Hill, Denise M. and Hemmings, Brian (2015). A phenomenological exploration of coping responses associated with choking in sport. Qualitative Research in Sport, Exercise and Health, 7,4 521-538.

A Phenomenological Exploration of Coping Reponses Associated with Choking in Sport

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Date submitted: May 30th 2014

Date Re-submitted 1: 16th August 2014

Date Re-submitted 2: 24th August 2014

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Abstract

The likelihood of choking in sport is moderated by the athlete's choice of coping strategy. Yet a lack of consensus exists with regards to which strategies encourage or prevent the choke (see Hill, *et al.* 2010a). Accordingly, the aim of this study was to explore, through qualitative methods, the coping responses perceived to be associated with choking episodes. Semi-structured interviews were completed with six elite golfers who had experienced both choking and clutch performances under pressure. It was revealed that avoidance coping strategies (e.g., rushing and denial) were considered to precede and / or accompany their choking episodes, whilst approach coping strategies (e.g., pre- and post-shot routines, cognitive restructuring and simulated practice) were associated with their clutch performances. Such findings are discussed within the context of the extant choking literature, and used to inform recommendations for practitioners working with choking-susceptible performers.

Keywords: Stress; clutch; paradoxical performance; anxiety.

A Phenomenological Exploration of Coping Reponses Associated with Choking in Sport

Choking in sport is "an acute and considerable decline in skill execution and performance, when self-expected standards are normally achievable, and which is the result of increased anxiety under perceived pressure" (Mesagno and Hill 2013a, p. 273). The choke is considered to differ from an underperformance in terms of underlying cognitive and emotional processes, and behavioural outcomes (see Mesagno and Hill 2013ab). Therefore, an increasing number of researchers have begun to explore the choke as a distinct sporting phenomenon, in order to understand its mechanism further, and offer information for practitioners working with athletes vulnerable to choking.

It has been established that choking in sport is the result of attentional disturbances caused by self-focus and / or distraction (see Beilock and Gray 2007; Hill *et al.* 2010a for reviews). With regards to self-focus; the high levels of anxiety experienced under pressure will cause some athletes to consciously monitor the explicit components of their skill in an attempt to ensure it is executed correctly. Paradoxically, this leads to the breakdown of well-learned automatic skills, for they are normally processed through procedural implicit knowledge, outside conscious control (Carver and Scheier 1978). Conversely, distraction theories indicate that choking is the consequence of processing inefficiency (Eysenck and Calvo 1992). That is, when performing under pressure, anxiety can cause athletes to experience attentional bias towards threat stimuli. In turn, they attempt to process task-irrelevant thoughts related to that threat (e.g., worry and self-doubt), alongside information required for the task (Beilock and Gray 2007). It is the subsequent inefficient processing of task-relevant information that can lead to choking, unless the athlete responds with increased effort (Williams, *et al*. 2002).

More recently, Mesagno, *et al.* (2011) presented the self-presentation model as an alternative explanation for choking in sport, which indicates that public self-consciousness and a fear of negative evaluation are responsible for the acute performance failure. Hence, an

athlete's desire to offer a positive image to others and / or avoid negative evaluation can initiate high levels of social anxiety (Leary 1992), and lead to choking through distraction or self-focus. The model has received tentative support from a number of studies (e.g., Gucciardi *et al.* 2010; Hill *et al.* 2010b; Mesagno *et al.* 2012) which identified self-presentational concerns as a dominant construct prior to, and during, athletes' choking episodes. However, further research is warranted to verify and extend the model.

Although limited, there is evidence to suggest that a range of moderators may increase an athlete's susceptibility to choking (e.g., perfectionism, Gucciardi *et al.* 2010; high trait anxiety and self-consciousness, Wang *et al.* 2004a; a fear of negative evaluation, Mesagno *et al.* 2012; high trait reinvestment, Masters *et al.* 1993; and low narcissism, Geukes *et al.* 2012). The coping strategies chosen by the athlete to manage the demands of their pressurised situation have been noted as a particularly important moderating factor. Yet to date, the nature of the relationship between coping response and choking remains unclear (see *Hill et al*. 2010a).

Coping is a process whereby the athlete constantly changes their cognitive and behavioural efforts in order to manage the external and / or internal demands appraised as taxing their resources (Lazarus and Folkman 1984). Although various classifications of coping strategies exist (see Nicholls and Thelwell 2010), it is 'approach and avoidance' coping responses that have been examined within the specific context of choking in sport. Namely, approach coping strategies are those in which the athlete actively addresses, removes or changes the stressor (e.g., problem-solving and seeking information), whilst avoidance coping includes attempts to disengage from that stressor (e.g., denial and blocking; Roth and Cohen 1986).

Through their study of basketball performance, Wang *et al.* (2004b) were the first to suggest that utilising approach coping strategies may encourage athletes to choke in sport. They found participants who possessed an approach coping style, experienced higher levels

of anxiety and poorer performance under pressure, compared to those with an avoidance style. They argued that approach coping strategies cause athletes to focus on the stressor, which raises anxiety levels, and choking may then occur through self-focus or distraction. It must be noted however, that Wang and colleagues relied on the measurement of dispositional coping style prior to the study. Thus, although their participants would have had a propensity to select strategies aligned to their coping style during their failed performance, the actual choice of strategy cannot be confirmed.

Nevertheless, in their mixed-method study of choking-susceptible (CS) and choking-resistant (CR) athletes, Mesagno and Marchant (2013) also concluded approach coping strategies were more likely to elicit choking. They selected four CS and four CR netball players based on trait anxiety (Sport Anxiety Scale; Smith *et al.* 1990), self-consciousness (The Self-Consciousness Scale; Fenigstein *et al.* 1975) and coping style scores (The Coping Style Inventory; Anshel and Kaissidis 1997). Participants were *theorised* to be CS, if they had high levels of trait anxiety and self-consciousness, and an approach coping style. Whereas participants with low trait anxiety and self-consciousness, and held an avoidance coping style, were presumed to be CR. Each participant executed a netball task under low and high pressure conditions, followed by brief interviews which ascertained the coping strategies adopted during performance.

As predicted, CS participants appeared to choke when exposed to pressure, whereas the CR group maintained or improved performance. The qualitative interview data were then interpreted to confirm CS athletes' utilised approach coping strategies during their choking events, whilst the CR group employed avoidance coping. However, the four interview narratives presented (i.e., two CS and two CR participants) appear open to a differing interpretation than that offered. For example, within the CS cases, the few references made to specific coping responses, indicated that alongside approach strategies (i.e., monitoring the technique), avoidance coping was also employed during choking episodes (i.e., de-emphasis

of task importance). Similarly, although both CR participants utilised the avoidance coping strategy of blocking extensively, they also adopted approach coping (i.e., cognitive restructuring) during successful pressurised performance.

Furthermore, although the CS participants did experience a performance decrement under pressure (i.e., 11.7% drop), it is debatable whether this represents the acute and significant 'collapse' in performance associated with choking in sport (see Mesagno and Hill, 2013ab for a review). Indeed, Mesagno and Marchant suggest themselves, that their data only indicates "possible choking" (p. 82).

In contrast, Hill *et al.* (2010b) found within their qualitative study of elite golfers, that participants who regularly choked under pressure, did so when employing avoidance coping strategies in an attempt to physically and mentally remove themselves from the stressful situation (e.g., rush the shot and denial). They also found that participants who excelled under pressure (i.e., clutch), relied predominantly on approach coping strategies (e.g., simulated practice, pre- and post-routine, and cognitive restructuring). Similar findings emerged from their season-long intervention study (Hill *et al.* 2011), whereby a multi-modal psychological skills programme was delivered to golfers who suffered frequently from choking. It was found that the intervention alleviated choking episodes, with the approach coping strategies within the programme (cognitive restructuring, holistic process goals, and pre-post shot routines) perceived as responsible for such improvement. Moreover, on the few occasions during the season when the participants had 'lapsed' and choked, it was found that avoidance coping behaviours had been adopted (rushing and disengagement). It is important to note that in both studies, Hill *et al*. explored the choking phenomenon through participants who had evidently choked, rather than theorised to be choking-susceptible or who had underperformed when exposed to pressure. Arguable therefore, they provide a persuasive indication that avoidance coping, rather than approach coping strategies may increase the likelihood of choking.

Similarly, in their extensive examination of soccer penalty shoot-outs, Jordet and colleagues (e.g., Jordet 2009; Jordet and Hartman 2008; Jordet *et al.* 2009) also found avoidance coping strategies were associated with choking episodes. They established that soccer players often experienced high levels of emotional distress during pressurised penalty taking situations, due to the ego-threat elicited by fear of failure and the potential of negative evaluation. Players who responded by employing avoidance coping strategies (e.g., rushing shot preparation and avoiding eye contact with the goal keeper) in an attempt to 'escape' the ego-threat and associated distress, were more likely to choke. Based on the work of Baumeister (1997), Jordet argued that avoidance coping prevented the players from self-regulating, and choking occurred as a result of them failing to organise their thoughts, feelings and actions, and so not optimising their emotional and psychological state.

Accordingly, the extant literature is currently polarised regarding which coping responses may encourage choking in sport. As a result, a need exists to examine this relationship further in order to develop clarity, and inform evidence-based interventions that can be utilised to alleviate choking. Hence, this study has adopted a phenomenological methodology to enable the detailed exploration of choking and associated coping responses, through athletes' lived experience of the event. This approach affords a holistic and detailed understanding of the phenomenon, whilst remaining sensitive to any moderating individual / situational factors (see Flood 2010).

Method

Methodology

The aim of the study was addressed via a phenomenological methodology. Although phenomenology has developed various strands with distinctive principles (see Dowling 2007), the current study adopts the descriptive / transcendental form (Husserl 1931/1960). This is a systematic and disciplined methodology, which derives highly detailed descriptions of a human experience, within specific contexts. As a result, the approach can reveal in

detail, and under a naturalistic premise (Giorgi and Giorgi, 2008a), the *essence* of how the athlete felt when choking under pressure, and in what way their coping response formed part of that event. It can also generate an empathetic understanding of the athlete's experience, which illuminates specific details of their thoughts, emotions and actions (see Giorgio 1985). Moreover, by adopting transcendental phenomenology, bracketing of previous assumptions is encouraged, enabling a re-consideration of what we already know about the phenomenon. This is a particularly valuable aspect for the current study, where such opposed views of the relationship between choking and coping responses exist.

Participants

As descriptive phenomenological research explores an 'event' through the narrative offered by those who have experienced it (Giorgi and Giorgi 2008b), purposeful sampling was used to select participants for this study. Thus, the recruited participants were six elite golfers (two female and four male; aged between 17-25 years; $M = 21$, $SD = 3.4$) who had performed frequently under pressurised conditions, and experienced both choking and clutch performance during the preceding two years. Therefore, a comparison of adopted coping strategies across choking episodes and successful performances was completed, in order to isolate strategies responsible for encouraging the choke.

For the two year period under consideration, the two female participants were professional golfers competing on the Ladies European Tour (i.e., the leading tour in Europe for professional female golfers), and one male participant was a professional golfer competing on the Jamega Pro Golf Tour (i.e., the developmental tour for male professional golfers, intending to progress on to the European Tour). The remaining male participants were playing at the highest amateur level (i.e., international standard) and possessed exceptionally low handicaps of plus 3.3, plus 2.9, and plus.1.4. Thus, all participants were elite, and at the time of interview had been competing regularly (most weeks of the competitive season) under high levels of pressure. In addition, during this two year period,

all participants had access to a sport psychologist and received individual mental skills training sessions.

In order to ensure participants were recollecting a choke rather than any other performance failures (i.e., slump, yips, and underperformance), Mesagno and Hill's (2013a) operational definition of choking was utilised. Understandably, the elite participants were only able to recall a small number of choking episodes from the previous two seasons (i.e., <3 each). With regards to ensuring the participants were discussing clutch performances, Otten's (2009) definition was adopted (i.e., "any superior performance under pressure", pg. 584). In this instance, participants identified several clutch performances (>5 each) from the previous two competitive seasons, that included events they had won and / or gained a top five position.

Procedure

Once ethical approval had been gained from the lead author's University, two UK national golf teams (both male and female) were contacted directly by members of the research team, and the purpose of the study was explained. Golfers were recruited for the study if they perceived they had choked and excelled (clutch) under pressure during the previous two seasons, and were willing to discuss their experiences. Three players were recruited directly from the national teams approached, whereas the 3 professional participants were enlisted as a result of snowball sampling (Goodman 1961). Prior to the interviews, it was necessary to confirm via a brief phone call that each participant had experienced choking and clutch performance.

The six participants completed a semi-structured interview (via phone or in person) with the first author. Although every effort was made to complete each interview in person, two were completed by phone due to participant availability. Whilst the convenience of phone interviewing is evident, this approach can affect the quality of data collected due to the reduced opportunity for interviewer and interviewee interaction, and the inability to gauge and respond to each other's contextual or non-verbal cues (see Hanna 2012). In response, the

lead author ensured that extensive efforts were made to engage the participants with informal conversation during the initial stage of the phone interview, to generate rapport and form a reciprocal connection. Each interview explored: a) sources of stress that initiated a coping response during competitive events; b) coping responses associated with choking episodes, and; c) coping responses associated with excelling under pressure / a clutch performance.

Each participant also received a preparation booklet before the interview in order to improve their retrospective recall of pertinent events. The booklet explained the structure and purpose of the interview, and asked participants to re-visit their episodes of choking and clutch performance during the previous two competitive seasons. They were specifically encouraged to recall the coping responses they had adopted during those performance, and those experiences were discussed in detail during the interview (booklet available from the lead author on request).

Data collection

Semi-structured interviews were completed at the end of the participants' competitive season (i.e., between November and January), with each lasting between 50 and 90 minutes (M = 73.5; SD = 15). Due to the focused scope of the current study (i.e., coping responses associated with two performance outcomes) and the information-rich nature of the participants recruited, we were confident that saturation point had been reached (see Pitney and Parker, 2009).

The most widely used method of data collection within phenomenological research is semi-structured interviews, for they allow the participant to explain their experience of the phenomenon in totality (Giorgi and Giorgi, 2003). Accordingly, the interviews were structured to encourage a rich contextual account of the participants' choking and clutch performances, and the perceived associated coping strategies. The interviews followed phenomenological principles (see Willig, 2008) in which the questions were open ended (i.e., tell me about? can you describe? what were you thinking? what were you feeling? and how

did you manage?), which guided the participants to provide a narrative of their lived experiences of choking and clutch performances, whilst specifically reviewing the source(s) of stress, associated cognitions, emotions, and coping strategies. Probes were used subsequently, to elicit a deeper understanding where necessary (i.e., can you tell me a little more about that? what was that like? etc.,). Moreover, following Husserlian principles of transcendental / descriptive phenomenology, bracketing was attempted by the lead author (see Langdridge 2007). Thus, a reflexive stance was adopted in an effort to prevent prior theoretical pre-conceptions (regarding coping and choking / clutch performance) affect data collection. The interview schedule is available from the lead author on request.

Data analysis

In accordance with the recommendation offered by Giorgi and Giorgi (2008a), the descriptive phenomenological data were analysed by the lead author via four stages. Firstly, interviews were transcribed *verbatim* and read through to gain a global sense of the participants choking / clutch experiences. Secondly, the individual transcripts were broken down into meaning units which captured the coping strategies utilised by the participants during the choke / clutch events, the associated emotional, behavioural and performance outcome, and the sources of stress. For the third step, the data were transformed, which included clustering related meaning units into over-arching themes. Each theme was 'illuminated' through descriptive statements regarding the participants' meaning of their choking / clutch experience, and the associated coping responses. Although this stage was principally inductive, a deductive process was also included to identify specifically, whether the experiences of choking and clutch performance were perceived by the participants to correspond to either their use of approach or avoidance coping strategies. Any differences and similarities that existed between the participants' experiences of the phenomenon was also sought during this phase. The fourth stage of analysis involved the final organisation of

themes, which reported in a holistic narrative, the essence of the choking / clutch experience, and the perceived associated coping responses.

Trustworthiness of data

Through a relativist, rather than criteriologist position (see Sparkes & Smith, 2009), the research team have endeavoured maintain the trustworthiness of data though a number of strategies. In order to construct a representation of the participants' experiences, and so to gain credibility and confirmability of the data, extensive and flexible interviews were completed. As such, participants were encouraged to explain at length, and in their own words, their choking and clutch episodes, and the coping strategies they adopted. All interviews were then transcribed *verbatim* by the lead author to increase familiarity with the data. She also remained reflexive throughout the data collection and analysis stages, to prevent personal bias influence the process excessively.

In addition, the second author acted as a critical friend throughout the research process to protect the quality of data. By not collecting or analysing the data directly, he was able to offer a dispassionate oversight of the study, and prevent erroneous research decisions which may have impacted the quality of data. Whilst recognising the debate surrounding the use of member checking within interpretivist research (see Sparkes & Smith, 2014), this strategy was adopted within the current study. Relevant transcripts and the associated themes derived from those transcripts were returned to the participants. This was to provide an opportunity for them to reflect upon and discuss the findings constructed with the research team. Hence, as with other recent phenomenological studies within sport and exercise psychology (e.g., Crust *et al.*, 2014), the process was completed to promote the trustworthiness of our interpretations, rather than to seek verification or validation of the data.

Finally, the findings of the study are presented in a way to provide naturalistic generalisation, whereby the reader can form a connection with aspects of the participants' narrative which inform their own life-world (Stake 1995). This was achieved through the

recruitment of information-rich participants who had evidently choked and excelled under pressure, and who were then encouraged to articulate those experiences in detail through the interview process.

Results

The results section is divided into three sections: the first identifies the main sources of stress responsible for initiating the participants' coping response during competition; the second presents the coping responses that participants perceived were associated with their choking episodes; and the third describes the coping response participants' considered were associated with their clutch performances under pressure.

<Insert Table 1 here>

Sources of stress

Each participant experienced similar sources of stress during their competitive performances. The most common included: *self-presentational concerns*, the *opportunity of winning / losing an important event*, *making physical / mental mistakes*, *expectations*, *and feeling under prepared.* It is important to note that each source of stress was experienced consistently and regularly during competition by all participants over the two preceding seasons, and each stressor preceded *both* choking and clutch performance.

The participants acknowledged that *self-presentational concerns* had been the most common source of competitive stress. For the most part, the 'professional' participants were concerned with the potential of receiving negative evaluation from their family, peers and the media. Whereas the amateur participants were apprehensive about the opinion of the international squad selectors and their peers: "There are always people analysing you. I am always trying to impress the selectors. People are quick to criticise…you don't want to embarrass yourself in front of others." All participants recognised that during their pressurised competitive events, having an *opportunity to win*, or being at risk of *losing an important event* was also a frequent source of stress. In this instance, important events were

those considered as offering the desired reward (i.e., prestige, money, ranking points, and team selection). This stressor would often elicit an intense stress response as the participants were, "challenged" or, "threatened" by the potential consequences of the win or loss.

Making physical and / or mental errors was a stressor encountered by all participants during each competitive game. One participant noted that even the memory of a mistake was a source of stress, particularly when facing a similar situation, "I had previously choked on the same hole, with the same club…nothing but negative vibes going through my body. My shoulders felt tense…my arms were lead weights, my knees were shaking…and the green was looking tiny".

The perceived *expectations* of significant others was identified as a perceived source of stress, but the expectations the participants placed on themselves was noted as far more, "stressful". A female professional participant explained that, "My own expectations are much higher than others are of me. I am not happy until I achieve what I expect. Everything I do, I have to do perfectly." Finally, *feeling under prepared* was recognised by the participants as a less frequent source of stress, although they acknowledged that poor preparation for an event (e.g., inadequate warm up and limited opportunity to practice) would elicit an intense stress response which they found challenging to manage.

Coping responses associated with choking in sport

Participants perceived *avoidance coping*, *self-focus, hope*, and *venting* were the dominant coping strategies associated with their choking episodes. All participants considered *avoidance coping* strategies preceded the majority of their choking events, with the most frequent being denial, 'rushing' and defensive play. To summarise, one participant explained:

The more pressure there is, the more my body is telling me to go faster…I get so nervous. And I don't want to think about the shot, or the pressure, cos it will

overwhelm me. I try to get it over with…I can feel myself wanting to get away from the shot and the people watching me…so I totally mess up.

With regards to the avoidance strategy of defensive play, participants tried to protect a lead, "play safe" or avoid failure. One participant recalled the consequence of this coping response:

I started to think 'right I have a two shot lead, all I need to do is hang on'. At that point I tried not to do anything wrong. Not think about where I was in terms on the leaderboard. Block it out, you know? I got tentative…I ended up not committing…not going through my normal process…and I choked. You can't play golf thinking like that.

Three participants tried to respond to the stressful conditions with the approach coping strategy of controlling their skill execution (*i.e., self-focus),* which they perceived had led to choking. As described by one participant, "I hit a couple of poor shots and started to feel the pressure a bit more. To manage that, I focused on my technique. Well, that was the last thing I should have done, as my game fell apart". Another participant explained why he had adopted a self-focus coping strategy prior to choking:

I was trying my hardest not to do anything wrong...So, I'd get to a certain point in the swing, and then I would lift the club up, and then try and come down…I was just desperate not to hit a bad shot and get the ball to the green.

The third coping strategy three participants identified had preceded their choking was labelled *hope*. They relied on hope if unsure whether they were capable of performing the shot, and / or there was significant uncertainty over the shot outcome. As a result, they experienced a poor shot, or a choke. When describing one such choking episode, a participant recalled:

It was such an important shot. But because it was so important, I couldn't decide the best way to play it…and I felt I had to get on with it, as people were waiting. I ended

> up just pulling out a club that I hoped might do the job…set myself up and hoped it would be good…My caddy said I was pleading for it to be close, which is ridiculous. I should have done what I normally would do…decide what I need to do to get close…focus on my process, and take it from there.

Finally, two participants perceived that *venting* was associated with their choking episodes. They both suggested that although becoming frustrated and angry had occasionally aided performance, it was often an unhelpful coping response, "There are times when losing my temper has giving me a kick up the backside to re-focus…but there are times when it has caused me to lose control and my cool, and then I go on to choke".

Coping responses associated with clutch performances

The participants suggested that during their clutch performances, their coping responses predominantly included the approach coping strategies of a *pre- and post-shot routine, cognitive restructuring, and simulated practice.* However, the avoidance strategies of *acceptance* and *withdrawal* (walking away) were also employed at times. A *pre-shot routine* (PSR) was identified by all participants as an effective coping strategy employed during clutch performance in response to most competitive stressors confronted. It was considered to encourage a process task-orientated focus, control anxiety, maintain automaticity and increase goal expectancy, with the most common components of their PSR's being imagery, a deep breath, a trigger word, a swing feel and an external-narrow focus (i.e., on the target). One participant offered a summary of the PSR's importance during clutch performance:

> No matter what happens, what you are faced with, or how you feel….you go through your routine. This way, you are able to trust that a good shot is inevitable. As long as you practice this routine, it makes me focus. Focus on what I can control. It calms me…it eradicates mental anxieties. I know I can go on to hit good shots as a result [of the PSR], even though I'm under pressure.

With regards to a post-shot routine, five participants suggested it was associated with their clutch performances as it enabled a constructive review of the previous shot, and helped them re-focus on the next. As explained by one participant:

> …I review the shot, think about what went wrong or right, whether I need to do anything differently, and then walk forward to an imaginary line. Once I pass that, I take off the glove. It triggers the start of my next shot, and the end of the one that's just gone. It's a really helpful process and gives me control and consistency.

All six participants acknowledged that *cognitive restructuring* was an effective approach coping strategy they adopted prior to, and during, their clutch performances. It was used to re-appraise threatening stressors they perceive had the potential to effect performance negatively. Such an occasion was described by one participant:

> The pin was 15 yards away, and it was severely down-hill. Two yards after the green was the water hazard. I knew it could go horribly wrong, and I started panicking. So, I had to think…'If I do the right things, nothing bad will happen. I just have to focus on getting my processes right'. I suppose I thought about the situation differently, turned it into something I could manage, and then just got on with it, and hit it close.

All participants stated that *simulated practice* was an important strategy within their coping repertoire, and a critical aspect of their clutch performances. Each participant placed themselves under pressure during practice for the purpose of rehearsing their coping strategies and pressurised skill execution:

> I'm on the practice ground, but imagine myself on the 18th needing a birdie to win. I'll go through my routine, go through my usual thought processes, and will do this over and over. I imagine the nerves, slowing myself down, taking a deep breath...so when I actually got that opportunity to win, I stood on the 18th and knew exactly what I had to do, because I had done it already a 1000 times…and I knew I could do it.

Of importance, it was noted by five of the six participants, that the above approach coping strategies had either been learnt, or refined, as a result of working with a sport psychologist.

With regards to avoidance coping, all participants employed the coping strategy of *acceptance* during their clutch performances, particularly when experiencing the stressor of making physical / mental errors. One participant explained:

> In the past I have lost it after a bad shot, so it's really important I accept it and get on with the next shot. That time [clutch performance] I actually hit a bad shot going down the 17th. But, it was like I had just crashed my car and was given a courtesy car. You just have to accept what you have got, and drive that car until you get your old one back. I went on to finish the round really well, thinking like this.

In addition, three participants identified *withdrawal* (i.e., walking away) from the stressor had facilitated clutch performance. On each occasion the strategy was perceived as effective, participants had been confronted with the stressor of an argumentative opponent, or an opponent they disliked:

> He [the opponent] was putting me off, so although I wanted to have it out with him, it wasn't going to help or change his attitude…so I gave myself space and walked away. That meant I stayed focused on what I had to do, kept in control and took the trophy.

Interestingly, it was suggested by each of the participants that their choking experience or previous under-performance had informed the development of their effective coping strategies, "Well, I looked back on that [choke] and realised that I rushed. I now know that when I get into that [pressure] situation, I have to consciously slow myself down".

Discussion

All sources of stress identified by the participants (i.e., self-presentational concerns, winning / losing an important event, making mistakes, expectations, and feeling under prepared), have been noted as stressors experienced frequently by elite golfers during competitive performances (e.g., Nicholls 2007; Nicholls and Polman 2008). It was found within the

present study that each stressor was associated with both choking episodes and clutch performances, and so as identified elsewhere (e.g., Hill *et al*. 2010b), the athlete's appraisal of the stressor appears to determine whether they choke, rather than the stressor *per se*. Of importance, self-presentational concerns were identified as a significant source of stress that often preceded participants' choking experiences. Thus, the study offers tentative support for the self-presentation model of choking (Mesagno, *et al.* 2011), although identifies that it is the participants' coping response to self-presentational concerns that governs performance outcome.

The participants perceived that avoidance coping strategies (e.g., denial, rushing, and defensive play) were associated with the majority of choking episodes discussed. The findings therefore support Jordet (Jordet 2009; Jordet *et al.* 2009) and Hill (Hill *et al.* 2010b, 2011) who suggest that avoidance coping strategies can often encourage choking by preventing the athletes from self-regulating their psychological and emotional state effectively. Interestingly, the process of self-regulation is known to increase athletes' sense of perceived control over their actions, thoughts and emotions (Chen and Singer 1992). As low perceived control has been identified recently as a key determinant of choking in sport (see Otten 2009; Mesagno and Hill 2013ab), it is possible that avoidance coping increases choking susceptibility by preventing the athletes' from gaining control through self-regulation. Although conjecture, this suggestion appears to have theoretical merit and warrants further exploration.

Such findings are in contrast to studies which indicated that avoidance coping prevents choking through the alleviation of perceived threat and anxiety (e.g., Wang *et al.* 2004b; Mesagno and Marchant 2013). However, it remains unclear whether these studies in question, explored choking through participants who had evidently choked. In their recent debate, Mesagno and Hill (2013ab) argued that in order to bring clarity to the equivocal choking literature, researchers must begin to respect the *potential* difference between an under-

performance and a choke, in terms of underlying mechanisms and outcome. Thus, if a greater understanding of choking is to be gained, efforts must be made during future empirical work to ensure (as achieved in the current study) that the choking event is isolated, and participants are recognisably 'chokers' rather than merely theorised to be susceptible. It also must be noted that Wang *et al.* (2004b) measured coping styles rather than strategies, which could account for the contrasting findings with the current study. Thus, it is also important for future research to explore the specific strategies used by the athlete whilst performing under pressure, for they may not match their dispositional coping style.

Despite the current study offering a persuasive indication that avoidance coping strategies are more likely to increase choking susceptibility, it also identified that on a small number of occasions the approach coping strategy of self-focus (i.e., consciously monitoring / controlling technique) was associated with choking. Participants who adopted this strategy, did so in a paradoxical attempt to strive for, and ensure success. The findings therefore, provides further support for the self-focus theories of choking under pressure (see Beilock and Gray 2007), as by processing their well-learned skill through working memory, the elite performers experienced a performance breakdown. It is established that an athlete's coping response is influenced by a number of situational and individual factors (Nicholls and Polman 2007). Although not the primary aim of the study, the data did not reveal any clear situational features, including stressor properties, which may have encouraged the 3 participants to employ the self-focus coping strategy on those few occasions. It is possible therefore, that in this case, individual factors such as a high reinvestment disposition (see Masters and Maxwell 2008, for a review) may have encouraged those athletes to manage the pressure by focusing inwardly (i.e., self-focus), and experience choking as a result. Thus, in order to explain further the relationship between choking in sport and coping response, it would be advantageous to consider certain individual's traits / dispositions that are known to

influence choking susceptibility (e.g., self-consciousness, trait anxiety, and reinvestment), alongside situational factors.

The final two coping strategies that were perceived by the participants as related to their choking episodes, were hope and venting. Hope is generally considered to be a positive psychological attribute, correlated with enhanced sporting performance (e.g., Gould *et al.* 2002). However, this is only the case when the individual has well-defined goals, knowledge of how to achieve those goals, and the determination and energy to act (Snyder *et al*. 1999). Importantly, on each occasion this coping strategy was recalled as ineffective by the participants, they did not possess a clear understanding of how to accomplish their goal at that time. Venting was perceived to be both an ineffective and effective coping strategy, for it was associated with both choking and successful performance within this study. This supports the suggestion by Nicholls (2007), that the same coping strategy can have both a positive and negative effect, depending on the situation and the athlete's appraisal of that stressor. In the instances that the strategy led to choking, it appeared to encourage the athletes to experience a loss of 'control'. Thus, venting can be helpful if the athlete needs to re-energise and enhance attention (see Vallerand and Blanchard 2000), though if it increases arousal and negative emotional responses disproportionately, it can lead to a loss of perceived control and choking.

The study has provided an indication that for the most part, approach coping strategies manage effectively a range of competitive stressors encountered by athletes, and encourage clutch performance. The pre-shot routine appeared particularly effective, for as found elsewhere in the literature (e.g., Mesagno *et al.* 2008; Mesagno and Mullane-Grant 2010), participants perceived that a consistent pre-shot routine enhanced their focus and improved emotional control, in response to a broad range of stressors (see Cotterill 2010, for a review). Moreover, in line with Boutcher's (1990) recommendations, the participants' effective pre-shot routines included a physiological (deep breathing), psychological (imagery and focusing

on target) and behavioural (trigger word) steps. Considerably less research has been directed at investigating the impact of a post-shot routine, with Hill *et al.'s* (2010a) study of elite golfers the most notable exception to date. As with the current study, they found a post-shot routine that included constructive reflection of the previous shot, followed by an action that directed attention to the next shot (e.g., removal of glove), was associated with excelling under pressure. Practitioners should therefore consider developing both pre- and post-shot routines with their athletes, when preparing for performance under pressure conditions.

This study also supports the suggestion that the approach coping strategy of cognitive restructuring can address stressors perceived as particularly threatening, in order to alleviate choking (Hill *et al.* 2010b) and encourage clutch performance. This strategy should therefore form a critical part of an athlete's coping 'toolkit', for as reinforced by Neil *et al.* (2013), learning to re-appraise the stressor and associated emotional response as facilitative, can enhance consistency of performance under pressure.

Participants noted that the avoidance coping strategies of acceptance and withdrawal were effective when employed in response to making physical / mental errors and a difficult opponent. Accordingly, an avoidance response was appropriate when the stressor was appraised as uncontrollable and unlikely to change. The golfers' effort and attention were then consciously deployed towards task-relevant stimuli instead. The participants also recognised that coping strategies are more likely to be associated with clutch performance once rehearsed through simulated training. As such, regardless of their inherent potential, the effect of a coping strategy is likely to depend on how well it has been learnt by the athlete (e.g., Tamminen and Holt 2012).

A final point of interest, was that several participants suggested that working with a sport psychologist assisted the development of their effective coping strategies. Moreover, their experience of choking had informed constructively their future successful response to pressure. Both findings are of significance, for firstly; it confirms that effective coping

responses can be learnt, and secondly; it indicates that the choking experience can be an important part of that learning process. This latter finding appears in contrast to the work of Hill *et al.* (2010; 2011), whose participants often suffered long-term detrimental effects of choking, including continued lowered performance standards, decreased levels of self-confidence, and even reduced subjective well-being. It is likely this is due to the framing / appraisal of the event, and consequently, it would be advantageous to compare the appraisal mechanisms of athletes who have experienced a choke and responded positively, to those who have choked and then failed to regain expected performance standards thereafter.

Conclusion

The study has provided further clarity on the relationship between coping responses and choking in sport, by finding that for the most part, avoidance coping strategies are associated with choking and approach strategies may encourage clutch performance. Of course, the overall picture is somewhat nuanced for approach coping strategies were associated with occasional choking events (e.g., self-focus) and avoidance coping responses (e.g., withdrawal) enabled clutch performance. Yet, the consistency by which participants perceived avoidance coping was associated with their choking episodes, was striking.

Application of findings

The findings of this study can be used by practitioners to inform their work with elite golfers who are choking-susceptible. That is, in general, when performing under pressure it would be beneficial encourage the use of approach coping strategies, such as a pre-and post-performance routine, and cognitive restructuring. Yet, if the golfer encounters uncontrollable stressors, which are perceived as unchangeable (e.g., an error), they should benefit from avoidance responses that include acceptance and withdrawal. It is also evident that all coping strategies should be rehearsed during simulated practice in order to become effective. Moreover, if the athlete does experience choking, the episode should be framed as a learning experience that informs future clutch performances.

Future research directions

This study has identified a general pattern of coping strategies adopted by athletes who have choked. However, the next step for researchers should be to use Lazarus's cognitive-motivational-relational theory (Lazarus 2000; CMS) as a framework, in order to gain a more precise understanding of the coping processes associated with choking episodes across participants and situations. Based on the extensive evidence-base relating to the CMS, it is likely that the relationship between selected coping responses and a choking outcome, can be effected by the properties of the stressor, the appraisals of the stressor, and further appraisals' of the associated emotional response (see Neil *et al.* 2011). Accordingly, an examination of each element of the sequential stress process (that includes the coping response) within the specific context of *choking under pressure*, is warranted.

In addition, and within the above framework, it would be of value to consider whether the appraisal mechanism and coping response differ between those who experience an acute choke (one failed putt) versus those who demonstrate chronic choking (throughout the 18 holes of golf).

Limitation of the study

There are a number of limitations which researchers should consider when completing further work in this area. The first is the retrospective nature of the study, for athletes may be unable to recall accurately the cognitive processes associated with past events (Beilock *et al.* 2003). This may explain why the participants within this study recalled fewer sources of stress than those identified within studies that utilised daily diaries (e.g., Nicholls, 2007) and 'think aloud' (e.g., Nicholls and Polman, 2008) methods of data collection.

A second limitation is that it does not identify a direct causal relationship between specific coping strategies and the subsequent performances. Instead, the study aimed to provide the participants' account of the coping responses they perceived were associated with their lived experience of choking and clutch performance. Thirdly, the study offers an

understanding of coping strategies employed during golf performances. It is not suggesting that such findings are generalisable to other sports, particularly those which do not often afford athletes time to employ approach coping strategies. As such, it is necessary to explore choking and the associated coping responses across sports.

Finally, choking research to date has examined coping responses through approach and avoidance dimensions. As coping has been categorised in various other ways that include problem, emotion, and appraisal focused (Lazarus and Folkam, 1984), it may be the case that this, and other previous choking studies have forced data into coping dimensions that may not have been an appropriate fit. Indeed, Skinner *et al*. (2003) observed that even the coping categories listed above may not represent accurately the broad range of coping strategies adopted by athletes, and instead proposed 12 families of coping (i.e., problem-solving, information seeking, helplessness, escape, self-reliance, support seeking, delegation, isolation, accommodation, negotiation, submission and opposition). Hence, it would be appropriate for researchers to consider adopting this extended framework when exploring the coping responses associated with choking.

Nevertheless, the participants within this study have provided a detailed insight into their pressurised golfing performances, and have perceived that avoidance strategies were the dominant coping response associated with their choking episodes, and for the most part, approach coping strategies enabled their clutch performances. Such findings contribute and extend the choking literature, and provide relevant information for applied researchers, practitioners and elite golfers.

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A phenomenological exploration of exercise mental toughness: perceptions of exercise leaders and regular exercisers

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Table 1. A summary of the perceived sources of stress and coping responses associated with choking and clutch performance.

Dimension	Themes
Sources of stress	Self-presentational concerns Opportunity of winning / losing Important event Making physical / mental mistakes Expectations Feeling under prepared
Coping responses associated with choking episodes	Avoidance coping Self-focus Hope Venting
Coping responses associated with clutch performance	Pre-shot routine Post-shot routine Cognitive restructuring Simulated practice Acceptance Withdrawal