

The Psychological Characteristics of Performance under Pressure
in Professional Rugby Union Referees

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Abstract

This study utilized qualitative methods to explore the stressors, appraisal mechanism, emotional response, and effective / ineffective coping strategies experienced by elite rugby union referees during pressurized performances. Participants included seven male rugby union referees from the United Kingdom ($M_{age} = 27.85, SD = 4.56$) who had been officiating as full-time professionals for between 1 and 16 years ($M = 4.85, SD = 5.42$). Data revealed that the referees encountered a number of stressors, which were appraised initially as a 'threat', and elicited negatively-toned emotions. The referees were able to maintain performance standards under pressure by adopting proactive, problem- and emotion-focused coping strategies which managed effectively the stressors and their emotions. However, the use of avoidance-coping, reactive control, and informal impression management were perceived as ineffective coping strategies, and associated with poor performance and choking. Recommendations are offered to inform the psychological skills training of rugby union referees.

Keywords: stress process, choking under pressure, clutch performance, coping.

The Psychological Characteristics of Performance under Pressure in Professional Rugby Union Referees

The ability to cope effectively with the psychological demands of the game is a key determinant of successful rugby union refereeing (see Mascarenhas, Collins, & Mortimer, 2004). Indeed, a failure to cope has been associated with referees making inaccurate decisions (Anshel, Sutarso, Ekmekci, & Saraswati, 2014) that can have a significant influence on the game, players, coaches, and the referee's own career progression (Mellick, Fleming, Bull, & Laugharne, 2005). As a result, there has been increased research attention directed towards gaining an understanding of the stressors experienced by referees, the impact of those stressors, and the most effective way referees can manage the stressors to facilitate optimal performance under pressure. This information can then be used to inform mental skills training for aspiring and current referees.

Early research in this area (e.g., Goldsmith & Williams, 1992; Rainey, 1999; Rainey & Hardy, 1999) identified performance concerns, fear of physical harm, interpersonal conflict, and time pressures as the four key stressors experienced by referees across different sports (e.g., American football, soccer, ice hockey, volleyball, basketball, baseball, rugby union & softball). Although in most cases, the referees self-reported that these stressors only affected their performance 'moderately' (Rainey, 1999; Rainey & Winterich, 1995; Wolfson & Neave, 2007). This body of work focused predominantly on intermediate level referees, and therefore it remains possible that elite / professional referees may encounter stressors that differ from their intermediate counterparts, and which could elicit emotional responses that influence performance substantially. Indeed, in one of the few studies to explore the stress response of high level referees, Johansen and Haugen (2013) found that participants who officiated in the Norwegian Premier League (top-tier) experienced higher levels of anxiety than those who performed in the lower divisions. While the participants in this study suggested their higher level of anxiety did not influence performance, it has been found elsewhere that such an acute

emotional response can impair referee performance (see Kamata, Tenenbaum, & Hanin, 2002). Therefore, in order to clarify such findings, it remains necessary to examine further the stressors experienced by elite referees, their subsequent emotional response, and the impact this has on their performance.

With regards to coping strategies employed by referees, it has been established that emotion-focused approaches (i.e., regulating the emotions experienced as a result of the stressor), and in particular, problem-focused coping strategies (i.e., actively dealing with and altering the stressor) are employed to manage the stressors encountered (see Mathers & Brodie, 2011; Wolfson & Neave, 2007). Voight (2009) also established that referees utilized different coping strategies in response to specific stressors. In his study of US soccer referees, imagery-based coping strategies were adopted to manage the stressor of the media, whereas social support and increased effort were employed in response to the stressor of performance errors. However, in this case, and in much of this earlier work, there was no indication of whether the coping strategies had been effective.

While offering a valuable insight into the stress process of referees during performance, the evidence-base consists largely of survey-based studies that have examined perceived stressors, emotional response, and adopted coping strategies as separate entities. Yet, as illustrated by the cognitive-motivation-relational (CMR) theory (Lazarus, 1999), there is a need to examine these psychological concepts as a conceptual unit because of their interdependent relationship during the stress process. Moreover, it is essential that the role of appraisal is considered when examining the stress process, for it determines the emotional, coping and performance outcomes (see Lazarus, 1999; Lazarus & Folkman, 1984).

The CMR indicates that the stress process is an on-going transaction between the environmental demands and a person's resources (Lazarus & Folkman, 1984). In essence, if an individual perceives the demands outweigh their resource, they will experience an emotional response, and then engage in coping attempts to manage the situation and their

emotions. Critically, this process is determined by the individual's appraisal mechanism. That is, an event will only be considered 'stressful' if it is appraised as personally significant to the individual (Lazarus, 2000). Once this happens, that event (i.e., stressor) will then be appraised negatively or positively. A negative appraisal (harm or threat) results in unpleasant emotions that tend to damage the individual's performance, whereas a positive appraisal (challenge or benefit) leads to pleasant emotions, which can enhance performance (see Lazarus & Folkman, 1984). However, the impact of the emotional response on performance can be moderated by further appraisals. Thus, a facilitative appraisal of both pleasant and unpleasant emotions can encourage maintained or even improved performance, and a debilitating interpretation of emotions hold the potential to lower performance standards (Neil, Hanton, Mellalieu, & Fletcher 2011). Importantly, throughout this process the individual will be employing a range of coping strategies in an attempt to manage and re-appraise (as facilitative) the stressor and / or their emotional responses.

Recent sport psychology research has begun to explore the stress process of athletes using the CMR as a framework, in order to provide a holistic account of athletic performance under pressure (see Neil, et al., 2011; Nicholls, Polman, & Levy, 2012). However, Neil, Bayston, Hanton and Wilson (2013) offer the only study to date that has explored the stress response of referees through this theoretical lens. In their sample of intermediate and elite level soccer referees, Neil et al. (2013) employed qualitative methods to ascertain that the crowd, previous mistakes, assessors evaluating their performance, confrontation, and players with poor reputations were the main stressors experienced by their participants. Those stressors were initially appraised negatively (threat or harm) which subsequently encouraged unpleasant emotions (e.g., anxiety, anger, guilt, and embarrassment). Of note, the intermediate referees often failed to cope effectively with those emotions, and performed poorly as a consequence. Whereas the elite referees maintained their performance by adopting

problem- and emotion-focused coping strategies to either regulate their negative emotions, or (re-)interpret them as facilitative.

Through the application of the CMR, Neil et al. (2013) has provided a detailed review of the stress responses experienced by the referees within their study. Yet, it must be noted that only two elite soccer referees were included in their sample. Therefore, additional research is warranted that explores the pressurized performances of elite referees who perform at the highest level, across different sports. Accordingly, through a qualitative approach, and the application of the CMR framework, this study aimed to investigate the stress process of professional rugby union referees when performing under pressure. More specifically, it examined holistically the stressors, appraisal mechanism, emotional response, and effective / ineffective coping strategies of seven professional rugby union referees during clutch (successful) and choking (unsuccessful) performances. In turn, this information can be used to inform theory-driven applied interventions that support the psychological development of rugby union referees.

Method

Methodology

The aims of this study were addressed through narrative inquiry (Riesmann, 2008), underpinned by a relativist assumption. Accordingly, it is assumed that the experiences of human beings are socially constructed and can be illuminated through narrative. This approach enabled a detailed and holistic examination of the personal meaning that referees attached to their pressurized environment, with particular attention directed towards understanding the temporal ordering of the events which determined their stress process (Smith & Sparkes, 2009). Moreover, narrative inquiry emphasizes the relational nature of the lived experience (Gergen, 1999), thereby affording the opportunity to focus on how ‘significant others’ may have shaped the referees’ experience of performing under pressure.

Participants

After the study gained ethical approval from the research team's University ethics committee, seven male professional rugby referees ($M_{age} = 27.85$, $SD = 4.56$) were recruited to the study. They had all refereed competitive rugby union matches for a minimum of 7 years ($M = 10.85$, $SD = 3.76$), and had been contracted as a professional referee (with the Rugby Football Union; RFU) for between 1 and 16 years ($M = 4.85$, $SD = 5.42$). All participants officiated games regularly within the English Premiership league (i.e., the elite competition for professional rugby union clubs within England), while four of the seven participants had also refereed international test matches within the Six Nations Championship, the Rugby Championship, and Rugby Union World Cup (2007 & 2011). The Six Nations Championship is an international rugby tournament for all top-tier northern hemisphere countries (England, France, Ireland, Italy, Scotland and Wales), and the Rugby Championship is the equivalent competition for southern hemisphere countries (Argentina, Australia, New Zealand and South Africa). While the 'elite group' of professional referees within the RFU consisted of 12 individuals (at the time of writing), only seven were available for interview. Nevertheless, the sample represented an information-rich group of elite rugby union referees who performed frequently under significant levels of pressure. For the purpose of this study, pressure was considered to be any factor or combination of factors that increased the importance of optimal or superior performance (Baumeister & Showers, 1986).

Data Collection

Once informed consent was gained from each participant, individual semi-structured interviews were completed by the lead researcher to explore the referees' stress response associated with their optimal and failed performance under pressure. In particular, the interviews were designed to ascertain in detail: i) the *key* stressors experienced by the referees when performing under pressure; ii) the referees' appraisal of those stressors; iii) the emotional response to the stressors; and iv) effective and ineffective coping strategies employed to manage the stressors / emotional response. Where necessary, probes and

prompts were used to ensure that a comprehensive understanding of the referees' experiences was gained (e.g., can you tell me a little more about that?..what do you mean by that?). The lead researcher completed a pilot interview with a retired international level rugby union referee, and after reflecting on the process, deemed no changes to the interview schedule were necessary. Each interview lasted between 70 and 90 minutes, were recorded digitally, and transcribed verbatim. The participants were required to reflect on performances that had occurred within the previous two years to facilitate recall.

Data Analysis

Data were analyzed via thematic analysis (TA), which enabled an in-depth understanding of the material collected, while noting similarities and differences of experiences across participants (Braun & Clarke, 2006). As TA is not wedded to any theoretical framework (see Clarke & Braun, 2015), it is deemed compatible with narrative inquiry, for it enabled a detailed description of the socially constructed experience under investigation (Riesmann, 2008), while capturing patterns of meaning across the sample (Braun & Clarke, 2006). The data analysis process was completed by the lead researcher, and followed the stages of TA detailed by Clarke and Braun (2015). Accordingly, it consisted of an inductive and deductive process, that predominantly sought semantic meaning.

This analysis began with data familiarization, whereby the lead researcher became immersed with the transcribed interview data (i.e., reading and re-reading), and made notes on any points of interest that emerged. Thereafter, theory-driven line-by-line coding was completed, in which data relating to the key stressors experienced by each referee, the appraisal of those stressors, the subsequent emotional response, and the effective / ineffective coping strategies employed to manage those stressors / emotions were identified and coded. Any similar coding patterns were then clustered into overarching themes representing the relationship between stressors, appraisal, emotional response, coping strategies and performance outcome for each participant. All themes were then reviewed to ensure they

reflected the data fully, represented the sample as a whole, and addressed the research aim of the study. Finally, the overarching themes were organized and presented within a narrative, with care taken not to include raw data that may have revealed the identity of the participants.

Trustworthiness of Data

In line with a relativist point of view, trustworthiness of the data was informed by the work of Tracy (2010) who offered eight criteria by which excellence in qualitative research can be judged. To avoid static criteriology, the current study was underpinned specifically by rigor, credibility, sincerity, and resonance (see Sparkes & Smith, 2014).

Rigor (sufficient data / time in the field) was primarily achieved through the use of extensive interviews which allowed the participants to explain in detail their lived experiences, and the personal meaning of refereeing under pressure. Moreover, the participants were all information-rich and in a position to discuss at length, a number of a highly pressurized performances where they succeeded (i.e., excelled) and failed (i.e., choked). As a result, they were able to articulate perceived differences in their stress response across the two performance outcome scenarios. To gain credibility (a detailed representation of the data), the lead author adhered strictly to the stages of TA, as detailed by Clarke and Braun (2015). This encouraged a familiarity with the data, and facilitated robust coding, analysis and reporting of that data. Furthermore, the findings were presented as a narrative which incorporated extensively the participants' raw data, in order to offer an authentic account of their performances under pressure.

Sincerity (a study characterized by self-reflexivity) was achieved through a member of the research team acting as a critical friend during the analytical process. This ensured that the lead researcher remained reflexive when constructing the codes, themes, and narrative. Finally, it was intended that resonance (the study having impact on the reader) would be gained through the provision of an evocative and detailed narrative. As a result, athletes (particularly referees) who perform under pressure, and / or practitioners working with those

athletes, could make connections with the narrative to inform their own actions (i.e., naturalistic generalization, Stake, 1995).

Results and Discussion

The following narrative presents a holistic account of the referees' perceived stress response during successful and failed performances under pressure (see Table 1 for an overview). Please note that pseudonyms have been used throughout the narrative to protect the identity of the participants.

All participants experienced five key stressors during their pressurized officiating performances, which included *unfamiliarity*, *performance errors*, *interpersonal conflict*, *importance of the game*, and *self-presentational concerns*. It was revealed that all stressors were initially appraised negatively (i.e., threat / harm) and so elicited unpleasant emotions that consisted principally of cognitive and somatic anxiety.

Insert Table 1 Here

Unfamiliarity

The most noteworthy stressor identified by all participants was unfamiliarity, which consisted of facing a game situation they had not experienced before. For the most part, this arose when the referees were managing the scrum, using technology, and officiating new teams. Critically, the referees indicated that unfamiliarity was appraised as "highly" threatening, which would lead to a negatively-toned emotional state that was more intense and debilitating than their response to any other stressor. Therefore, each referee suggested that this stressor was difficult to cope with effectively, and so was often associated with their choking experiences. Carl summarized how unfamiliarity had led to an acute debilitating emotional response and a choking episode during one of his performances:

That time [when I choked] I had to keep resetting the scrum because I didn't know what was happening...I had 20 scrums and about 15 of them fell on the floor. I didn't understand who was collapsing it. I panicked... I thought Christ, what do I do here!!

Worst feeling in the world...I was not in control, [so] I just hoped the ball would come out [of the scrum]...In the end, I penalized someone knowing it wasn't the right decision...the game was a mess.

Four of the referees emphasized that choking was more likely to occur when having to manage concurrently a number of unfamiliar tasks. Frank illustrated this point further:

It was a local derby...so a big crowd. But [I] arrived to the stadium a little late...so hadn't done my usual routine before the game to ensure everything was in its place... Then the game was being played at such a fast pace...which I wasn't use to...[and so] I had to make decision after decision...Because there were too many things...and new things...to deal with, I was totally overwhelmed...By the time I had thought about my decision, the ball had gone...[so] I ended up making poor decision after poor decision...That was my biggest car crash [choke].

As unfamiliarity was perceived to hold the potential to encourage significant performance failure, it was unsurprising that all referees prioritized the development of coping responses in order to manage the stressor effectively. This principally involved the adoption of *proactive-coping strategies* (Aspinwall & Taylor, 1997) which alleviated the likelihood of unfamiliarity arising during the game. For all referees this involved researching the teams they were about to officiate before the game (i.e., patterns of play, recent form, the players / coaches), and using cognitive-general (CG; imagery relating to devising competitive strategies) and motivational general-arousal imagery (MG-A; relating to the management of arousal, relaxation and competitive anxiety; see Cumming & Ramsay, 2009) to mentally rehearse the various scenarios (e.g., best and worst case) they were likely to encounter during the game. Dave described how his use of proactive-coping prevented unfamiliarity occurring:

It [unfamiliarity] leads to stress. There's always going to be different things happening...different teams, conditions...weather. But you must turn the unfamiliar into

familiar with planning. You get in your head what this [game] may look like...how you will respond...That's what helps you stay in control and perform.

The CG and MG-A imagery used by the referees during their proactive-coping response included details of how they intended to communicate decisions to players (e.g., verbal tone and body language), and maintain their own emotional control throughout each scenario. Thus, as well as lowering the possibility of unfamiliarity, these type of images were likely to have raised the referees' level of self-confidence prior to performance, for they consisted of successfully executing and communicating decisions, and managing effectively their own emotional state (Hammond, Gregg, Hrycaiko, Mactavish, & Leslie-Toogood, 2012). Indeed, Eddie confirmed how his performance expectations were raised as a result of such imagery during his use of proactive-coping:

Preparation is making sure that before I cross the white line I have a good mental picture of what I expect to see, and what I expect to do. This way I am not surprised, and not overwhelmed by anything...I'm then confident I'll do the job well.

All referees within this study also suggested they relied on the coping strategy of *seeking informational social support* (Rees & Hardy, 2000) to manage unfamiliarity. This included gaining advice from their assigned RFU mentor and guidance from 'experts' on the technical areas of the game they considered likely to elicit unfamiliarity (e.g., at the scrum). Gary explained:

I do a lot of work on scrummaging because it is particularly difficult [unfamiliar] for me. I remember this game where I got the scrum totally wrong...That was my worst performance in an International Test as I didn't understand what this prop [player] was doing. I knew I had to work harder on my preparation for the scrum after that. I spoke to XXXX [retired international referee] about scrummaging, as I trust him... I feel prepared now...and better able to cope.

Performance Errors

All participants identified making performance errors as a key stressor, which they appraised negatively as mistakes held the potential to ‘harm’ the players, coaches, and their own career prospects. As explained by Adam, “Yesterday, with 20 minutes to go, there were about 15 jobs on the line. The game changed from being a hobby to having jobs at stake. So of course, we [referees] are under massive pressure to get the decisions right.” Moreover, Eddie identified, “It just takes one mistake from you and your career is gone...your chance at refereeing in the World Cup, gone. That’s the pressure.” Three of the referees identified that early in their career they had adopted the avoidance-coping strategy of *denial* after performance errors, and chose not to reflect on poor performances, and / or displaced blame externally. This approach was chosen to protect their ego, although they had come to recognize this was ineffective as they needed to internalize their own errors to improve.

Accordingly, six of the participants identified that they currently utilized the coping strategies of *acceptance* and *ownership* in response to performance errors. This included accepting they were at fault, and if deemed appropriate, admitting their mistake to the players. Not only can accepting and internalizing the performance error in this manner lead to self-development and learning (Anderson, Knowles, & Gilbourne, 2004), it can also prevent the rumination of mistakes (Sarkar & Fletcher, 2014) during the game, and so enable the referee to re-focus on the task. Indeed, this was identified by Dave who suggested:

When you make a mistake, there’s nothing you can do about it. The natural reaction is to try even things up...but you can’t, as you lose credibility. It’s having the strength of mind to say, ‘I missed that one, I’m aware, and I’m sorry’. We have to accept it [in order] to re-focus so we don’t make another one [performance error].

In addition, the seven participants identified *reflection* as an essential problem-focused strategy used to cope effectively with performance errors post-game. This is a purposeful, rigorous and systematic process that leads to change and improved performance (Ghaye, Lillyman, & Gillespie, 2000). In this case, reflection was used to move the referees’ post-

match analysis beyond the technical identification of the correct and incorrect decisions made during the game. All referees initially completed a broad and unguided reflection of their performance, in which they considered whether the performance went well or not. Then, a day or two after the game, they employed guided reflection with a mentor that involved trying to complete a detailed and constructive exploration of the possible underlying causes of their actions. Thus, they reviewed their psychological state which underpinned each decision (both correct and incorrect), allowing for a deeper understanding of why they were made, and why good / poor performances occurred. As explained by Adam, this reflective approach appeared to facilitate learning and protect the referees' confidence after experiencing performance errors: "I am so much more confident now, because I have learnt why I make mistakes and why things have gone well. That means, I understand what it takes to do things right." In addition, and in support of Hanton, Cropley, and Lee (2009), the referees identified that guided reflective practice increased their ability to (re-)appraise other performance stressors as a challenge rather than a threat. As an example, Frank suggested he was able to perceive the stressor of 'an important game' more positively, as a result of reflective practice:

By reflecting on my performances, I can see how much better I've got, and what I need to do to get even better...This means I am excited about the big games...I want to be involved...[because] I'm confident that when I'm being tested in front of 80,000 people, I will make the right decisions.

Interpersonal Conflict

Each referee identified that interpersonal conflict was a frequent stressor, whereby the need to prevent / manage player hostility was appraised as threatening and led to negatively-toned emotions. Carl summarized the nature of this stressor by stating, "You're dealing with players under pressure. It's difficult, as you know it won't take much to set them off [act aggressively]. You must manage them, whilst making damn sure you get decisions right."

Three referees identified that there had been occasions when they had adopted the *avoidance-coping* strategies of rushing or withdrawal during the game in order to disengage from the stressor of interpersonal conflict. This coping-approach led to hasty decisions, deliberate incorrect decisions against players considered responsible for conflict, and in one case (Ben), choosing to blow his whistle to end the game prematurely: “The players weren’t listening, there were fights off the ball...the crowd wasn’t happy...I didn’t have the coping tools to manage the situation...so I blew the whistle to try to end the game early.” Eddie also illustrated how the avoidance-coping strategy of withdrawal affected his management of interpersonal conflict detrimentally:

I had XXXX [the coach] swearing at me...both teams were all over me. I ended up making a decision I shouldn’t have just to get one of them off my back. The game was out of control...I ended up just letting them get on with it. I didn’t say anything for 5 minutes...I had checked out of the game.

The coping strategy of *reactive control* of others was also used by three of the referees in response to interpersonal conflict, whereby they attempted to assert their authority on the game through emotionally-driven (e.g., angry / frustrated) authoritarian communication. However, this escalated player ill-discipline, and for Dave, encouraged choking under the pressure:

XXXX [player] was just at me all game. I should have managed him better...walked away...spoken to the captain and let him deal with his player. Instead, I wanted to get one over on him, so I sent him off...It was obvious I was out of control, I felt out of control, and the game then snowballed out of control.

Conversely, all referees suggested they had used *proactive-coping* to successfully prevent and / or manage the stressor of interpersonal conflict. As previously indicated, this involved planning and mentally rehearsing how they intended to manage the players’ and their own emotions during the game, as well as communicate decisions. Thus, they felt able to

(re-)enact those images in real life to maintain control of themselves, the players, and the game.

Each referee also suggested that they adopted *emotion-focused coping* strategies during exposure to interpersonal conflict, as they lowered the debilitating emotional response to the stressor (in particular, anxiety) which in turn, facilitated appropriate decision making, effective communication of that decision, and appropriate management of interpersonal conflict. For all seven referees, this involved distancing themselves from the players, with five participants also engaging in deep breathing at that point. In addition, four of the referees employed a process of centering in which they looked towards a specific focal point within the ground (e.g., the scoreboard, corner flags, or their watch), before undertaking deep breathing and motivational self-talk to manage their emotional state. The basic psychological skill of deep-breathing relaxation is advocated widely by sport psychologists as an effective coping strategy for managing somatic and cognitive anxiety (e.g., Kudlackova, Eccles, & Dieffenbach, 2013), while motivational self-talk is accepted to lower cognitive anxiety, increase attentional control, and enhance self-confidence (Tod, Hardy, & Oliver, 2011). Indeed, Ben offered a summary of how such emotion-focused coping strategies facilitated his decisions / actions in response to the interpersonal conflict:

[After interpersonal conflict] I'll take myself away from the players. It's just a case of ...finding yourself some time to think. I look at a point in the distance, and get control of myself first and foremost with a few deep breaths...I then use a trigger word of 'business like'. That's my trigger for getting into the zone...This then helps the tone, speed and accuracy of what I say next to the players.

It is evident that the referees prioritized the regulation of their own emotions to ensure they were in an optimal psychological state before making decisions. While this was the case throughout the game, it was deemed particularly important when faced with the stressor of interpersonal conflict. As explained by Carl, "To control the players when they are starting to

lose it [their temper], I have to show that I'm calm and in control...This then translates into them being calm." Thus, it would appear that the process of emotional contagion may be of relevance to successful performances of referees under pressure within this study. Emotional contagion is the automatic synchronization of emotional-states between individuals, whereby emotional expressions are subconsciously imitated (Hatfield, Cacioppo, & Rapson, 1994).

While the phenomenon has not been explored in detail within sport, it is accepted that athletes' emotional states can be affected by others. As an example, Totterdell (2000) found the emotions of professional cricket players were linked to the collective mood of their teammates, whereas Tamminen and Crocker (2013) observed athletes regulating their own emotions to encourage their team members to experience positive emotions. While there is an individual difference to emotional contagion susceptibility, highly interdependent settings provide an ideal context for the transfer of affect (Hatfield et al., 1994). Therefore, it can be assumed that the potential for emotional contagion exists within the referee / player dyad, and to minimize interpersonal conflict and encourage players to maintain appropriate emotions (e.g., calm), the referee must portray emotional control. Accordingly, the impact of emotional contagion on refereeing performance is worthy of further consideration.

Finally, in the case of three referees, their coping response to interpersonal conflict was informed by experiences gained during their previous occupations. As an example, Eddie stated, "I learnt [in previous profession] that if you shout at someone in a stressful situation, you don't get the best out of them. I take this approach on the field." Similarly, Gary explained: "I was a teacher...so I know how important it is to build a relationship with the players [to manage interpersonal conflict]. I would say my teaching experience has helped me so much. It's probably why I've progressed so quickly".

Importance of the Game

It is unsurprising that the importance of the game was noted as a substantive stressor by the seven referees, as the match outcome often held significant consequence for players,

coaches (e.g., winning a title and renewal of professional contracts), and the referees themselves (career progression). Therefore, when about to officiate an important game, all referees appraised the situation as a threat initially, and experienced negatively-toned emotions (e.g., anxiety). In response, *proactive-coping strategies* were relied upon to prepare for the game, mentally rehearse the likely scenarios, and minimize the likelihood of unfamiliarity arising during that fixture. Thereafter, each referee employed both *emotion-* and *problem-focused coping* strategies during the game to self-regulate their emotions and maintain focus on the task respectively.

With regards to emotion-focused coping, this involved employing the previously identified relaxation techniques (i.e., deep breathing and centering). Although, it was emphasized by four of the referees that they consciously monitored their psychological state throughout important games so they knew when to utilize the relaxation techniques. As described by Ben:

I look at a point in the stadium take a deep breath. I stand tall, tap myself on the leg. Then I say to myself ‘Am I relaxed’? I’ll do this routine 20 to 30 times through the game to make sure I’m focused and see if I need to change anything.

Furthermore, four participants suggested they had benefited from receiving *informational social support* from sport psychologists, who had provided advice regarding the use of emotion-focused coping. Gary explained how such guidance had helped him maintain emotional control during important games:

Because of XXXX [sport psychologist] I have more confidence dealing with them [important game]...I can stop a car crash happening [choke], as I can feel it coming... I stay in control of myself and the game much better now...no matter what happens”.

In terms of problem-focused coping strategies employed in response to important games, all seven participants noted they adopted a *task / process focus*. That is, they attended to a “checklist” of behaviors the players needed to follow in order to remain within the laws of the

game. The referees held a checklist for each of the key technical areas of the game (e.g., line out, scrum, breakdown, and maul) in order to break the game into distinct, smaller, and manageable parts. Participants also utilized CG imagery to support this task / process focus, for they held a mental picture of how the correct execution (i.e., lawful) of the key technical areas of the game should appear to them. Together, the two strategies encouraged the referees to focus on task-relevant information rather than being distracted by the importance of the game, and thereby enabling effective and efficient identification of the infringement(s). This finding was illustrated by Dave, who explained:

You are looking for A, B, C then D. It's very automatic...like a mental tick box. So if A, B or whatever doesn't happen, you make a decision. You have to simplify it this way, so you don't become overwhelmed by the [importance of] the situation. You only need to focus on the processes that gets you to the right decision...This stops the other stuff interfering.

It also appeared that having a task / process focus often led to perceptions of control which is acknowledged to raise self-confidence, improve attention, and enhance performance under pressure (Chen & Singer, 2002). As explained by Adam, "Things happen that you can't control, and that's distracting. So I focus on what I can control...my processes [checklist]. This gives me confidence that I will make the right decisions". Notably, perceptions of control can also encourage individuals to re-appraise threatening stressors as challenging (Jones, Meijen, McCarthy, & Sheffield, 2009) which appears to be the case for three participants within this study when they experienced the stressor of an important game. As an example, Eddie indicated that:

When I feel in control, I feel like I have the reins to the game. I can pull them in tight with a blast of the whistle, or let a few things go to loosen them off...That means, if things start to slide [e.g., player behavior deteriorates] or something unexpected happens

[i.e., unfamiliar stressor], I know I can bring the game back to me... When it's like that, I can see the challenges [of an important game] as...exciting.

Significantly, two of the referees had employed *avoidance-coping* to manage the stressor of an important game, when they felt “overwhelmed” by the level of anxiety experienced in anticipation of the match. Accordingly, they chose to disengage from the stressor through blocking, denial and withdrawal, and so did not prepare actively for the forthcoming match. However, as avoidance-coping prevents the individual from self-regulating and organizing their thoughts, emotions and actions required to optimize performance (Jordet, 2009), this approach was associated with poor performance and choking. Ben explained how he had choked after adopting avoidance-coping before an important game:

Some people say that preparing for the game is pre-judging what's going to happen. But preparing for how teams play, how individuals are likely to act, how set pieces should look, eradicates issues before the game starts. By not preparing, the game looks unfamiliar...and I am slow to react...unfamiliarity leads to stress and it goes wrong.

Self-Presentation Concerns

Finally, all referees reported self-presentational concerns as a stressor during performance, which was appraised negatively, led to debilitating emotions, and could lead to distraction and poor performance. The referees' self-presentational concerns were predominantly a fear of negative evaluation from selectors who were responsible for allocating officials to the high profile matches. However, they were also motivated to portray a positive image to players, coaches, and media in order to avoid criticism that could damage their confidence, professional reputation and future career prospects. As reported by Dave:

You know, everybody's judging you. You know everybody will watch that game and have an opinion...about how well you've done or not done. So there is much less pressure at the lower levels as you are less open to [this] criticism. You always need to

impress at the higher level. If you make a mistake [then] the players, the coaches, and media will say you've ruined the game...and your career is blighted.

Ben also noted that, "If you're going to get selected for the World Cup, you have to impress in every single game. Simple" Finally, Adam confirmed, "It's [refereeing] not an exact science. So if you want to get selected [for the World Cup], you don't just have to think about how you want to referee, you also have to think about how the selectors want you to referee." At times, the referees attempted to cope with these self-presentational concerns through *informal impression management*, which involved trying to offer an overtly positive image to the players, coach, media or crowd in order to gain their admiration. They adopted a 'friendly' approach on the field, an informal communication style, offered lenient decisions (e.g., allowing play to continue despite infringements), and occasionally made incorrect decision to placate individuals. All of which were recognized as highly misplaced coping responses that led to poor performances, and paradoxically, negative perceptions from those they wished to impress. As noted by Frank:

I have always had a problem with XXXX [premiership team] and I gave them an early decision that I didn't have to in order try and get them on side. Then the crowd, and XXXX [the opposition team] got on top of me. Very quickly, both teams were all over me as they knew I wasn't being accurate in my decision making. In the end I lost it [control of the game]. Total chaos.

In contrast, all participants identified that the problem-focused coping strategy of a *task / process focus* (i.e., checklist and mental picture of correct player execution) helped them remain focused on the game when experiencing self-presentation concerns. As summarized by Carl:

Every game is watched and evaluated by different audiences...and I want to do well so I get selected for the World Cup... But this is a distraction...So I just going through

processes [check list]... I have them for the scrum, lineout, tackle... These distractions are always there. But you go through though these processes to keep you focused.

This task / process focused coping strategy of using checklists and associated images of correct skill execution was well-rehearsed by all the referees within the study. Therefore, it is likely to have become proceduralized and processed outside working memory during performance. This may be of significance, as during pressurized games the referees' working memory can become occupied with information associated with the stressors encountered (e.g., importance of the game and self-presentational concerns) and emotional response (e.g., anxiety). Yet, the referees may have been able to remain capable of optimal decision making, as they would have processed their proceduralized checklist / image outside working memory (Eysenck & Calvo, 1992). Put simply, the use of this well-learned coping strategy may have prevented choking under pressure and encouraged optimal performance, for it enabled the referees to remain focused on the task despite exposure to potentially distracting stressors and emotions (see DeCaro, Thomas, Albert, & Beilock, 2011).

General Discussion

The key stressors experienced by the elite rugby union referees within this study were unfamiliarity, performance errors, interpersonal conflict, importance of game, and self-presentational concerns. The referees also indicated that each stressor was appraised initially as a threat, and so elicited negatively-toned emotions. While these results are similar to those found elsewhere in the literature, there are a number of differences.

Performance errors, interpersonal conflict and importance of the game have been identified as stressors by referees across sports and levels (e.g., Goldsmith & Williams, 1992; Rainey, 1999; Rainey & Hardy, 1999). Whereas the stressor of self-presentational concerns has only been identified previously by Neil et al. (2013) in their study of intermediate and elite soccer referees. Self-presentation was perceived as a pertinent stressor by the elite rugby union referees in the current study, for they possessed a strong desire to offer a positive image

to others / avoid negative evaluation (Leary, 1992) to gain selection for the higher level matches. As the professional referees would have been exposed to continuous assessment by selectors / coaches, it could have been anticipated that their self-presentational concerns would lessen over time, as a result of becoming accustomed to evaluation (Reeves, Tenenbaum, & Lidor, 2007). However, this was not the case, and so the management of self-presentational concerns is of importance to elite referees, particularly as it can lead to choking under pressure through distraction (see Mesagno, Harvey, & Janelle, 2011).

Although a number of studies (e.g., Rainey, 1999; Neil et al., 2013; Voight, 2009) have identified time pressures (conflict between demands of family life and officiating), fear of physical harm, and the crowd as stressors that affect referees, they were not found within this study. This is likely due to the professional context in which the participants worked. That is, by holding a full-time professional contract with the RFU the referees were able to commit to their role while maintaining a work / life balance. Moreover, as they officiated games played by professional athletes, that are observed by large audiences (stadium and television viewers), and where the spectators cannot breach the pitch, it is understandable that the stressor of fear of physical harm was not reported. Interestingly, performing in front of a crowd of 50,000-80,000 was not identified as a stressor, for as inferred by one participant (Ben), sizeable crowds are not particularly “stressful” to the professional referee, as they cannot hear individual abusive comments.

A critical difference between the findings of this study and that of previous work, is participants’ perceived unfamiliarity as the most important and debilitating stressor they encountered during pressurized performance. To date, it has not been identified as a stressor experienced by referees within the extant literature, though it has been noted as an antecedent of lowered performance / choking under pressure in athletes (see Hill, Hanton, Matthews, & Fleming, 2010). It has been suggested that this may be due to unfamiliar situations eliciting substantial debilitating anxiety as a consequence of an uncertain outcome (Cerin, Szabo,

Hunt, & Williams, 2000; Mellalieu, Hanton, & O'Brien, 2004). It appears therefore, that to perform optimally under pressure, aspiring referees must learn to lessen the likelihood of unfamiliarity arising during the game.

As found in previous research (e.g., Mathers & Brodie, 2011; Voight, 2009; Wolfson & Neave, 2007) the rugby union referees adopted various problem- and emotion-coping strategies during performance to manage successfully the stressors and emotional response encountered. This included proactive-coping and informational social support (from mentors, experts and sport psychologists) prior to games; acceptance, ownership, task / process focus and emotion-focused coping during games; and finally, guided reflective practice post-game. Furthermore, and in a similar vein to Voight (1999), they adopted specific coping strategies in response to certain stressors (e.g., relaxation to manage interpersonal conflict; acceptance and reflection to manage performance errors).

Proactive-coping was highlighted by each referee as the most significant coping approach, for it averted unfamiliarity and enabled effective coping with other stressors during the game (e.g., interpersonal conflict). As this strategy included generating mental images of how the key technical areas of the game should appear, anticipating the likely patterns of play, and assuming the behavior of players / coaches, the referees could be accused of developing pre-conceived biases that may affect decision making detrimentally. However, the referees emphasized that without proactive-coping, they would not be able to manage the demands of the game, and would make poor decisions or even choke under the pressure. It has been acknowledged elsewhere in the literature, that a proactive-coping approach can enhance an individual's psychological 'resources' (e.g., Schwarzer & Taubert, 2002). Thus, it would appear that the referees within the current study may have extended their capacity to manage, process, and respond appropriately to the expected and unexpected events that arose during a pressurized game, as a consequence of proactive-coping.

Finally, this study is the first to identify a number of coping strategies perceived as ineffective by the sample of professional rugby union referees. Specifically, it emerged that adopting avoidance-coping before, during, and after the game failed to regulate the referees' emotional and psychological state, which led to poor performance. Moreover, the adoption of denial in response to performance errors, the employment of reactive control to manage the stressor of interpersonal conflict, and the use of informal impression management to cope with self-presentational concerns, were all suggested by the referees to compromise their emotional control and performance under pressure.

Limitations

While the study has extended current understanding of the stress responses associated with professional rugby union referee performance under pressure, there are a number of limitations that should be noted. The study has relied on the recall of events that occurred up to two years previously. Thus, while important events such as successful and failed performances may be recalled with relative accuracy (Gould, Eklund, & Jackson, 1993), it is accepted that the data are subject to bias. This may explain why the referees within this sample only identified stressors they had appraised as threatening. It is possible they also experienced challenge appraisals, but such events may have been less 'memorable'. With professional rugby union games televised and elite referees often wearing cameras, future research should exploit this technology to stimulate and enhance recall (Houge-Mackenzie & Kerr, 2012).

Furthermore, due to the elite nature of the participants, they were able to explore in far more detail their effective coping responses in comparison to ineffective coping strategies. Therefore, it would be advantageous to explore performance under pressure through referees who have excelled under pressure, alongside those who have choked frequently. Finally, this study has recruited a small, but information-rich sample of elite rugby union referees. Therefore, to broaden our understanding of the stress response and coping mechanism of

referees, future research should consider including elite participants across sports, and recruit those individuals who play a supporting role in the development of referees (e.g., mentors & selectors). Nevertheless, the study has endeavored to provide a detailed account of the stressors, appraisal mechanism, emotional, and coping response of professional rugby union referees, which can be of use to enhance refereeing performance under pressure.

Practical Recommendations

Accordingly, the findings of the study can be used to inform mental skills training programmes for rugby union referees. Importantly, strategies which minimize unfamiliarity should be a priority, as the stressor appears to hold the potential to impair refereeing performance significantly. This should include the proactive-coping strategies of extensive planning before the game, in which CG and MGA images of various game scenarios are developed by the referee, with the support / guidance of significant others (e.g., mentors and experts). In addition, and with the support of sport psychologists, referees should develop a 'tool box' of problem- and emotion-focused coping strategies for use during the game. This includes a well-learnt checklist for a task / process focus, that can facilitate attentional control. Then, to manage their own emotions, and those of the players, the referee should develop emotional-focused strategies that include deep breathing, centering and self-talk.

Additionally, it would appear that reflective practice post-game is advantageous when the referee must cope with, and learn from performance errors. Therefore, the inclusion of reflective practice training for referees is likely to be of benefit (see Cropley, Miles, Hanton, & Niven, 2007). Mentors, coaches and selectors involved with rugby union referee development should also consider their role in cultivating a climate in which the referees are encouraged to take ownership of their performance errors. Thus, rather than fear criticism and non-selection, the referees are encouraged to embrace mistakes as a learning opportunity. Finally, the professional referees suggested they had benefitted from transferring skills they had learnt in non-sport domains (i.e., previous occupations) on to the rugby pitch.

Accordingly, young referees who are currently being “fast-tracked” through the developmental system may value ‘life skills’ coaching that supports thriving under pressure (e.g., Enhancement of Leadership Intercommunication Teamwork and Excellence, ELITE; see Jones & Lavalley, 2009).

Conclusion

This study is the first to explore the key stressors, and associated appraisal mechanism, emotional response, and effective / ineffective coping response experienced by a sample of professional rugby union referees. The participants perceived they experienced similar key stressors (unfamiliarity, performance errors, interpersonal conflict, importance of game, and self-presentational concerns) which reportedly were appraised as threatening, and which led to an unpleasant emotional response. The referees indicated they were able to cope effectively with the stressors and their negative emotions through proactive-, problem-, and emotion-focused coping strategies. Of particular importance was the use of proactive-coping to minimize the occurrence of unfamiliarity which appeared to hold the most potential to affect performance negatively. Certain coping strategies were also suggested to be effective in response to specific stressors. Conversely, the referees proposed that the adoption of denial, avoidance-coping, reactive strategies, and informal impression management in response to stressors, led to under-performance and choking under pressure.

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Table

Table 1. A summary of stressors and coping strategies adopted by professional rugby union referees during pressurized performance.

Stressors	Coping Response (effective)	Coping Response (ineffective)
<i>Unfamiliarity</i>	Proactive-coping Informational social support	
<i>Performance Errors</i>	Acceptance Ownership Reflective practice	Denial
<i>Interpersonal Conflict</i>	Proactive-coping Emotion-focused coping	Avoidance-coping Reactive control
<i>Importance of Game</i>	Proactive-coping Emotion-focused Task / process-focus Informational social support	Avoidance-coping
<i>Self-Presentation Concerns</i>	Task / process-focus	Informal impression management