knowledge can provide the mental blueprints (e.g., knowledge of roles or strategies) between team members, which allows teams to prioritize and coordinate their actions under challenging and stressful conditions (Lim & Klein, 2006).

Contrary to earlier studies (cf. Morgan et al., 2013, 2015), Decroos et al. (2017) recently found support for a two-way conceptualisation of team resilience in sports, representing not only resilient characteristics but also

team-level vulnerabilities (e.g., negative communication, lack of effort). Such team-level vulnerabilities have previously been related to sudden and severe drops in team performance in relation to critical events, also labelled collective collapse (Apitzsch, 2009; Wergin, Zimanyi, Mesagno, & Beckmann, 2018). Decroos et al., (2017), therefore, argued that in order to demonstrate resilience, teams not only need to demonstrate protective resilient qualities, but also manage to avoid certain vulnerabilities under pressure. Team resilience research should thus explore both resilient qualities as well as vulnerabilities when trying to understand how teams are able to positively adapt to stressors.

Although the current literature provides valuable information on the global collective resilient qualities and psychosocial processes, team resilience research in sports still remains in its infancy. For instance, earlier research does not explain how this phenomenon is manifested during specific challenging and potentially stressful situations, such as competing at major international events (e.g., world championships, Olympic games). To illustrate, Wylleman et al. (2012) found that participation in Olympic Games is accompanied by increasing demands both before (e.g., increased training load, increased media/public pressure, less social contact) and during the competition (e.g., jetlag, tiredness, increased tension), which require adaptation. Furthermore, major competitions can be accompanied by additional stressors, such as increased competitive stress, as well as increased expectations, amplified team conflicts, or distractions (Holt & Hogg, 2002; Kerr & Males, 2010). Greenleaf, Gould, and Dieffenbach (2001) found that stressors such as coaching issues, team conflicts, team selection issues, and lack of team unity distinguished athletes who were successful during the Olympic Games and those who were not. Given this potentially challenging nature, little is actually known about how teams withstand the stress and pressure associated with such events. Research should, therefore, reflect the temporal nature of team resilience (Morgan et al., 2017) and would benefit from studying resilience in relation to specific situations and stressors occurring throughout the developmental pathway of elite teams (e.g., in relation to international competition).

Furthermore, current team resilience research has a clear focus on athletes' perspectives. With the exception of one coach in the study of Morgan et al. (2015), other points of view have remained absent. Exploring coaches' perspectives, especially, might be interesting for several reasons. First, including the coach can provide valuable new insights and increase the ecological validity of the construct of resilience (Morgan et al., 2013; Yukelson & Weinberg, 2016). Second, as an integral part of the team, coaches experience a wide range of stressors themselves (e.g., Olusoga, Maynard, Hays, & Butt, 2012; Thelwell, Weston, Greenlees, & Hutchings, 2008). As such, it would

seem coaches are not exempt from the need to display resilience in the face of adversity (Young, 2014). Exploring coaches' perspectives can, therefore, provide insights into how team resilience helps them withstand pressure and maintain their own performance. Finally, coaches can influence the development of resilience in their athletes, specifically during training (Kegelaers & Wylleman, *in press*; Sarkar & Fletcher, 2016). Fletcher and Sarkar (2016) suggested that resilience training should be holistic, incorporating three key elements: developing protective personal qualities, creating a facilitative environment, and promoting challenge appraisals. Studying coaches' perspectives of team resilience can thus provide insights into how they actually use and develop these qualities in their teams (Galli, 2016).

Accordingly, the purpose of this study was to examine elite coaches' perspectives on team resilience, during the preparation for and competing at major international competitions. Specifically, our interest was focused on (a) coaches' perspectives on the resilient qualities and vulnerabilities of their teams and (b) the ways coaches tried to develop team resilience in preparation for these events.

Method

DESIGN

Interpretative Phenomenological Analysis (IPA; Smith, 2016) was used as it aims to understand how people give meaning to their subjective experiences and make sense of their personal and social world (Smith & Osborn, 2003). Rooted within phenomenology, IPA attempts to get as close as possible to understanding participants' subjective views, rather than trying to provide objective statements of objects or events. Furthermore, IPA is interpretive because it recognises that making sense of people's experiences can never be done directly and completely. The researcher will need to take on a double hermeneutic stance, or as Smith and Osborn (2003) stated: "the participants are trying to make sense of their world; the researcher is trying to make sense of the participants trying to make sense of their world" (p. 50). This approach was chosen as it allows for an idiographic exploration of coaches' lived experiences within a well-defined context (i.e., major competition) and is particularly suited to study complex constructs such as resilience (Smith, 2016). Our choice for IPA was informed by the assumption that multiple perceptions of reality exist (i.e., ontological relativism) and that knowledge is subjective and never theory-free (i.e., epistemological constructivism).

SAMPLING STRATEGY AND PARTICIPANTS

The current project was set up as a prospective study. Rather than sampling participants who markedly demonstrated positive adaption to previous adversity (cf. Galli, 2016), coaches

were selected prior to competing in international competition in order to avoid sampling and recall bias. In line with this prospective nature, coaches were selected using purposive criterion sampling (Suri, 2011). In order to be eligible, coaches had to meet following criteria: (a) be active as national team head coach, (b) in the process of preparing their team for an upcoming major international tournament (i.e., European or World championships), (c) demonstrate explicit interest in the concept of team resilience, and (d) having already reached high levels of athletic success with their teams (cf. Morgan et al., 2013). These criteria were adopted to ensure the participants had prior experience successfully dealing with the demands of elite sports and were able to provide rich descriptions of their resilience-related experiences during the upcoming competitions. The coaches were contacted through their National Olympic Committee (NOC). Out of the seven contacted coaches within the organization, three met all selection criteria for this study.

Consequently, a small homogenous sample of three participants was recruited. This number is considered especially suited for IPA as it allows "sufficient in-depth engagement with each individual case but also allows a detailed examination of similarity and difference, convergence and divergence" (Smith & Osborn, 2003, p. 57). All coaches were male, ranged in age between 33 and 42 years of age, and had an average of four years of experience as coach of their current team. Each participant had a background as an elite athlete (i.e., member of national team) prior to their coaching career. Furthermore, as a coach, each participant achieved major international success with his team prior to the current study (i.e., medals at European championships, World championships, or Olympic Games). All three coaches' teams compete in goal sports (i.e., aimed at sending a ball through a physical structure) and consist of 13 to 16 players. The teams included one male team, one female team, and one mixed-gender team.

Alex, Ben & Carl (Pseudonyms). A short description is given of the performances of the different teams during this study, in order to situate the level of performance, as well as the type of experiences the coaches and athletes went through. All coaches were given pseudonyms. **Alex** coached his team to the finals of the continental championship. In the finals, the team lost despite winning every previous game in the tournament relatively easy, including one game against the eventual champions. **Ben** led his team, who were the clear tournament favourites, to the final of the World championship. In the final, they beat the organizing country to win gold. Finally, **Carl** coached his team to a fourth place at a world cup tournament, whilst missing some key players during the event.

Describing all stressful events experienced during competition in detail is beyond the scope of this article. However, in order to provide a situational understanding, the most important stressors are illustrated in Table 1. Interestingly, these instances included both clearly negative events (e.g., missing key players), as well as events that could also be perceived to be positive (i.e., desirable) but still required some form of adaptation (e.g., having to play with the expectations of being the tournament favourite) (cf. Fletcher & Sarkar, 2013).

PROCEDURE AND DATA COLLECTION

After receiving institutional ethical approval, national team head coaches were contacted through their NOC. After participants formally agreed to participate and signed an informed consent, several contact moments were set up with the researchers. Prior to the competitions, a first interview was organised. This first interview aimed at exploring how coaches defined

TABLE I
Overview Of The Stressors Encountered Before And During The International Competitions

Theme titles	Major themes
Lack of competition Playing as tournament favorite Pressure to qualify for Olympics Playing against a team who have beaten them before	Tournament related stressors
Injuries and absent players Possible positive doping test	Team related stressors
Physical playing style of the opponent Facing penalty shootout Trailing the opponent	In-game stressors
Equipment failure and disruptions in game preparation Hostile fans Bad accomodation	Distractions

team resilience and gauged some preliminary ideas about team resilience characteristics and how to develop them. During these interviews, a team resilience definition was created by the coaches, defining it as: “the capacity to collectively withstand the negative effects of unexpected and generally stressful events.” Upon returning from international competition, coaches were invited for a second more extensive in-depth interview to explore their concrete experiences during competition. The interviews occurred roughly 12 weeks apart and always took place at the central location of the NOC. The combined interviews had an average duration of 106 minutes per coach ($M_{\text{Interview1}} = 38$; $M_{\text{Interview2}} = 68$).

In-depth interviews were chosen as the preferred method because they allow participants to provide rich descriptions of their experiences, as well as interpretations and meaning for these experiences. To this end, a semi-structured interview guide was developed with a limited number of open-ended key questions, aimed at eliciting vivid accounts of the coaches’ lived experiences. Questions were designed to explore perspectives on team resilience (e.g., “what does team resilience mean for you?”), reflect on how the teams reacted to adversity (e.g., “If you look back on the past weeks, how resilient was your team?”), explore resilient qualities (e.g., “what made your team react positively to this adversity?”) and vulnerabilities (e.g., “why do you think your team had difficulties dealing with this situation?”), and explore the strategies coaches used to develop team resilience (e.g., “what was your role in trying to develop this aspect of your team?”). Probes were used throughout the interview, dependent on the responses of the participants, to encourage elaboration.

DATA ANALYSIS

All interviews were transcribed verbatim, resulting in a total of 147 double-spaced pages of transcript. The transcripts were then analysed by the lead researcher, using the procedure proposed by Smith, Jarman, and Osborn (1999). First, the initial individual transcript was carefully read and re-read several times and the left margin was used to write down some comments or early interpretations. Second, the right margin was used to write down emerging

theme titles. These theme titles were inductively developed key words or short phrases, representing some 'essential quality' in the text. Third, after going through the transcript several times, all theme titles were grouped together. To facilitate this step, software programme Nvivo 10 was used as a tool to list the emerging themes, look for connections, and bring them together in groups of higher order themes. Fourth, a coherent master list of themes was produced, outlining all the major themes from the individual interview.

In line with the recommendations for IPA with a small number of cases, transcripts were analysed separately before bringing them together. This helps discerning where participants' stories converge, whilst also recognising individual idiosyncrasies (Smith & Osborn, 2003). The first four steps of analysis were, therefore, completed separately for each individual case. Finally, the three separate master lists were compiled. During this final step, the analyses of the different interviews were compared, and repeating themes were brought together, leading to the development of a consolidated list of master themes. As pointed out by Smith et al. (1999), doing IPA is not a linear event, but rather a dynamic circular process. This meant that throughout the whole analysis process there was a continuous back and forth with the transcripts, adding, removing, renaming, or revising themes when deemed necessary.

METHODOLOGICAL RIGOR

Angen (2000) pointed out that in interpretive research, researchers should do justice to the complexity of their topic and document their chain of interpretations. Readers should be able to judge the trustworthiness of the evidence brought in to support the interpretations and researchers should be able to face criticisms of subjectivity. Following a relativist approach to rigor (Sparkes & Smith, 2009), several strategies were utilised to document analysis, and allow for judgements of trustworthiness. First, the lead researcher made use of bracketing (see Nicholls, Holt, & Polman, 2005), which entails keeping a reflexive journal throughout the process of data analysis, in an attempt to make explicit the researcher's own assumptions and experiences. Second, the lead researcher met with the third author at regular intervals to discuss the process of analysis (Smith & McGannon, 2017). During these meetings, the third author took up the role of critical friend, providing opportunity for dialogue and reflexivity by discussing the analytical interpretations made by the lead researcher. These critical discussions helped shape the structuring of the results and the interpretation of the data within the presented higher order themes. Third, we used member reflections by inviting the participants to reflect on the interpretations made by the lead researcher. This was done, not as a method of verification of the results, but as an opportunity to offer additional data and insight (Smith & McGannon, 2017). No substantial additional insights were gained through these member reflections. Finally, quotes were selected in order to improve transparency and to illustrate the main themes to the reader.

Results

Based on experiences in which the teams were successful and potentially unsuccessful in demonstrating resilience, both protective qualities and vulnerabilities were identified. We classified themes reflecting the psychoso-

cial characteristics that protected the team against the negative effects of stress as resilient qualities. These included (a) collective resilient attitude and (b) strong and shared leadership. Themes reflecting a threat to functioning or leading to actual failure under pressure, were classified as vulnerabilities. These included (a) breakdowns in communication, (b) failing leadership, and (c) inability to adapt flexibly. The team resilient qualities and vulnerabilities are illustrated in Figure 1. Finally, themes reflecting coaching strategies to develop resilience were also identified, including (a) strengthening communication channels, (b) learning from experiences, (c) anticipating setbacks, and (d) using planned disruptions. The team resilience developing strategies are illustrated in Figure 2.

RESILIENT QUALITIES

Collective resilient attitude. All three coaches' responses indicated the importance of a collective resilient attitude for teams to overcome difficult circumstances. One part of this resilient attitude seemed to be reflected in a strong perseverance, or the 'blatant' refusal to accept defeat, even when the odds are against the team. Carl for example described this as: "fighting for each other", "the willingness to go hard, to work hard, to keep fighting and struggling", an "unconditional commitment" to the team, its members, and its collective goals, and continuously providing maximum effort. Alex described a similar attitude as showing "passion and fighting spirit" and not accepting defeat:

We had the idea that we were not going to lose this game, at least not this way ... and it was this mindset that made the change and made us win that final period with five goals difference, winning us the match (Alex).

Alex's account also seemed to reflect that such an attitude was part of the team's identity: "I think we created the idea that what we are demonstrating now [period of poor performance] is a travesty. This is not the team that we are, this is not what we stand for."

This attitude also seemed to be reflected in a strong focus on the task at hand and the confidence in the team's ability to be successful and deal with the setbacks. This was evidenced by a specific example given by Ben:

There was a big African wedding going on [in our hotel] the evening before our final... that was chaos... I got really upset about it, but my players said "nothing is going to stop us anymore, don't worry about it, even if I sleep a couple hours less, I am really not going to play any less for it".

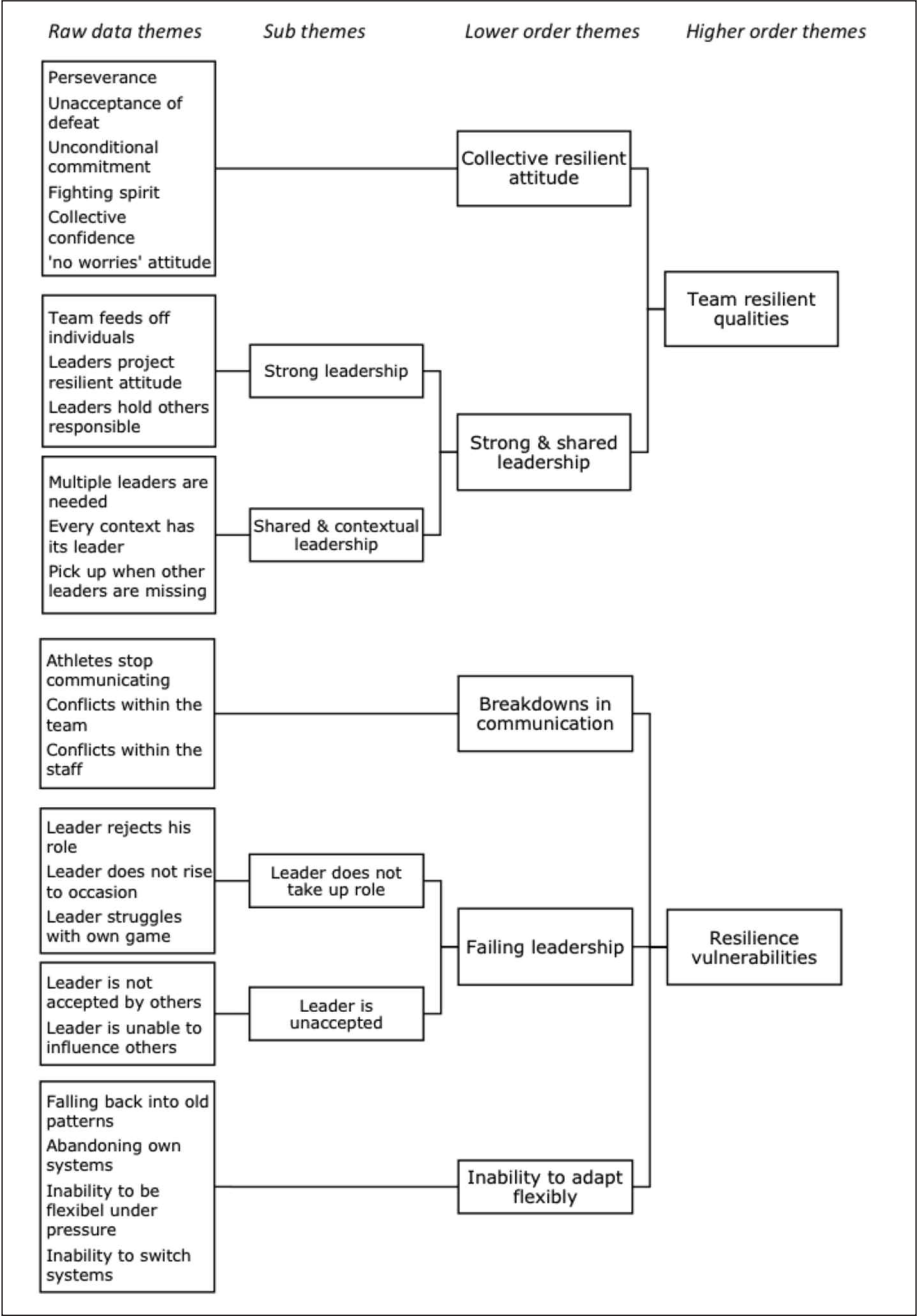


Fig. 1. - Thematic map of the team-level resilient qualities and vulnerabilities.

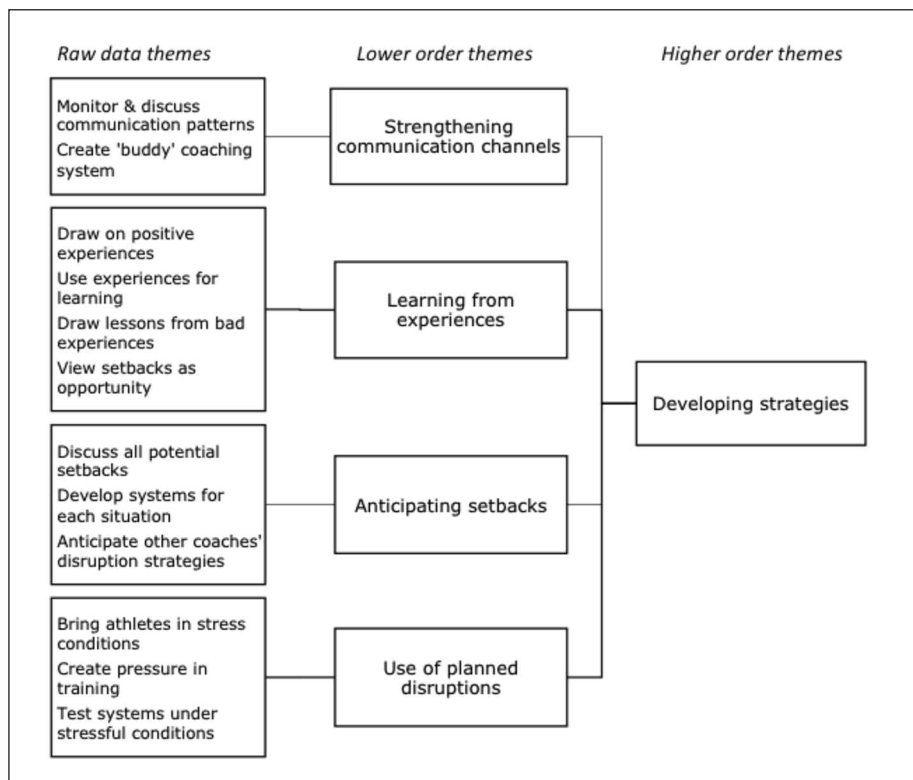


Fig. 2. - Thematic map of the developing strategies for team resilience.

Strong and shared leadership. Coaches also felt leadership dynamics and having strong leaders within the team were important in order to better deal with setbacks. In relation to team resilience, coaches described the importance of these key players as having a positive influence on how the team reacted to stressors, as illustrated by Alex:

These are people that pick up the team [when it gets tough] and project to other players “this is not going to happen”. And it is that attitude that is very important in determining how a team will deal with it.

Both Alex and Carl also felt that their teams could “feed off” these leaders under difficult circumstances. Furthermore, it seemed that these leaders were not only inspirational, but were also critical and held other athletes responsible: “I really want my leaders to be able to critically judge each other and the other players: ‘Hey man, what are you doing? What is your language like? How present are you...?’” (Ben).

Coaches also believed that leadership should not be limited to one individual in the team, but they rather looked for shared leadership, in which several players in the team take up leadership roles and share responsibilities. This seemed to be important for two reasons. First, multiple leaders were thought to be needed, because leadership is situational:

I am absolutely convinced that every context has a different leader. When you are looking for which leaders do I have right now, who can bring the team to where I want it to be? You have to look at it context-dependant. [...] You need to give the contextual leaders the chance to develop this, to rise up. You can't just drop that on someone's head when there is an important game. (Ben)

Coaches pointed out that different athletes had different leadership responsibilities in different contexts and this needs to be recognised and established in order for the team to positively respond to different contextual stressors. Furthermore, participants believed that shared leadership could be important because it allows the team to compensate for situations in which leaders drop out. This was, for example, emphasised by coach Carl who had to miss several key players:

If one voice [of a leader] drops out, because of injury or suspension or whatever, then we have a problem. It doesn't have to be all players, but the group that makes the choices has to be broad enough to be able to prevent that and not be dependent on one person.

RESILIENT VULNERABILITIES

Breakdown in communication. A first major threat to team functioning under pressure was perceived to be a breakdown in communication: "we experience that communication starts to disappear from the moment the pressure rises." (Ben). To illustrate, Alex described a situation wherein his team failed to demonstrate resilience due to failure in communication: "At that point all communication had disappeared and because of that we had difficulties playing our normal systems in attack. In defence, we were too easily beaten or too slow actually in calling people over to help." This quote seems to illustrate the importance of effective team communication in order to successfully use and adapt the team's systems in response to challenge. Furthermore, communication breakdown did not only manifest itself as a halt in communication, but also as the expression of frustration and anger between team members: "When everybody starts screaming and yelling and stuff, we get completely side-tracked. From then on, we aren't sufficiently

stable anymore, we aren't connected anymore and that makes that things are going south." (Carl)

Communication breakdowns were not only present in players, but between staff members as well. Coaches also showed anger and frustration towards the players and each other, reducing their ability to appropriately adapt to the challenging situation, as pointed out by Alex:

My assistant has a function in providing me with statistics during the game ... He got really agitated and started feeding me information in a very aggressive manner. If that happens to me, the information doesn't come in, that doesn't work. He knows that. But still that is what happened during the game. During the time between quarters, where we normally analyze and discuss things, this was considerably less. So the relation on the bench, communication between the staff, we failed completely there.

Failing leadership. A second vulnerability or threat to team resilience, according to the coaches, was failing leadership within the team. The accounts of the coaches reflected several scenarios in which this vulnerability could manifest. One possibility was that leaders were not accepted by their teammates and unable to influence others' behaviour. Ben, for example described this:

For me leaders don't always have to stand on the foreground, proclaiming "I am the leader", but it is the influence you have on the behaviour of your teammates. How much influence do you want to have and how much influence do you actually have? I pointed this out [to one of my players]: "hey man, you can keep shouting that you are the leader, but look behind you. No one is following".

In relation to resilience, not being able to change the behaviour of other players rendered the leader unable to guide the team in the right direction to adapt to the stressful conditions. This was pointed out by Alex:

When it got difficult, I did not seem to have a player who was able to guard the system... who saw things happening and was able to answer. Or rather who was capable of influencing the others to adequately respond to this.

This seemed to not just be a shortcoming of the leaders, but also depending on the willingness of the players to accept the leaders in their roles:

[my captain] called to a player with instructions. Next ball, [the other player] just makes his own decision... During halftime, I hear the discussion between those two: "yes you were right [captain], but I thought my idea might be better, not yours." (Carl)

Failing leadership did, however, not only originate from a leader's

inability to influence others, but also when the leader rejects his or her role. Coaches recognised the risk of placing leadership responsibilities on players who are not prepared or not willing to take on these responsibilities. Alex, for example, gave a specific example of a player in his team who failed to take up the leadership role under adversity:

It turns out that certain dominant players, I think because of the pressure, try to lay off the responsibility. [player name] for example could be a good leader, but she is not constant enough and she doesn't continually show that she wants to be in front and take her responsibility. She has a tendency to hide when it gets difficult.

Inability to adapt flexibly. A final threat to resilience was perceived to be the team's inability to adapt to the circumstances. All three coaches felt that teams required a certain "flexibility", "ability to switch", or "mental agility", especially in order to respond to in-game stressors:

I think my group showed that they are very resilient on the outside. So they know how to prepare for a game, executing their tasks, the attitude... [outside of the game]. However, when things switched within the game itself, they just lose it. That is still a working point... that mental agility is limited. (Carl)

Alex's account mostly referred to the ability to adapt flexibly when the team abandoned its own systems and "fell back into old patterns". Adaptability was then needed to return to the team's appropriate systems:

I am really sick thinking back, that I didn't stress enough what we do good, and what we should do when we actually get pulled out of our system. Take a time out, take some distance, and back to our own systems. Back to playing our way. (Alex)

Ben and Carl on the other hand emphasised that a team also needs the ability to notice when the original system is not working sufficiently and the flexibility to, as Ben called it, "make the switch" to a more adaptive system.

DEVELOPING STRATEGIES FOR RESILIENCE

Strengthening communication channels. As highlighted above, coaches recognized breakdowns in communication as a major threat to the team's ability to demonstrate resilience. In response to this vulnerability, coaches therefore designed strategies to strengthen formal communication channels. Ben, for example, described a buddy system whereby bench players were involved and given a specific coaching role when things started to go wrong:

We knew in advance, communication, what we expected from that. And we very deliberately chose to connect players in the team... and as long as things are going good, fine. But when things went wrong, they knew 'hey watch out', and these were very short signals. A clear coaching role... coming from the players, the players among themselves.

Alex on the other hand paid specific attention to communication patterns during the preparation for the tournament:

During our training camp, so during every match and every practice, we as the staff tried to see who is communicating with who, who is not communicating, how are people reacting to certain calls. During the games we even filmed this, we had cameras on the bench and on the court to see who is talking to who and what kind of behaviour manifests itself... We wouldn't say anything during the games, but afterwards we would discuss this.

Learning from experiences. Coaches in our study emphasised drawing on past experiences in order to develop resilience. Alex, for example, emphasised the importance of previous positive experiences: "over the years I see that people who have experience with winning, have it easier to deal with that kind of difficult situations". Interestingly, coaches also valued negative experiences as a way to develop resilience. Central here was the coaches' attitude that every experience, positive or negative, should be used as an opportunity for learning. Coaches believed that a learning attitude allows teams to develop new systems to use under pressure, as evidenced by Alex:

This has just been a very, very good lesson. I am sure that next game, if we notice something similar is happening, we just have to snap our fingers and we will be back in the game, realizing this is happening again, and we will know what our pitfalls are.

This focus on learning from experiences was also reflected in the fact that coaches welcomed adversities and setbacks and viewed them as opportunities for growth: "Already at an early stage [in the tournament] it became clear that for our opponents everything was allowed [to disrupt us]... and that actually made it for us more interesting and fun" (Ben). This sentiment was further reflected in the fact that Ben even felt disappointed when opposition was weak, because this did not provide the same opportunity for learning as challenging games did.

Anticipating setbacks. All three coaches held the idea that team resilience, in part, could be developed through anticipating and preparing for possible setbacks. This is evidenced by the account of Ben:

For us it started with just having a conversation. We knew [the tourna-

ment] was going to be in the least favourable circumstances for us to play. Whereby at this point we talked about what could come our way, in playing style of our opponents, but also in the organisation of the tournament, the supporters... so already in the preparation we talked about what we are going to experience.

Later on, Ben reflected on the usefulness of this preparation: "there are quite a lot of things we prepared, talked through, so we would not be confronted with too many surprises... there was nothing we felt like 'we didn't think of that'". This sentiment was also reflected in Alex's account, who felt that he should have anticipated more how his opponents would play: "Asking other coaches 'how are our games, how would you play against us?' We already did it, but we will do it more often. I think it is super useful to anticipate this."

For the coaches, the goal of anticipating setbacks was to develop what-if scenarios. These systems were developed to provide the teams with clear strategies to use under different or changing circumstances. Ben for example reflected on how developing different systems helped his team under difficult circumstances:

For each scenario, we said "ok assume that you have to play under those conditions, how will our system suffer from this?" So not starting from a best-case scenario, but rather from the bottom. If things are going bad, which system can we play then... And we saw this during the final, we were prepared for this. In fact it was predicted that this [adversity] was going to occur. And if that made the switch between systems being accelerated? I think this was the case. When we said we are going to play system A and abandon system B... so in fact we went back to certainty.

Use of planned disruptions. Developing systems under normal training conditions, without straining the players, was perceived to hold no guarantee for its usefulness under actual stressful conditions, as illustrated by Ben: "All the theoretical jabber about 'what is going to be your role, how are we going to deal with this'... it's all good and well, but it's all just theory." For the coaches, preparing for setbacks didn't just involve talking through possible scenarios and systems, but also involved testing them under real-life stressful conditions. This was done through the use of planned disruptions. These are instances in which the coach deliberately exposed the teams to some form of adversity, within a controlled environment. Carl for example brought his team out of their comfort zone during training camp, to see how they would react:

Training stress, training resilience, everything we did was aimed at this. Every exercise, with the staff, we tried to observe what happens to people.

Which players will provide energy, which players drain energy? To do this we bring them in a context that causes stress...

Ben described a similar approach in what he called a “stress test”:

During our training camp... the surrounding conditions were the least favourable we could imagine. Our hotel was placed next to a construction site, which started at half past six. Our hotel rooms didn't have curtains, people woke up quite early, angry. Bad beds, bad food, bad transportation. The [host country] had organised for some amazing schools to come and watch our practices and they were terribly annoying. So that was exactly what we wanted... We saw some examples of players reacting completely opposite to how they said they would react. That was very useful for us because later on we could always refer back to this.

Discussion

Using IPA techniques, this study explored the subjective experiences of national team head coaches in relation to team resilience before and during continental or world level competitions (e.g., World Championships, European Championships, Olympics). In general, our findings are largely in line with previous work, but provide insights into how coaches believe team resilience is manifested and can be developed in relation to a very specific situation (i.e., preparing for and competing in a major international event).

In line with Decroos et al. (2017), coaches in our study believed team resilience not only involves demonstrating resilient qualities, but also addressing certain vulnerabilities under pressure. Teams had to navigate vulnerabilities such as communication breakdowns, failing leadership, and the inability to flexibly adapt systems. Such vulnerabilities have previously been related to sudden drops in functioning, even in successful teams. When key players fail to fulfil their roles, communication ceases, negative emotions rise, and decision making processes fail to function as they should, this can lead to a temporary collapse of team structure, decreases in group cohesion and motivation, and ultimate decreasing team performance (Apitzsch, 2009; Wergin et al., 2018). Although understanding how teams avoid collective vulnerabilities provides important lessons for applied practice, it remains unclear whether this is directly the result of resilient qualities or whether addressing vulnerabilities is a quality in itself. Our results seem inconclusive as some vulnerabilities seemed to be each other's direct opposite (i.e., strong leadership versus failing leadership), whereas other vulnerabilities did not seem to be directly related to the resilient qualities.

In addition to the vulnerabilities, two resilient qualities were also identified: a collective resilient attitude and strong and shared leadership. The idea of a collective resilient attitude, characterised by a resilient identity, collective efficacy, and a refusal to give up, has been proposed in the past (Yukelson & Weinberg, 2016). Though Morgan et al. (2013) reported several of these attributes as distinct characteristics of resilient teams, Decroos et al. (2017) argued that these characteristics actually coincide in practice and are mutually influenced by underlying psychosocial processes. Such a view is supported by our findings, as a collective resilient attitude seemed to be simultaneously shaped by – among others – team commitment, efficacy beliefs, and team identity. This is in line with recent suggestions that team resilience constitutes a second-order emergent state (Bowers et al., 2017). Different input factors (e.g., team identity) and processes (e.g., leadership) might thus lead to first-order emergent states (e.g., a collective resilient attitude) which in turn promotes team resilience as a second-order emergent state.

The second resilient quality related to strong and shared leadership. Coaches believed that leaders who combine inspirational exchanges with remaining sufficiently critical can improve team resilience. This might be explained by the fact that high quality leaders are capable of strengthening resilient qualities such as collective efficacy, team identification, and outcome confidence (Fransen, Vanbeselaere, De Cuyper, Coffee, et al., 2014). Furthermore, our study also confirms previous findings that shared leadership is an important psychosocial quality underlying team resilience (Morgan et al., 2013, 2015). The importance of shared leadership can be partially explained by that fact that leadership was considered to be situational, with several distinct types of leadership roles, each having a specific function in relation to optimal team performance (cf. Fransen, Vanbeselaere, De Cuyper, Vande Broek, & Boen, 2014). However, during competitions, having a diffusion of leadership might also serve as a protective quality because it allows teams to compensate for the absence of certain leadership figures.

Interestingly, the coaches did not directly refer to the quality of relationships between team members when discussing resilient qualities. This was somewhat surprising because high quality social relationships is a relatively robust finding in team resilience research in sports (e.g., Morgan et al., 2013, 2015) and in other contexts (e.g., Carmeli, Friedman, & Tishler, 2013). One possible explanation could be that coaches felt high quality relationships were already present at this point in time. Another explanation could be that the quality of relationships was perceived to be less of an issue during major competitions because the focus here is completely on performing, ren-

dering other team processes less important. This finding, however, does not imply that the quality of social relationships should be ignored when trying to develop team resilience. High quality relationships might still be an important adaptive psychosocial quality during other phases of team development, such as during the early stages of forming a team or in the direct aftermath of traumatic events.

Another important finding was that the coaches' accounts could be interpreted in terms of establishing team cognition. According to McNeese, Cooke, Fedele, and Gray (2016) team cognition consists of two distinct types of shared cognition, which were both reflected in several major themes in this study. The first type reflects the static shared knowledge, often also referred to as shared mental models (SMM; Cannon-Bowers, Salas, & Converse, 1993). These mental models are well-structured knowledge frameworks (e.g., knowledge of strategies, systems, or team roles) that allow teams to select and prioritise actions under challenging conditions and coordinate team performance (Lim & Klein, 2006). Morgan et al. (2015) already pointed out that team resilience can be underpinned by using past setbacks to develop or refine SMMs, which can then be applied to future challenging situations. Results from our study suggests that this process can also be done proactively by anticipating possible future setbacks and developing appropriate SMMs (e.g., different game plans).

Static knowledge structures, however, explain only a part of team cognition. In order to successfully adapt these SMMs to specific situations, dynamic cognitive processing is also required (McNeese et al., 2016). Such interactive shared cognition is reflected in the team interactions (e.g., communication, leadership) which facilitate the coordinated application of SMMs (Cooke, Gorman, Myers, & Duran, 2013). Effective communication channels (Morgan et al., 2013), transformational leadership, shared leadership (Morgan et al., 2015), and avoiding conflicts or breakdowns in communication (Decroos et al., 2017) have all been linked to team resilience in the past. In relation to participating in major tournaments, these interactive team qualities seem to go hand in hand with the effective and flexible use of shared knowledge structures. For example, coaches indicated that during difficult games they looked at specific leadership figures to shift between the most appropriate game plans.

This paper also provided a substantial contribution to the team resilience research in sports by exploring how coaches tried to develop team resilience. In the present study, coaches prepared their teams to demonstrate resilience in competition by using each of the learning styles of the traditional Kolb cycle (1984) of experiential learning (i.e., drawing on concrete experi-

ences, reflective observation of experiences, abstract conceptualisation, and active experimentation). For example, coaches not only drew on past experiences, they also emphasised reflecting on the lessons which can be learned from these experiences. Morgan et al. (2013) already pointed out that team resilience and learning are linked, and that resilient teams draw upon both successes and experiences of adversity to develop the belief that they are capable of withstanding future setbacks. It would seem though that not necessarily the experiences itself will determine a team's resilience, but rather the knowledge and resources the team acquires through these experiences (cf. Morgan et al., 2015).

Secondly, coaches in our study also tried to develop resilience on an abstract level, by anticipating possible future setbacks. Alliger, Cerasoli, Tannenbaum, & Vessey (2015) already pointed out that resilient teams are characterised by their ability to 'minimize' the negative consequences of stressful events. In order to do this, teams prepare themselves to handle challenges and plan contingencies. Coaches can use 'what-if' scenarios to discuss all possible or likely setbacks a team can encounter going to a tournament and outline the appropriate course of action or systems under each of these circumstances.

Thirdly, coaches actively tested and refined the resilient qualities under real-life conditions. It has been argued that resilience training should occur in a sufficiently challenging training environment (Fletcher & Sarkar, 2016; Kegelaers & Wylleman, *in press*), which resonates with earlier suggestions to introduce exposure to moderate levels of stress in talent development programmes (Collins & MacNamara, 2012). Such suggestions are based on the idea that exposure to moderate levels of stress can lead to the development of resilient qualities (Seery, 2011) and relates to traditional stress inoculation training (Meichenbaum, 1985). Simply exposing athletes to stressful or challenging conditions, however, does not guarantee the development of resilient qualities (Collins, Macnamara, & McCarthy, 2016), nor does it explain why these qualities develop (Savage, Collins, & Cruickshank, 2017). Rather, these instances should be used carefully and deliberately with the aim to develop specific resilient qualities or avoiding vulnerabilities. As such, the principles of deliberate practice might provide valuable tools within planned disruptions (cf. Savage et al., 2017), as it allows for the monitoring, evaluation, and prediction of changes in task demands, as well as rapidly accessing knowledge of various response strategies (Lund, Musaeus, & Christensen, 2013). This also implies that setting up planned disruptions should closely resemble the anticipated real-life stressful situations.

PRACTICAL IMPLICATIONS

A number of practical implications arise from the current study to guide coach education and coaching practice as well as applied sport psychology work. Coaches and practitioners should identify and monitor the team-level resilient qualities and vulnerabilities and address specific deficits. Morgan and colleagues (2013, 2017) already argued that educational programs should form an integral part of team resilience development strategies. Such educational programs for athletes can be set up in collaboration between coaches and sport psychologists, with the aim to develop or strengthen specific resilient qualities or address specific vulnerabilities (cf. Gonzalez, Detling, & Galli, 2016). For example, workshops might be organized to address a team's inability to adapt flexibly through scenario planning (Chermack, Coons, O'barr, & Khatami, 2017), whereby potential challenging situations are discussed and the most appropriate responses or systems are established and agreed upon for each scenario.

Simultaneously, the present study also stresses the importance of integrating resilience development strategies within daily training activities (cf. Fletcher & Sarkar, 2016; Kegelaers & Wylleman, *in press*). Coaches can, for example, carefully and deliberately create planned disruptions within training settings (Kegelaers, Wylleman, & Oudejans, *in press*). Such disruptions might expose (a lack of) team qualities and vulnerabilities, which can consequently be targeted. Furthermore, they might also serve as a way to test existing or newly developed resilient qualities (e.g., communication channels) under realistic stressful conditions. In addition to such artificial challenges, coaches should also encourage a learning attitude towards past 'real-life' challenging or adverse experiences. To this end, coaches might reflect together with the team on such experiences and discuss how systems can be refined, resilient qualities can be strengthened, and vulnerabilities can be avoided in the future.

It should be noted that coaches themselves require the necessary competences to implement such resilience developing strategies. Not in the least because an unbalanced implementation of strategies such as planned disruptions (i.e., exposure to too much stress, without sufficient support and/or recuperation time) might have detrimental effects on athletes' mental well-being (Fletcher & Sarkar, 2016). It is, therefore, advised that coach education programs target both the specific coaching strategies to develop resilience as well as the interpersonal skills (e.g., ability to establish positive coach-athlete relationship) necessary for an effective implementation of these strategies (Kegelaers & Wylleman, *in press*). In a less formal way, coaches' competences

might also be strengthened by facilitating the exchange of good practices, as many high-level coaches undoubtedly already possess specific strategies to develop resilience. Finally, sport psychology practitioners working directly with coaches might use psychoeducation approaches to help the coaches identify resilient qualities and vulnerabilities as well as teach strategies to address these qualities and vulnerabilities.

LIMITATIONS AND FUTURE DIRECTIONS

When interpreting the results of this study, it is important to recognise some of its limitations. First, it should be acknowledged that the present study included only three participants. It has often been argued that a limited number of participants in qualitative research brings with it issues with regards to generalizability. This is, however, based on a statistical-probabilistic view on generalizability, which in itself is problematic and not a feasible approach in qualitative research (Smith, 2018). Therefore, a more suitable approach, consistent with our ontology and method of analysis (Smith & Osborn, 2003), might be to look for naturalistic generalizability. This occurs when the detailed and rich data provided in the study resonates with the reader's own personal experiences (Smith, 2018). Although a limited number of participants was not considered a limitation, we recognise that, in order to strive for naturalistic generalizability, the richness of our data can always be improved. This might, for example, be achieved by using multiple interview points, complemented by alternative data collection methods such as reflective diaries and behavioural observations.

Second, no specific attention was given to the differences in team resilience between male and female teams. Research has shown that female athletes are confronted with different challenges throughout their career and appraise and cope with these stressors differently (Anshel, Jamieson, & Raviv, 2001). It remains unclear, however, if this leads to conceptually different experiences of resilience between males and female athletes. Third, although it is recognized that team resilience likely results from both collective qualities and combined individual characteristics (Galli, 2016; Morgan et al., 2013), this study has mainly focused on the identification of psychosocial qualities and processes. Although the importance of key players (i.e., team leaders) has been highlighted in this study, no attention was given to the specific personal qualities these individuals should possess.

Finally, given the dynamic and contextual nature of resilience (Morgan et al., 2013), future team resilience research should adopt a developmental

and holistic approach (cf. Fletcher & Sarkar, 2012). As such, research should continue to explore team resilience occurring during different phases of team development (Morgan et al., 2015), as well as in relation to not only athletic (e.g., first time selection for Olympics) but also non-athletic challenges (e.g., departure of important team members) (Wylleman & Rosier, 2016). Applying such a developmental perspective might help to further identify how resilience training techniques and programmes can be included in talent development programs.

Conclusion

In order to reach the highest levels of athletic success, teams have the be able to deal with the challenging demands and often stressful nature of competing in major international competitions. In the present study, national team head coaches highlighted that positive adaptation to such challenges and stressors might result from a collective resilient attitude and strong and shared leadership, whilst simultaneously avoiding breakdowns in communications, failing leadership, and the inability to adapt flexibly. Furthermore, the coaches tried to improve team resilience by strengthening communication channels, focussing on learning from experiences, anticipating setbacks, and using planned disruptions. In sum, this study highlights that team resilience is a dynamic and multifaceted construct, and, perhaps more importantly, something coaches can develop during daily training.

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