



A qualitative examination of choking under pressure in team sport

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ABSTRACT

Objectives: As choking in sport has only been examined to date through athletes performing individual sports and/or closed skills, this study uses a qualitative methodology to provide a unique insight into choking within the team sport setting.

Design and methods: Through individual semi-structured interviews, the experiences of eight athletes who choked under pressure regularly whilst playing a team sport were examined in detail.

Results: The participants perceived their choking episodes were associated with a range of antecedents, mechanisms, moderators and consequences. Many of which were similar to those found within individual sports/closed skills; although differences were noted. This study supports the suggestion by Hill, Hanton, Matthews, and Fleming (2010a) that choking in sport may be caused by distraction, debilitating anxiety and low perceived control, and that its consequence is a significant drop in performance.

Conclusions: The study extends the choking literature and offers information for practitioners working with teams.

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Choking in sport is a significant decline in athletic performance under pressurized conditions (Hill, Hanton, Fleming, & Matthews, 2009; Mesagno & Mullane-Grant, 2010), which will influence detrimentally the athlete's performance in the short-term, and may limit their level of sporting achievement in the longer term (Hill et al., 2010a). Choking regularly under pressure can also affect the athlete through lowering subjective well-being and disrupting their athletic identity (Hill, Hanton, Matthews, & Fleming, 2011). Although an increasing number of studies have explored choking in sport (e.g., Gucciardi, Longbottom, Jackson, & Dimmock, 2010; Mesagno, Harvey, & Janelle, 2011), there remains a lack of clarity regarding its precise cause, mechanism and moderators (see Hill, Hanton, Matthews, & Fleming, 2010b for a review). However, it has been established that choking is the result of disrupted attentional processing caused by self-focus and/or distraction (see Beilock & Gray, 2007). The self-focus theories (i.e., Explicit Monitoring Hypothesis, Beilock & Carr, 2001; Consciousness Processing Hypothesis, Masters, 1992) maintain that performance deteriorates as a consequence of the athlete reinvesting explicit technical information. That is, the athlete attempts to consciously monitor and/or control a skill they would normally perform automatically (see Jackson, Ashford, & Norsworthy, 2006). This process of reinvestment is thought to encourage choking as it prevents the

effective and efficient processing of a well-learned skill (Masters, 1992). Conversely, the distraction models (e.g., Eysenck & Calvo, 1992) indicate that choking occurs when the athlete processes anxiety-related cognitions (e.g., worries and self-doubt) alongside information required to execute their skill. Such dual processing of task-relevant and task-irrelevant information may cause choking unless the athlete responds with increased effort (Wilson, 2008).

The extant literature offers self-focus as the most likely mechanism of choking in sport (see Beilock & Gray, 2007), although its supporting evidence is derived predominantly from experimental studies. Indeed, the recent expansion of more ecologically valid qualitative choking research has provided increased support for the distraction models (e.g., Gucciardi et al., 2010; Hill et al., 2010a). It is likely therefore, that the mechanism through which an athlete chokes is determined by individual and situational moderators, including: trait reinvestment (Masters, Polman, & Hammond, 1993); type of skill being performed (Beilock & Carr, 2001); level of self-consciousness (Baumeister, 1984); and fear of negative evaluation (Mesagno et al., 2011). However, additional research is required to investigate the precise impact each moderator has on the choking process. Contemporary literature does provide an increased understanding of choking in sport. However it is concerning to note that the phenomenon has only been explored to date, through individual sports (e.g., golf) or individual closed-skills (e.g., basketball free-throws). The experiences of athletes' who have

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choked whilst performing within a team sport have yet to be investigated.

The training and performance ‘environment’ of team and individual sports is known to differ. For example, team sport presents the athlete with a range of stressors that vary from those within individual sports (see Nicholls, Polman, Levy, Taylor, & Cobley, 2007). Moreover, the social processes evident within team sport (e.g., communication, group roles, and cohesion) that affect the cognitions, emotions and behaviors of athletes (Eccles & Tenenbaum, 2007), are less evident within individual sports. Accordingly, it is conceivable that those athletes who choke whilst playing team sport may do so as a result of factors which differ from those associated with choking within individual/closed sports.

By focusing exclusively on the choking experiences of athletes within individual/closed sports, the extant literature provides limited information for practitioners working with team players who choke. As a consequence, the aim of this study is to address this gap in the literature by examining qualitatively choking under pressure within team sport.

Method

Methodology

A transcendental phenomenological methodology (Husserl, 1913/1983) was employed to address the research aim within this study. This methodology is used to explore extensively a phenomenon as it appears to those who have experienced it (Giorgi & Giorgi, 2008), and enables a holistic examination of choking under pressure within the team sport setting. An increasing number of sport and exercise psychology studies have adopted a phenomenological research design (e.g., Gearity & Murray, 2011; Hassell, Sabiston, & Bloom, 2010; Thomas, Lane, & Kingston, 2011), for it not only provides a rich description of the athlete's experiences, it also explores the meaning they attach to those experiences. This can provide new information that generates a fuller appreciation of the phenomenon under investigation (Langdridge, 2007).

Participants

Eight participants (aged 20–30 years) took part in the study. All were male and played a team sport (rugby union, $n = 2$; soccer, $n = 3$; hockey, $n = 1$; volleyball, $n = 1$; cricket, $n = 1$) regularly (structured training > 2 times a week; >1 competitive game(s) per week during the season) at a competitive level (club or county level). As a phenomenological study requires information-rich participants who have experienced the phenomenon first-hand (Wertz, 2011), each participant acknowledged they had choked under pressure regularly (>5 times per season) during their previous two seasons. To ensure that choking experiences rather than under-performances were being investigated within this study, the ‘characteristics of choking in sport’ (Hill et al., 2009; Mesagno & Mullane-Grant, 2010) were adopted by the research team. Thus, the choking episodes explored within the study were perceived as a significant drop in performance that occurred at important/pressurized moments, and were associated with high levels of anxiety.

Procedure

Through convenience sampling, a number of sports teams within the South West region of England (UK) were approached by the research team and the aims of the study were explained to the players. Any athlete who believed they had choked under pressure

regularly and were willing to discuss their experiences, were recruited to the study. Although twelve individuals volunteered for the study, four were rejected as during a preliminary interview it became apparent they had not experienced choking (in accordance with Hill et al., 2009; Mesagno & Mullane-Grant, 2010). Therefore, the remaining eight participants completed retrospective individual semi-structured interviews which explored their choking episodes. The study was approved by the lead author's University's Research Ethics Committee, and in accordance with the BASES (British Association of Sport and Exercise Sciences) and BPS (British Psychological Society) code of ethical conduct, written voluntary informed consent was gained from all participants before the interviews commenced.

Data collection

All participants completed a preliminary interview with the research team, in which it was ascertained whether they had experienced choking under pressure regularly (>5 times) during the previous two seasons. Through this process, eight participants were invited to complete individual semi-structured interviews which explored in detail their choking experiences that had occurred whilst competing within their team sport. The interviews were based broadly on the interview schedule utilized by Hill et al. (2010a) in their study of elite golfers. However during the current study, several questions were added in order to explore the choking phenomenon within the team sport context. Consequently, each interview was divided into four sections that considered the participants perceived: a) antecedents of choking within their team sport; b) mechanisms/process of choking within their team sport; c) moderators/influencing variables of choking within their team sport, and finally; d) consequences/outcome of choking within their team sport (see [Supplementary material](#) for interview schedule). Prior to the interview, the participants received a preparation booklet which encouraged the recollection of details regarding their choking events. This approach has been used recently within qualitative sport psychology research to increase the accuracy of retrospective data (e.g., Connaughton, Wadley, Hanton, & Jones, 2008; Hill et al., 2010a).

In line with the requirements of descriptive phenomenological research (see Giorgi & Giorgi, 2003), the interviews were designed to encourage the participants to describe, evaluate, and explain their choking behavior. Moreover, as advocated by Miller and Crabtree (1992), a form of ‘bracketing’ was adopted to ensure the participants' views were reported accurately. Thus, the research team remained focused on exploring the participant's experience of choking, whilst ensuring that their own pre-conceptions of the phenomenon did not influence the investigative process. The interviews were recorded digitally and lasted between 80 and 100 min.

Data analysis

The descriptive phenomenological data were analyzed via the four steps advocated by Wertz (2011). Each stage was completed independently by the lead researcher and the other member of the research team. Firstly, the interview transcripts were read several times in their entirety to gain a clear sense of the participants' responses. Secondly, each transcript was organized into smaller meaning units, which captured each theme or point of interest that arose from each interview. Thirdly, the data were transformed, which involved the connection of several similar meaning units into over-arching global themes. This stage of the process was principally inductive, in that the meaning units and global themes emerged from the data. Most global themes were labeled with *in-*

Table 1

A summary of the perceived antecedents, mechanism, moderators and consequences of choking within team sport.

Choking within team sports		
Dimension	Global themes	Number of participants reporting the theme
Perceived antecedents	Important games	8
	Expectations	8
	Individual responsibility	8
	Presence of an audience	8
	Physical/mental errors	7
	Poor preparation	5
	Opponents	5
	Self-confidence	4
Perceived mechanisms	Physiological fatigue	4
	Debilitative cognitive and somatic anxiety	8
	Distraction	7
	Perceived control	6
	Motive to avoid failure	4
Perceived moderators	Self-focus	2
	Team cohesion	7
	Motivational climate	6
	Coping style	6
	Mental skills	5
Perceived consequences	Passion	4
	Perfectionism	3
	Significant drop in performance	8
	Negative affect	8
	Withdrawal	6
	Reflection	4

vivo codes extracted from the choking literature (e.g., debilitative anxiety, expectations, perceived control and presence of an audience), whilst the remaining themes were labeled with terms conveyed by the data (e.g., passion, fatigue and individual responsibility). The content and meaning of each global theme were documented to offer an increasingly explicit account of the participants' choking episodes, with similarities and differences between the participants' experience also noted at this stage. Finally, the fourth stage of analysis included the organization of the global themes to form a sequential representation of the participants' choking experiences. As such, the global themes were placed deductively into the pre-determined dimensions of antecedents, mechanisms, moderators, or consequences of choking within a team sport. At the end of the process, the global themes generated independently by the lead researcher and other member of the research team were discussed and corroborated. Any discrepancies were considered at length, and eight potential global themes were excluded from the study as a consensus on their inclusion was not reached.

Trustworthiness

Following the recommendations of Sparkes (1998), trustworthiness was gained through several methods. Firstly, the semi-structured interviews were extensive, and allowed the participants to describe and explain their choking behavior in detail. Through the use of probes, the meaning that each individual attached to their choking episodes was also gained. Secondly, the transcripts were transcribed *verbatim* and read several times by the lead author and other research team member to ensure familiarity with the data. Thirdly, the themes were analyzed independently and corroborated within the research team, and then sent to the participants for member checking. Finally, to ensure that an

accurate insight into the participants' personal experience of choking was gained, the interviewer employed bracketing to reduce the impact of any personal bias (see Giorgi & Giorgi, 2003).

Results

The results of the study will be presented in four sections: the first presents the participants' perceived antecedents of choking within their team sport; the second identifies the perceived mechanisms of choking within their team sport; the third provides the moderators of choking within their team sport; and the final section offers the perceived consequences of choking within their team sport (see Table 1 for a summary of the results).

The perceived antecedents of choking under pressure within a team sport

All participants recognized that *important games/moments* may have acted as an antecedent to their choking episodes. The games deemed important included those which held personal value such as competing for promotion, attempting to avoid relegation and/or playing against close rivals. Important moments tended to occur at the start of the game, the closing stages of a close game, and when there was an opportunity to win or lose the match. One participant clarified how important games/moments were often associated with his choking episodes, "The pressure I feel when I may score and we could win...is when I choke. I over think...about the other players, my team's reaction, the goalkeeper, the match situation... everything, rather than just trying to score".

Each of the participants also perceived that *expectations* often led to choking. More specifically, their desire to reach and/or the fear of not achieving their own high expectations, or the expectations placed on them by others, was considered to precede choking. Moreover, the participants suggested that performing a task with *individual responsibility* within their team sport, may have acted as a frequent antecedent of their choking experiences. Such tasks included taking a penalty kick, receiving the ball at the start of the game, and having a 'one-on-one' shooting opportunity with the goalkeeper. This finding was explored further by one of the participants:

I feel immense pressure when I am one-on-one with the goalkeeper, because...it is down to me to make the difference. It is my responsibility...to produce the result for the team...the weight of the team is on my shoulders...all eyes are on me. I hate those situations.

The participants also perceived that the *presence of an audience* often led to their choking episodes. In particular, being observed and evaluated by the media, talent scouts, parents and coaches increased the pressure which they suggested triggered choking.

Seven of the participants noted that making physical/mental errors were common antecedents to their choking. They often responded to their mistakes with self-criticism and distraction, which were considered to lead to a choke. One of the rugby union participants stated:

The mistake can be as small as a missed pass or bad tackle. This impacts the rest of my performance...I worry what impact it [the mistake] had on the team...I think 'why did I do that'...I am very self-critical, so I then get really annoyed...and then go on to choke.

It was established that five of the participants perceived that *poor preparation* acted as an antecedent to their choking experience. Poor physical preparation was considered to encourage

fatigue, which the participants identified would lead to choking during the closing stages of a game. Furthermore, they noted that poor or disrupted mental preparation before the game could also precede their choking episodes, for this led to a lack of 'readiness'.

Five participants identified that their *opponent's* actions may have led to choking. For three of the participants this occurred through the under-estimation of their opponent's ability, and the subsequent fear of not being able to reach their anticipated goal (i.e., winning the game). The other two participants suggested that competing against superior opponents led to their choking episodes, because, "I feel inferior...not good enough to be on the pitch...I feel more pressure because I don't want them to make a fool out of me". Similarly, a frequent antecedent of choking that was identified by four of the participants was high *self-confidence*:

When me and the team are over-confident...negativity can take over really quickly...It can be a little thing like the defender making a good tackle on me when I got past him with ease earlier. It is the surprise that affects me...I struggle to deal with that...and then I go on to choke.

However, the remaining four participants recognized that their choking experiences were often preceded by low self-confidence. The rugby union player explained that, "...when the game starts badly, I lose my confidence...Because of this, I don't think straight, and this leads to more mistakes...I don't think I can do anything right...so I end up choking". The final perceived antecedent to choking identified within this study by four of the participants, was the *physiological factor* of fatigue. Although each participant continued to exert effort, the fatigue was perceived to cause distraction, incorrect decision making and poor skill execution, which in turn was associated with choking.

The perceived mechanisms of choking under pressure within a team sport

All participants identified that each of their choking episodes were associated with debilitating somatic and cognitive *anxiety*. One of the soccer players explained further how the appraisal of his somatic anxiety symptoms may have caused his choking:

I think nerves are good generally...they can be positive to my performance. However, during a choke...the sweaty palms, physically shaking...I dislike that. During choking they [somatic anxiety symptoms] make me feel horrible...sick in my stomach...it is like I am playing with lead boots. I just can't play like that.

Similarly, another participant summarized how cognitive anxiety accompanied his choking episodes, "I am normally positive...but when I choke, it's the complete opposite. I am negative...I don't think I am good enough...I don't think I'm going to score...I think the other team are better".

Seven of the participants believed that their choking events were caused by *distraction*, and that the main distractors were focusing on the potential outcome of the game and the associated consequences (e.g., winning, letting team mates down, and selection). For the most part, the participants were distracted by thoughts regarding a possible negative outcome (i.e., losing), although there were occasions in which they appeared to choke through focusing on a potential positive outcome of the task. Critically, the participants also identified that they often became distracted because of the presence of an audience:

I wanted to impress the crowd...but while trying to impress I forgot about the game in hand...I am then focusing on the

negative criticism I will get if I don't perform well. I don't want people to think I am rubbish.

Six of the participants perceived that each of their choking episodes were associated with a *lack of perceived control* over their performances and emotions. This finding was summarized by one participant who suggested he had choked regularly throughout his soccer career:

When I choke, I am not in control of my body functions...my emotions are running away from me...All I am thinking is when will it [the choke] end...It's like when you are having a filling at the dentist. You are just thinking...when will this horrible drilling stop. For me, that is what a choke is like...I just have to wait for the choke to finish...The choke controls me...controls my performance.

The findings indicated that four of the participants believed their choking episodes were associated with a *motive to avoid failure* (MaF). This included the desire to avoid mistakes, the need to avoid the negative evaluation from others, and the avoidance of negative comparison with other players. Finally, two participants suggested that on occasions, *self-focus* had caused their choking events. The cricket player in particular, indicated that he had been effected frequently by self-focus during his bowling performances, "As I was running up, I was thinking of my hand position. Then as I released the ball, I was thinking about where my arm should be...what my hand should be doing...I had no idea where the ball would go".

The perceived moderators of choking under pressure within a team sport

It was acknowledged by seven of the participants that the perceived *level of cohesion* (task and social) within their team, may have moderated their tendency to choke under pressure. This occurred primarily through the level of social support they received from team members and coach. One of the participants summarized this finding:

The team I used to play for would criticized me when I did something wrong...that would lead to choking...it was so demotivating that I stopped playing for a while...Now, the team I play for are really supportive...very cohesive...and when I make a mistake...they offer words of encouragement and I forget about it...I rarely choke now as a result.

Similarly, one participant perceived that being part of a cohesive team not only alleviated the frequency of his choking episodes, but also enabled the retrieval of his performance after a choke:

Being part of a team that has cohesion means...the last thing I am thinking of is choking...but if I have choked, the team are cool...so I feel better straight away and just go and try and create another opportunity to score.

The participants also recognized that the *motivational climate* of their training and competition environment may have moderated their susceptibility to choke under pressure. In particular, a climate which prioritized avoidance-performance goals was considered to encourage choking. As an example, one participant explained that, "When my coach criticizes us for making mistakes during training or when we are losing matches...it increases pressure and I end up making more mistakes. I don't respond well to negativity". Similarly, another participant noted that he choked during matches against local rivals because, "...for the coach...in the build up to the match and during the match itself...it all becomes about us *not* losing". Thus, when the coach promoted an approach-mastery

climate, the participants suggested their choking episodes were less frequent, “I prefer it when we focus on strategies, tactics...on improvement [because] it makes me do the best I can under pressure...to put effort in...I still try and win...but our priority is a sense of self development”.

It also appeared that the participants' choking episodes may have been encouraged by their *coping style*. That is, an approach-coping style was perceived to alleviate the likelihood of choking, whereas the use of avoidance-coping increased the participants' susceptibility to choke. This finding was summarized by one of the rugby union players:

Usually I plan my game beforehand...thinking about the kick off, and how I am going to take the ball...During the game I think about what we have been working on in training...I then work out the best way to deal with our opponents...This approach is how I play my best rugby. [However] choking comes about when I am just trying to avoid making mistakes...getting rid of the ball if I do get it...looking for excuses to get away from that pressurized situation.

Five participants suggested that when they used *mental skills* such as simulated practice during training and the use of imagery during performance, they choked less regularly. However, they also admitted to having limited knowledge of sport psychology, and using mental strategies infrequently during their pressurized performance:

We don't have any sport psychologists to help us...it [mental skills] is not the done thing [in soccer]...I just hope for the best. So, when I choke, I just try to smile...but of course that doesn't help...When I do something like visualization, it does help a bit...but I don't really know what I am doing.

The findings revealed that four participants perceived their susceptibility to choke under pressure was moderated by their *passion* for the game. It was suggested that, “...the game [soccer] is my passion...I think I choke because of this...I care too much for the game...I am desperate to go out there and be the best I can be...to be successful”. Finally, three participants noted that *perfectionism* may have encouraged choking. It emerged that by striving for perfection the participants had become highly self-critical of any performance error, which reduced their self-confidence and appeared to impact negatively on their focus and performance. This finding was summarized by one of the soccer players who stated that, “I am a perfectionist...so if I make a mistake...it completely panics me. I am frightened that I might not reach my goal”.

The perceived consequences of choking under pressure in a team sport

All participants recognized that the main consequence of their choking episode was a *significant drop in performance*. They described this performance as, “a mental breakdown”, “a massive ‘balls up’...”, “making constant mistakes that stop you performing” and, “when the game goes downhill rapidly”. The participants also identified that a choke was distinctive from their underperformances, “When you underperform, you do one or two things wrong...but when you choke...I can't play at all...I can't do anything right...the only thing I can do, is get off the field”. Interestingly, despite the participants experiencing such an acute decline in performance, they suggested it was not always obvious to others (e.g., the coach) that they had choked, for they could “hide in the game” and “allow teammates to compensate for errors”.

All eight participants also recognized they experienced *negative affect* as a consequence of choking. The main emotions included

a sense of failure, disappointment, anger, frustration, embarrassment, and lowered enjoyment. The most dominant negative affect was guilt as they did not wish to, “let the team down”. The participants believed that although such emotions impacted negatively on the current performance, they were used subsequently to re-energize their performances in the longer term:

After I have choked, I am beating myself up inside...I feel dejected...all the energy has been taken out of me...I am angry at myself for letting it [the choke] happen...But I have used this experience to train harder. The choke is a wake up call for me to put in more effort and give myself the chance to get better.

For six participants, they perceived that a consequence of their choking episodes was the *withdrawal* from their game. In one case this included dropping out from their sport for several years, and returning only to perform at a lesser standard. For two participants, they often withdrew from the game in which they choked, by requesting to be substituted. The final three participants acknowledged they remained on the field of play after a choke, but withdrew their effort.

The final consequence of choking under pressure identified by four of the participants was *reflection*. They recognized that their initial reflections of their choking experiences were negative and self-critical. However, in the longer term they were able to reflect constructively on the experience, “...the negativity I feel [after choking] is over turned by positives...a drive to succeed...I think to myself, ‘how can I turn this around’...the choke makes me focus on how I can play better”. The participants identified that their team mates and coach were a significant factor within their process of reflection, as they offered emotional and informational support which facilitated their attempts to use their choking episodes to inform future performances.

Discussion

This study has identified several perceived antecedents of choking under pressure within the team sport setting. Most of which have also been found to precede choking within individual sports/closed skills, including important games and moments, high expectations, self-confidence, presence of an audience, and a lack of preparation (see Gucciardi et al., 2010; Hill et al., 2010a; Mesagno et al., 2011). However, the participants identified four antecedents to their choking episodes which have yet to be recognized within the extant choking literature, and thus may be specific to choking within the team sport context. The first antecedent is individual responsibility, whereby the participants suggested they choked as a result of executing an individual task within their team game (e.g., soccer penalty kick). The findings of this study indicate that the participants may have choked in this situation because of ego-threat (Baumeister, 1997). That is, by performing individual tasks that encouraged the attention of ‘others’, the participants appeared to perceive an increased likelihood of receiving negative evaluation. In turn, this led to ‘emotional distress’ which they attempted to escape from through ineffective avoidance-coping strategies (e.g., ‘getting rid of the ball’ and asking to be substituted). Accordingly, athletes with responsibility for individual tasks within the team game should be encouraged to use self-regulatory approach-coping strategies that manage emotional distress and the associated evaluation apprehension caused by ego-threat (see Jordet & Hartman, 2008; Toering et al., 2011).

The second antecedent of choking within a team sport, which has yet to be noted within studies that have examined individual/closed sport, is making physical and mental mistakes. Although errors are one of the most common stressors experienced by competitive athletes (see Nicholls et al., 2007), it is accepted that

the athlete can retrieve their performance after making mistakes by applying appropriate coping strategies (see [Nicholls & Polman, 2007](#)). It is apparent within this study however, that the participants coped ineffectively with errors. They responded with acute self-criticism which lowered their self-confidence and remained distracted by their mistake. As such, athletes within team sport should develop strategies such as cognitive restructuring and positive reflection, which would enable them to cope more effectively with their errors and prevent choking ([Hill et al., 2011](#)). It should be noted that although making physical/mental errors has yet to be established as an antecedent to choking within individual/closed sports, it is arguable whether this antecedent is restricted to choking under pressure within the team setting. However, it is conceivable that the psychological impact of making mistakes within a team sport may be greater due to the athlete's concerns of 'letting team mates down'.

This study has revealed that the actions of opponents were a perceived antecedent to choking within a team sport setting, for their behavior reduced the participants' expectations of success. It has been demonstrated elsewhere that choking can be instigated when the athlete perceives their expected outcome goal (e.g., winning) may not be achieved ([Hill et al., 2009](#)). Therefore, with the action of opponents being a constant threat to the achievement of outcome goals within a team sport, this finding is unsurprising. It is of particular importance therefore, for athletes competing within a team sport to remain focused on process goals which are within their control ([Kingston & Wilson, 2009](#)). Of interest, the belief that the opponent is gaining the 'upper hand' and that the expected goal may no longer be achieved, is akin to negative psychological momentum (PM). [Jones and Harwood \(2008\)](#) have demonstrated that negative PM is associated with lowered self-confidence, poor concentration, anxiety and feeling of perceived threat. All of these appear to have been experienced by the participants within this study during their choking episodes. Thus, a valuable line of future inquiry should be to examine the possible association between negative PM and choking in sport.

The physiological factor of fatigue was perceived by the participants as an antecedent to their choking within team sport. As choking under pressure is a breakdown in performance due to psychological factors (see [Beilock & Gray, 2007](#)), the possible influencing role of physiological fatigue has received limited attention. This is a concerning omission when most competitive sports will challenge the athlete both physiologically and psychologically. To date, only [Vickers and Williams \(2007\)](#) have attempted to examine the choking phenomenon under conditions designed to replicate a physically demanding sport. Their participants were required to exercise on a cycle ergometer at various intensities (55%, 70%, 85% and 100% of VO_2 Max) prior to the completion of a motor skill task (biathlon pistol shooting) under low and high pressure conditions. Through measuring the participants gaze (via a mobile eye tracker) their study indicated that participants who choked under pressure after exercising intensely, did so because they were unable to maintain their focus on the external target. [Vickers and Williams](#) suggested that the 'chokers' may have directed their attention inwardly on their emotional, technical or physiological (i.e., fatigue) response. Thus, the findings of the present study offer tentative support for the suggestion that physiological factors such as fatigue can act as an antecedent to choking under pressure, by distracting the participants from the task.

This study also offers support for the belief that choking is associated with high levels of anxiety, and that it is the debilitating interpretation of the anxiety which may cause choking, rather than its intensity per se ([Gucciardi et al., 2010](#); [Hill et al., 2010b](#)). In addition, this study indicates that the majority of participants

choked through distraction, rather than self-focus. As athletes may not be able to recall accurately the complex attentional disturbances associate with choking ([Beilock, Wierenga, & Carr, 2003](#)), this retrospective qualitative study is unable to provide conclusive evidence with regards to the mechanism of choking. However, this finding does offer further support for the role of distraction within choking (e.g., [Gucciardi et al., 2010](#); [Hill et al., 2011](#)), and also concurs with the suggestion by [Hill et al. \(2010b\)](#) that future research should focus on exploring individual and situational factors that determine whether the choke occurs through distraction or self-focus. This information could then be used to devise appropriate interventions that alleviated choking episodes caused by either mechanism.

This study strengthens the suggestion that perceived control is a central characteristic within the mechanism of choking in sport ([Hill et al., 2009](#); [Otton, 2009](#)). Thus, practitioners working with athletes who choke within the team setting should prioritize the use of strategies (e.g., pre/post performance routine, process goals, cognitive restructuring) which appear to enhance perceived control within choking susceptible athletes (see [Hill et al., 2011](#)). The present study also found that a motive to avoid failure may be associated with choking in team sports. In particular, the participants appeared to possess a strong desire to avoid the negative evaluation from others. This finding offers preliminary support for the recently proposed self-presentation model of choking ([Mesagno et al., 2011](#)), which indicates that the desire to avoid negative judgment from others, is the critical element of the choking process.

Arguably, the most pertinent element of this study was the perceived moderating influence of team dynamics and motivational climate on the choking process within a team sport. The study indicated that a coach which fosters approach-mastery training/performance climate, which engenders the perception of social support between team members, may alleviate the frequency of choking episodes of those who are susceptible. This reinforces the claim that an ego/performance outcome orientated focus can encourage choking ([Hill et al., 2010a, 2011](#)), and that social support acts as a 'buffer' to the effects of stress, enabling the athlete to cope more effectively with pressure (e.g., [Tamminen & Holt, 2012](#)).

A unique finding of this study was that passion was perceived to be a moderator of choking within team sport. [Vallerand et al. \(2003\)](#) defined passion as a strong inclination toward an activity, in which the athlete invests a significant amount of time and energy pursuing. It is suggested that when a sporting activity becomes important to the athlete, it develops into a central feature of their self-identity and they will experience either harmonious and/or obsessive passion as a result (see [Vallerand et al., 2008](#)). If the sporting activity has been internalized into the athlete's identity in an autonomous way so that it is important but not overpowering, then it is considered harmonious passion. Conversely, obsessive passion is formed if the activity is internalized in a controlled way, whereby the athlete feels compelled to partake in the activity because they attribute intra- or inter-personal contingencies to that activity (e.g., social acceptance and self-esteem). As obsessive passion is considered to lead to a range of negative cognitions and behaviors that include disrupted attention, there appears to be an intuitive link between obsessive passion and choking in a team sport. However, further research is warranted to explore this suggestion.

The consequences of choking found within this study reflect those identified in previous literature that has examined individual/closed sports (see [Gucciardi et al., 2010](#); [Hill et al., 2009, 2010a](#)). Therefore choking within a team sport setting appears to consist of a significant drop in performance that is distinctive from an under-performance, and which can lead to a range of

negative effects (e.g., guilt, anger, and lowered enjoyment), including withdrawal from their sport. Of interest, several participants within this study noted that despite such an acute performance failure, 'others' had failed to notice their choke. Thus, unlike individual sports, it may be less obvious to observers whether an athlete has choked during a team performance, which has implications for practitioners and researchers. For example, in order for the practitioner to intervene appropriately with their team player, or the researcher to examine the choking phenomenon within a team sport, they should not rely solely on observation of performance. Instead, qualitative methods should be used to explore the athlete's cognitions, emotions and subtle behaviors to ensure the choking event is isolated and identified correctly.

Finally, although this study has identified that choking in a team sport can affect the performer and performance negatively, the impact in this instance appeared to be short lived. As found elsewhere in the literature (Gucciardi et al., 2010; Hill et al., 2011) the participants within this study adopted a process of positive reflection that used the choking experience constructively. This is in contrast to the 'chokers' within the Hill et al. (2010a) study who failed to respond positively to their choking experiences, and instead became increasingly low in confidence and more susceptible to choking under pressure. It would be a valuable endeavor to explore how and why reflective practice can moderate athletes' ability to cope effectively with a choking episode and prevent further vulnerability to the experience.

Summary and conclusion

This qualitative study offers an initial examination of choking under pressure within the team sport setting. It has provided an insight into the perceived antecedents, mechanisms, moderators and consequences of choking under pressure from the perspective of the team athlete. Accordingly, it offers preliminary information for practitioners working with teams, who need to develop a training and performance climate in which optimal performance is encouraged, and choking under pressure is minimized. However, it is essential that further research is completed on a larger sample of participants and through a broader range of sports. It is also important to recognize that the qualitative methods used within this study are vulnerable to biased recall (see Beilock et al., 2003), particularly as the participants were required to recollect complex cognitive processes. Moreover, it has been demonstrated that individuals at times, are unable to describe and explain accurately the reasons for their behaviors (Nisbett & Wilson, 1977), which may include choking.

It must also be noted that the participants recruited for this study were self-selecting. That is, they volunteered for the study based on their belief they had choked. However, objective performance data were not utilized to verify such perceptions and confirm they had experienced choking. It would be advantageous therefore, for future choking research to adopt mixed-method designs in which objective measures identify 'chokers' and qualitative methods are used concurrently to generate detailed accounts of the choking phenomenon. As such, the next challenge for researchers is to establish quantitative approaches that can determine a choking episode and distinguish it from other performance failures (e.g., under-performance and yips).

Finally, this study has identified the perceived antecedents, moderators, mechanisms and consequences of choking from those willing to discuss their experiences. Thus, it is possible that such findings may not reflect accurately the choking process for those athletes who are unwilling to engage in a study of this kind. Nevertheless, this study does provide an introductory overview of

the choking experiences within the team sport setting, and offers the necessary foundation for future research.

Appendix A. Supplementary material

Supplementary material associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.psychsport.2012.07.008>.

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