

THE UNIVERSITY OF HULL

**STRESS AND COPING AMONG HIGH-LEVEL
ADOLESCENT GOLFERS**

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by

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Summary of Thesis Submitted for PhD Degree

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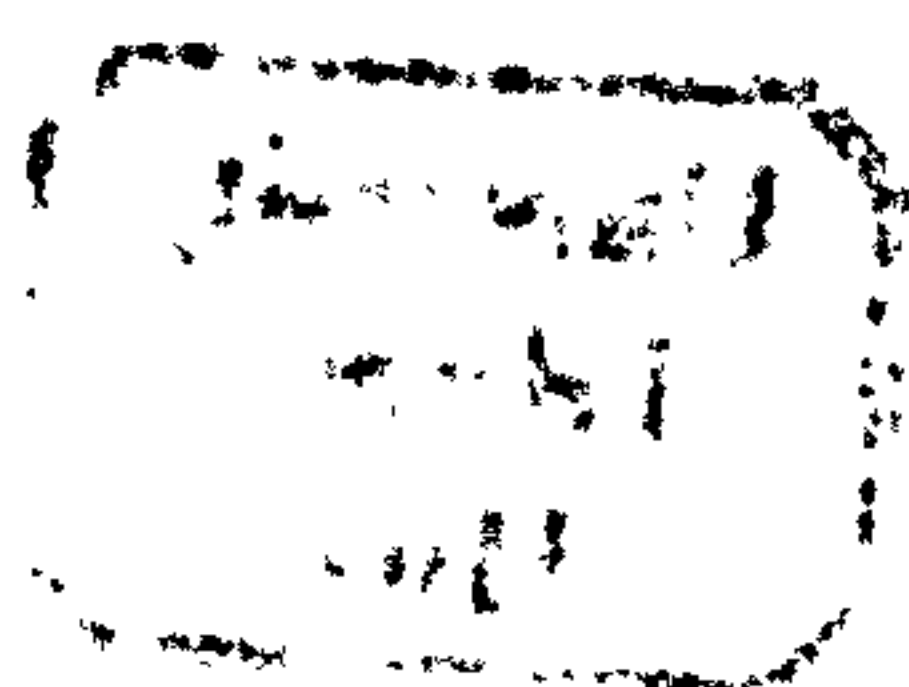
STRESS AND COPING AMONG HIGH-LEVEL ADOLESCENT GOLFERS

The overall purpose of this research programme was to examine how international adolescent golfers cope with performance related stressors. As such, three interrelated studies were designed to pursue this purpose.

The purpose of Study 1 was to examine instances when international adolescent golfers' coped effectively and ineffectively with performance-related stressors during competition. Strategies associated with effective coping were rationalizing, re-appraising, blocking, positive self-talk, following a routine, breathing exercises, physical relaxation, and seeking on-course social support. Alternatively, different types of coping responses (trying too hard, speeding up, routine changes, negative thoughts, lack of coping) were associated with ineffective coping.

The purpose of Study 2 was to examine stressors, coping strategies, and perceived coping effectiveness among elite adolescent golfers longitudinally over 31 days. Overall, most frequently-cited stressors were making a physical error and making a mental error. Coping strategies that served a problem-focused coping function were cited more often than those which served an emotion-focused or avoidance function. Although mean coping effectiveness remained stable over time, considerable fluctuations in the effectiveness of coping strategies used to manage specific stressors were observed.

The purpose of study 3 was to identify and examine adolescent golfers' stress-appraisals and coping attempts during golf performance. Stress appraisals appeared to



be related to the participants' performance goals, and an array of different coping attempts was deployed to manage apparently similar stressor-appraisals.

The findings presented in this research programme suggest that adolescent golfers use a plethora of different coping strategies during golf to cope with performance related stressors. The types of coping strategies utilised by the participants were very similar throughout all three of the studies ranging from blocking to positive appraisal.

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I would like to dedicate this thesis to the loving memory of John Shaw, who is dearly missed by everybody that knew him.

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CHAPTER 1:

INTRODUCTION

How do high-level adolescent golfers cope with performance-related stressors? What constitutes effective and ineffective coping? The inability to cope with performance-related stressors is thought to be a significant factor in the failure of athletes to function fully, and make the most of their skills in many types of athletic performance (Lazarus, 2000a). Golf was the selected sport in this thesis for a number of reasons. Firstly, golf is a unique sport in the sense that golfers spend so long walking between shots, and only a fraction of a golf round is spent executing shots. During this time spent between shots, golfers could appraise a variety of different stressors, and implement a variety of different coping strategies in order to cope. Secondly, as golf is played at a slow pace golfers could potentially appraise stressors during the actual execution of a shot. Therefore, a greater understanding of stress and coping in golf is required to help golfers cope with potential performance-related stressors.

Once a further understanding of performance-related stressors, coping strategies and the effectiveness of these strategies has been obtained among high-level adolescent golfers, theory guided interventions can be developed and tested in order to help athletes cope more effectively with performance-related stressors.

Researchers within the sport psychology domain have tried to identify performance related-stressors and the coping strategies used, mainly by adult athletes from a variety of different sports, with only a limited number of papers with adolescent samples. Of the 62 full papers and research notes published on coping in sport, only seven have examined the coping attempts of adolescent athletes (i.e., Anshel, 1996; Crocker & Isaak, 1997; Eubank & Collins, 2000; Gaudreau, Blondin, & Lapierre, 2002; Gaudreau, Lapierre, & Blondin, 2001; Kolt, Kirby, & Lindner, 1995; Madden, Kirby, & McDonald, 1989).

Overall Purpose and Overview of Research Programme

The overall purpose of this research programme was to examine how adolescent high-performance golfers cope with performance-related stressors. As such, three interrelated studies were designed to pursue this purpose. Each study was designed to overcome certain distinct methodological limitations of previous sport psychology coping research, and build upon the previous study. The research designs for each of the three studies were consistent with methodological recommendations for future research by leading coping researchers (e.g., Crocker, Kowalski, & Graham, 1998; Lazarus, 1999, 2000; Porter & Stone, 1996; Somerfield, 1997). In the following section the purpose of each study included in this thesis is indicated, and the rationale underpinning the selection of each research design explained.

Study 1: A Phenomenological Analysis of Coping Effectiveness Among International Adolescent Golfers

Research using coping checklists has dominated the sport psychology coping literature (Crocker, Kowalski, & Graham, 1998). For example, some questionnaires have been adapted from mainstream psychology such as the Ways of Coping for Sport (Madden et al., 1989) and the M-COPE (Crocker & Graham, 1995), whereas other sport-specific measures have been created (e.g., L'inventaire des Stratégies de Coping en Compétition Sportive; Gaudreau & Blondin, 2002). However, influential researchers have suggested that there is a need for more descriptive exploratory work to help provide a basis for understanding the complex person-environment interactions at the centre of the coping process (e.g., Lazarus, 1999). Furthermore, Somerfield (1997) argued that, "Coping research has been criticised for in essence, putting the psychometric cart before the explanatory, descriptive horse" (p.146). Given the complex nature of coping, descriptive research appears to be warranted, and a strength of descriptive research is that it "informs the selection of relevant variables for more streamlined, theory guided research" (Somerfield, 1997, p.139).

In response to these methodological suggestions, Study 1 was designed to create a descriptive understanding for the research programme, and provide information on an area that very little is known about (e.g., effective and ineffective coping experiences among international adolescent golfers). Accordingly, the purpose of Study 1 was to examine instances when international age-group golfers' coped effectively and ineffectively with performance-related stressors during competition.

Study 2: Stress, Coping, and Coping Effectiveness Among International Adolescent Golfers

Having established a descriptive foundation for coping via Study 1 (Somerfield, 1997), a more streamlined and narrower analysis was adopted for Study 2, in the sense that participants were reporting their stress and coping experiences over a much shorter period, with data being collected via daily diaries. The sport psychology literature has been criticised for adopting uni-directional or cross sectional methodologies. The term uni-directional and cross sectional refers to research that has been collected at one point in time, compared to prospective research which involves repeated measures over a set time period. The task of analytical research is to identify causal variables and show how they work, which requires a timeline of antecedents and consequences.

Prospective longitudinal research, such as daily diary studies research, allow investigators to predict later events from those measured earlier. This requires repeated measures on the same persons who are observed from time I to time N and across diverse circumstances (Lazarus, 2000b). Daily measurements of coping are useful in understanding the dynamic nature of coping. Porter and Stone (1997) suggested that as stress and coping efforts shift rapidly so that they can only accurately be captured by regular repeated daily assessments. Porter and Stone also suggested that assessments of coping that condense several days or weeks of coping do not allow for the processes in these interactions to be understood fully. It was concluded by Porter and Stone that daily measurements of coping allow for more 'fine-grained' analyses of the relationships between stressors and coping. As such, study 2 was designed to assess daily coping and the purpose of study 2 was to examine

performance-related stressors, coping strategies, and perceived coping effectiveness longitudinally.

Study 3: Coping During Golf Performances

Although examining daily coping is important, some researchers in mainstream psychology have actually suggested that end-of-day recall may be inaccurate (Porter and Stone, 1997; Stone & Shiffman, 1994). That is, Stone and Shiffman (1994) examined coping using Ecological Momentary Assessment (EMA) and using retrospective reports within 48 hours of the event, and compared the findings. Overall, Stone et al., (1999) only reported a 'modest agreement' between EMA and the retrospective report, as 30% of the participants failed to retrospectively report items they had endorsed on the EMA assessments.

A challenge for coping researchers is to get as close to the coping experience as possible, thus reducing the amount of time between the event and recall even further. An advantage of doing this is that subjects are not required to summarise their day's experience and their coping efforts, which is more likely to lead to more accurate coping accounts (Porter & Stone, 1997; Stone & Shiffman, 1994). Thus, Study 3 was designed to examine coping during six holes of golf, using a think aloud protocol (Ericsson & Simon, 1993), to minimize the time further between recall and the performance. As such, the purpose of Study 3 was to examine adolescent golfers' stress-appraisals and coping attempts during golf performance, as they occurred.

Definition of Key Terms

Some of the key terms used in the current investigation are defined below.

Stress. "A substantial imbalance between demand [physical and/or psychological] and response capability, under conditions where failure to meet that demand has important consequences" (McGrath, 1970, p. 20).

Stressors. A condition in the environment that tends to evoke stress (Eysenck, 1998).

Performance-related stressors. The definition was adopted from Gould, Eklund and Jackson (1993). As such the following definition was used for each participant in the three studies as a definition of performance-related stressors. “Performance-related stressors refer to the things that cause you worry or negative concern during performance, which result in negative emotions.”

Coping. “Constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p.141). Lazarus and Folkman viewed coping not as an automatic behaviour, but one that requires conscious effort by the person to handle the stressful event. Participating in competitive sports events, such as golf tournaments, can put huge psychological demands on athletes.

Adolescence. Consistent with developmental psychologists, athletes aged between 12 to 21 years were classified as being adolescent in this thesis. Weiss and Bredemeier (1983) suggested that adolescence can be divided into three separate phases; early (12 to 14 years), middle (15-18 years) and late adolescence (19-21 years). Participants from all three phases participated in at least one of the studies in this research programme, although the majority of participants were from the middle adolescence age range. As such the participants were either early, middle or late adolescents, but will be referred to as adolescents throughout the rest of this thesis.

International Golfer. Individuals who had represented their country at a specific age group on at least one occasion were classified as international golfers. Golfers from Studies 1 and 2, and three of the participants from Study 3 were international golfers.

High-level Golfer. Individuals who had played golf for at least four years and had represented their county at age group level.

CHAPTER 2:

LITERATURE REVIEW

THEORY

Richard Lazarus is the most prominent researcher in the area of stress, coping, and emotion, and his work has had a major impact on the sport psychology coping research (Crocker, Kowalski & Graham, 1998; Crocker, Kowalski, Hoar, & McDonough, 2004; Gould, 1996). Lazarus (1966) was the first researcher to recognise that while stress is inevitable aspect of living, it was coping that makes the difference in adaptational outcome. As such, the research tended to shift somewhat from stress to coping (Lazarus, 1991). In his 1966 book Lazarus suggested a contextual approach to coping focusing on the cognitive and behavioural aspects of coping which people use in order to manage stress and addressing the problems of daily life which cause stress (Folkman & Moskowitz, 2004).

Lazarus and Folkman (1984) then proposed the transactional theory of stress and coping. The transactional theory emphasises the interactions between environmental events, appraisal, and efforts to cope with the strain caused by these events (Porter & Stone, 1996). Lazarus and Folkman (1984) proposed that interactions between the environment, appraisal, and coping efforts result in change throughout the coping process, thus creating a dynamic process. The Lazarus and Folkman (1984) model suggested that stress and coping is both recursive and dynamic. The model was said to be dynamic because stress and coping was viewed as an ongoing process and recursive because each part of the model can effect the other (Lazarus, 2000a).

As Lazarus' research developed he focused more on emotions and this model of stress and coping became know as cognitive-motivational-relational model (Lazarus, 1991, 1999). Lazarus believed that psychological stress, coping and emotion should be studied as a system of interrelated variables, that not only include stress emotions such as anger, guilt,

and shame, but also positively toned emotions such as joy and happiness. As such, the updated models still incorporated stress and coping. The updated versions also suggested that stress, coping, and emotions are both recursive and dynamic. (Lazarus, 2000a). Both the transactional theory and the cognitive-motivational-relational theory of stress, coping and emotions consist of primary appraisal, secondary appraisal, coping and emotion.

Primary Appraisal. Primary appraisal represents an evaluation about what is at stake for the person, and is a motivationally orientated appraisal (Crocker et al., 2004). This judgement consists of three primary appraisal components, goal relevance, goal congruence, and type of ego involvement (Lazarus, 1991, 1999). Goal relevance is fundamental to whether a situation is viewed as being relevant to the well-being of the person. If there is no goal at stake, there will be no stress, just as there will not be an emotion (Lazarus, 1991). Goal congruence or incongruence refers to whether the situation facilitates or thwarts what the person wants. If the conditions are favourable, a positively-toned emotion is likely to be aroused, but if they are unfavourable a negatively-toned emotion is likely to follow. Type of ego involvement has to do with the role of diverse goals in shaping an emotion. That is, pride and anger are consequences of the desire to preserve or enhance. If an evaluation is made that what is happening is important to the person and endangers the well being of the person, according to the transactional model of coping there are four alternative appraisals. Harm/loss consists of damage that has already occurred. Threat consists of potential damage in the future. Challenge is when people feel joyous about an ensuing struggle. Benefit which was added to the revised model (Lazarus, 1999), underlies positively toned emotions which consist of immediate and long-term emotions.

Secondary Appraisal. Secondary appraisal is an evaluation of three issues, blame or credit for an outcome, coping potential and future expectations. Blame and credit requires a judgement about who or what is responsible for a harm, threat, challenge or benefit. Secondary appraisal is also an evaluation of the coping options available to the person and

whether or not they can eliminate harm or threat and bring about either challenge or benefit. Future expectations may be positive or negative, with potential for the environment to change for the better or for the worse.

Coping. Coping has to do with the way that people manage life conditions that are seen as stressful. Lazarus (1999) argued that when coping is ineffective the level of stress is high, but when coping is effective the level of stress is apt to be low. Coping attempts are made especially after a primary appraisal of either threat or harm. Originally coping was classified into two broad functions, problem- and emotion-focused coping. Problem-focused coping involves a person obtaining information about what to do and then mobilising actions for the purpose of changing the person-environment relationship (Lazarus, 1999). Examples of coping strategies that serve a problem-focused purpose include problem solving, planning, increasing efforts, time management, goal setting, and information seeking. The Emotion-focused coping function is aimed at regulating the emotions which are related to the stress situation (Lazarus, 1999). Examples of coping strategies that serve an emotion-focused function included relaxation, acceptance, seeking social support, wishful thinking and rationalisation.

Researchers have recommended a third coping function called avoidance coping. This was originally classified as part of the emotion-focused coping dimension (Lazarus, 1999; Lazarus & Folkman, 1984). Other researchers have argued that avoidance coping should be separated from emotion-focused coping (Kowalski & Crocker, 2001). This is because Kowalski and Crocker felt that avoidance differs from either problem- or emotion-focused coping because the person has coped by removing themselves from the situation either physically or cognitively, whereas with problem- or emotion-focused coping the athlete remains in the stressful situation. Avoidance describes both behavioural (e.g. removing self from the situation) and psychological (e.g. cognitive distancing) attempts to disengage from a stressful situation (Anshel, 1996; Endler & Parker, 1990; Kowalski &

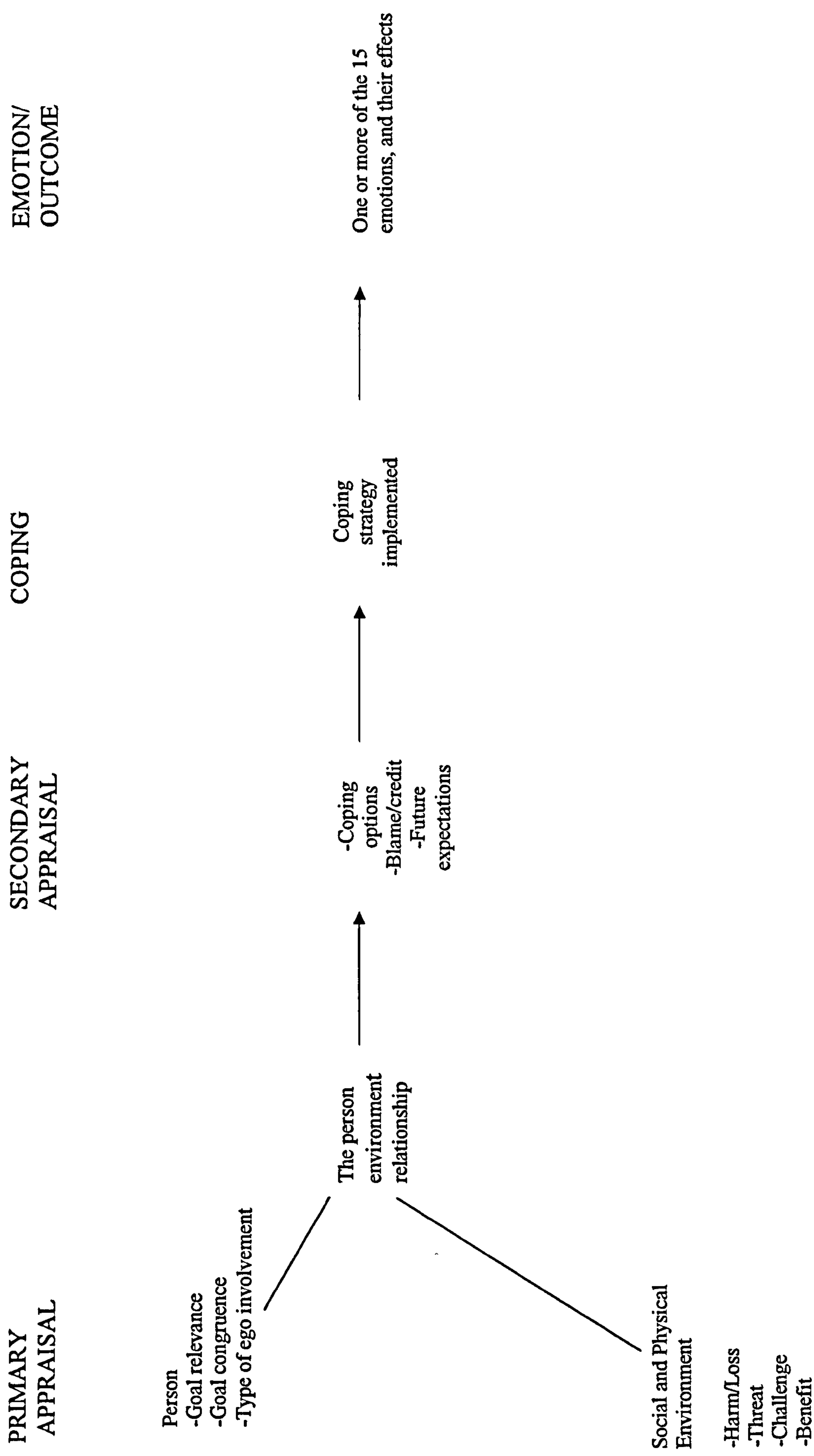
Crocker, 2001; Krohne, 1993). These three distinct dimensional coping functions have been supported by research in sport psychology (e.g., Kowalski & Crocker, 2001).

Emotion. Lazarus (2000a) suggested that an emotion is “an organized psychophysiological reaction to ongoing relationships with the environment” (p. 230). According to Lazarus (1999) there are 15 emotions which he classified into:

- nasty emotions e.g., anger, hostility, envy and jealousy
- existential emotions e.g., anxiety, guilt, and shame
- emotions provoked by unfavourable life conditions e.g., relief, hope, and sadness-depression
- empathic emotions e.g., gratitude and compassion
- emotions provoked by favourable life conditions e.g., happiness, pride, and love.

Lazarus (1999) has advocated a narrative approach for measuring emotions, whereby the narratives of many individuals are collected to see in what ways the stories are shared and reflect the collective experience of people in each of the emotions. According to Lazarus (1999) the importance of the coping process has generally been underestimated and that the coping is an essential part of the emotional process. Lazarus also stated that coping is involved in the emotion process from start to finish. Although emotion is apart of the cognitive-motivational-relational model, the focus of this research programme was on the stress and coping aspect of the model. In particular the purpose of this thesis was to examine the stressors and coping strategies used by high-level adolescent golfers to provide sport psychology consultants and researchers with an understanding of stress and coping experiences among this type of athlete.

Figure 1. A revised model of stress and coping, adapted from Lazarus (1999)



Other Theoretical Approaches to Coping

Although the perspective proposed by Lazarus provides the underpinning to this thesis, there are other theoretical explanations of coping which will now be discussed. The model proposed by Weisz (1990) is similar to that of Lazarus and colleagues as coping is viewed as being goal directed and motivational (Compas et al., 2001). However coping was divided into primary control coping (coping that is intended to influence objective events) and secondary control coping (coping that is aimed at maximising one's fit to the current conditions).

Skinner (1995) viewed coping as how people regulate their behaviour, emotion and orientation under conditions of stress. Coping directed at behaviour includes information seeking and problem-solving. Emotion regulation coping includes strategies such as maintaining an optimistic outlook. Orientation regulation includes strategies such as avoidance. Similar to the work of Lazarus, Skinner viewed coping as being motivational, but differed in the sense that it included both volitional and involuntary coping strategies.

Alternatively, Roth and Cohen (1986) proposed the approach-avoidance model of coping. Approach coping is a strategy that involves the individual confronting the source of stress. Examples of approach coping include seeking knowledge, taking responsibility and taking a positive view. Avoidance coping is involves avoiding sources of stress based on the premise that avoidance is more preferable to confronting the problem. Examples of avoidance coping include procrastination, orientation away from the stressor, seeking distraction, ignoring warning signals (Roth & Cohen, 1986).

COPING EFFECTIVENESS

Folkman (1991, 1992) argued that is not enough to simply describe coping, but that researchers must also confront the issue of determining effective versus ineffective coping. Previous research has suggested that those in poorer mental health and under greater stress

use less adaptive coping strategies (Aldwin & Revenson, 1987). Aldwin and Revenson concluded that coping effectiveness is an important concept but, measuring it by checklist is too simplistic as checklists assume that 'more coping is better coping.' However, the issue of determining coping effectiveness remains one of the most 'perplexing' in coping research (Somerfield & McCrae, 2000). Aldwin and Revenson concluded that coping researchers are still far from implementing a 'magic bullet' coping strategy that can instantly solve problems. Eighteen years after Aldwin and Revenson made their statement, coping researchers are still struggling to determine coping effectiveness.

One reason that determining coping effectiveness remains a complex issue is because of contextual nature of coping effectiveness. Certain coping strategies may be effective in one situation but not in another. Additionally, coping strategies that are deemed effective at the outset of a stressful situation may be deemed ineffective later on in the same stressful situation (Folkman & Moskowitz, 2004). The determination of effective and ineffective coping according to Folkman (1992), represents important choices for researchers. As such, Folkman presented two models to evaluate coping effectiveness.

The Outcome Model. The assumption of the outcome model is that the quality of a coping process is evaluated according to its effect on an outcome that has been deemed important. In other words, a coping strategy that promotes a favourable outcome such as a winning performance, positive morale or good health is considered an effective coping strategy, whereas a coping strategy that has the opposite effect is considered an ineffective coping strategy (Folkman, 1992).

A possible limitation of this model as a measure of coping effectiveness is that the selection of an inappropriate outcome can lead to either an underestimation or overestimation of coping effects. Folkman (1992) identified two characteristics that should be considered in selecting an outcome. Firstly, the more proximate an outcome is in relation to a specific coping process, the greater confidence that coping is causally related to outcome. Secondly,

the outcome should be relevant, and an outcome that coping can theoretically affect (Folkman, 1992).

The Goodness-of-Fit Model. The other approach that Folkman (1991, 1992) posited for evaluating coping effectiveness emphasised the process rather than the outcome. This approach is based on the idea that effective coping is a function of the fit between: (a) the person's appraisal of what is going on (primary appraisal), and what is actually going on, (b) the person's appraisal of coping options (secondary appraisal) and what the options are, and (c) the fit between the options for coping and actual coping processes (Folkman, 1991). In general, problem-focused coping is appropriate in encounters that hold the potential for personal control, whether over the outcome of the particular encounter or its recurrence in the future. Emotion-focused coping has been said to be appropriate in encounters where there is little the person can do to control the outcome or recurrence (Folkman, 1992).

Folkman (1992) suggested that the issue is more complicated than this simple prescription of problem-focused coping for controllable stressors and emotion-focused coping for uncontrollable stressors. This is because of the interplay between problem- and emotion-focused coping that occurs in most situations. Folkman argued that problem-focused coping in the form of an information search is often necessary to determine that a situation is essentially beyond the person's control, and emotion-focused coping may sometimes be needed to facilitate problem-focused coping in encounters that have controllable outcomes (Folkman, 1992).

COPING AMONG ADOLESCENTS

Adolescence is widely recognised as a particularly stressful period of development (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Williams & McGillicuddy-De Lisi, 1999) and a particularly important period implicated in the acquisition of a coping repertoire (Aldwin, 1994; Seiffe-Krenke, 1995). During this period

adolescents have to deal with physical, social, emotional and cognitive transformations. These transformations include school transition, changes in peer groups, social complexity, and educational demands and expectations; and decisions about schooling and careers (Boekaerts, 1996; Frydenberg & Lewis, 1991; Rice, Herman, & Petersen, 1993). Both children and adolescents report experiencing stress and coping attempts but most research on stress and coping has focused on adults (Williams & McGillicuddy-De Lisi, 1999; Stern & Zevron, 1990).

Coping has been reported to change as a person matures from childhood to adolescence (Aldwin, 1994; Fields & Prinz, 1997; Williams & McGillicuddy-De Lisi, 1999). Brodzinsky, Elias, Steiger, Simon, Gill, & Hitt, (1992) found that adolescents tended to use fewer coping strategies overall than children. Although Compas, Malcarne, and Fondacaro (1988) found that the variety of cognitive coping strategies at the disposal of the person actually increases from childhood to adolescence, the frequency in which these coping strategies are deployed decreases with age (Spirito, Stark, & Williams, 1988). For instance, Brodzinsky et al. (1992) and Spirito et al. (1988) found that adolescents reported fewer problem-focused coping strategies and less cognitive and behavioural avoidance than children. In summary, it appears that adolescents have a greater number of coping strategies at their disposal than children, but deploy fewer coping strategies than children. This would suggest that adolescents are more experienced at coping and know more about what actually works and what does not work in stressful situations.

A meta-analysis by Fields and Prinz (1997) also examined coping differences among different age groups of adolescents. Their findings suggested a decreased use of behavioural distraction strategies and increased use of cognitive distraction strategies with age. Interestingly younger adolescents tended to report more emotion-focused strategies than problem-focused strategies, while the reverse was true for later adolescents/young adults. This would suggest that as children mature they are capable of using more sophisticated

coping strategies. Overall, Aldwin (1994) identified adolescence as a critical period for the development of coping skills that are necessary adjustment and adaptation. Applied to a sport setting, it is crucial that researchers have a greater understanding of coping among adolescent athletes, and establish adaptive and maladaptive coping, so that in the future athletes can be taught a wide range of coping strategies.

COPING IN SPORT

This review has been divided into the following sections, coping among elite athletes, sport adolescent coping research, coping effectiveness in sport and coping in golf. For a summary of other studies published in the sport psychology coping literature please see Appendix A.

Coping Among Elite Athletes

Samples that consisted of only elite athletes were considered for inclusion in this section. Researchers have used both qualitative and quantitative methodologies to assess the coping responses of elite athletes. Qualitatively researchers have examined how elite athletes cope with performance-related stressors from a variety of different sports such as decathlon (Dale, 2000), wrestling (Gould, Eklund, & Jackson, 1993), figure skating (Gould, Finch, & Jackson, 1993), cricket (Holt, 2003), soccer (Holt & Hogg, 2002), and from variety of different sports (Park, 2000). Utilising quantitative method of data collection researchers have examined the coping responses of Summer Olympic athletes (Pensgaard & Duda, 2003), Winter Olympic and Paralympic athletes (Pensgaard, Roberts, & Ursin, 1999), and Winter Olympic athletes (Pensgaard & Roberts, 2003; Pensgaard & Ursin, 1998).

Findings from qualitative research have identified an array of stressors experienced by adult elite athletes such as physical demands and psychological demands (Gould, Finch, & Jackson, 1993), lacking confidence (Dale, 2000), demands of international soccer, and during game anxiety (Holt & Hogg, 2002). To cope with these performance-related stressors

descriptive studies have identified a vast range of different coping strategies which are used by elite athletes such as thought control strategies, emotional control strategies (Gould, Eklund, & Jackson, 1993), self talk (Gould, Finch, & Jackson, 1993), planning (Holt, 2003) and social support (Park, 2000).

Interestingly, several qualitative studies attempted to link performance-related stressors with coping strategies (Dale, 2000; Gould, Finch, & Jackson, 1993; Holt & Hogg, 2002). General findings indicate that there is a relationship between the stressor experienced and the coping strategy deployed. Gould, Finch, & Jackson (1993) found that when athletes experienced psychological demands they were likely to engage in rational thinking or self talk. Dale (2000) found that when the decathletes began to compare themselves with other athletes they coped by reinforcing the importance of competing against themselves. These athletes also reminded themselves how well they had trained when they doubted their preparation. Holt and Hogg (2002) found that participants in their study managed pre-game anxiety by ensuring they had a 'good' warm up. It would therefore appear that researchers should consider both stressors and coping together rather than examining them as separate unrelated entities (Lazarus, 1999; 2000b).

Pensgaard and colleagues have utilised quantitative techniques to assess coping among elite athletes. Pensgaard and Ursin (1998) examining the coping strategies of Winter Olympic athletes, and reported that problem and emotion-focused strategies were employed at all times, while cognitive defence strategies were employed more frequently days before and after competition. Cognitive defence coping involves the person consciously or unconsciously misinterpreting or making wrong interpretations of a situation. Whereas Pensgaard and Roberts (2003) found high task and low ego athletes employed more active coping and social support strategies than high task and high ego, and low task and low ego groups. In a comparison between Winter Olympic and Paralympic athletes, the Winter Olympic athletes were more likely to engage in redefinition and growth coping strategies

compared to Paralympic athletes. The Paralympic athletes were also more satisfied with their efforts and results. Finally, Pensgaard and Duda (2003) reported that coping strategies used by elite athletes were not significantly related to any particular emotion during the stressful recalled Olympic experience.

In summary, both the qualitative and quantitative sport psychology research has been identified performance-related stressors and coping strategies used by elite athletes. More specifically, the qualitative research papers allows the reader to understand in detail the nature of the coping strategies deployed. However, a methodological issue of the above cited qualitative research is the delay between recall and the actual event. The time between the recall and the actual event has varied and can sometimes be several months. For example, the wrestlers in the Gould, Eklund, and Jackson (1993) paper were interviewed between 6 to 12 months after the Olympic games. Research from mainstream psychology (Ptacek, Smith, Espe, & Raffety, 1994; Smith, Leffingwell, & Ptacek, 1999) has strongly suggested that with the passage of time, people do not and perhaps can not provide highly accurate accounts of how they coped with a stressor. Smith et al. (1999) concluded that this high level of discordance (25%) is sufficient to have a negative impact on research with findings that are dependent on retrospective recall. Overall, the research with elite athletes has been useful in helping researchers to understand more about what elite athletes actually do to manage performance-related stressors. However, there still remain several areas of the literature that need to be expanded upon, such as examining the coping strategies of elite adolescents, and addressing what constitutes effective and ineffective coping.

Sport Adolescent Coping Research

Early research with adolescent athletes has yielded some important findings. Madden, Kirkby, and McDonald (1989) utilized The Ways of Coping with Sport (WOCS) to examine the coping styles of 21 elite adolescent distance runners. Coping style refers to a cluster of

coping strategies that an individual is purported to use in a variety of situations. Problem-focused coping (e.g., increased effort and resolve) and seeking social support were used the most consistently by the participants. The Madden et al. (1989) findings were supported by Kolt, Kirby, and Lindner (1995) who used WOCS to examine performance problems in sample of 115 adolescent gymnasts. Increased effort and resolve, wishful thinking and seeking social support were the most frequently reported coping responses. In another study, examining coping styles among 421 adolescent athletes, Anshel (1996) reported that coping styles were a function of the type of stressor. For instance, athletes were more likely to use avoidance coping for stressors such as coach and opponents cheating stressors. Anshel concluded that these findings provide support for the transactional model. Eubank and Collins (2000) examined athletes attempts at coping with pre- and competitive state anxiety among a sample of adolescent gymnasts and tennis players. Results revealed significant differences between those who perceived anxiety to be facilitative and debilitating. The facilitators used more problem and emotion-focused strategies compared to the debilitators, who appeared limited in their use of these strategies.

Other research with adolescents has generated important findings examining the process-oriented nature of coping responses, through employing longitudinal research designs. Crocker and Isaak (1997) examined coping longitudinally utilizing the M-COPE (Crocker & Graham, 1995) across training and competition with a sample of 25 adolescent swimmers (10-16 years of age, Median age = 13 years). The swimmers were assessed during four separate swimming meets. One week after the swim meet, the coping responses during training were assessed. Participants reported how much they had used each strategy from all of the fourteen coping scales (active coping, planning, suppression of competing activities, positive reinterpretation, venting of feelings, humour, wishful thinking, self-blame, seeking social support for emotional reasons, seeking social support for instrumental reasons, acceptance, increased training effort, denial, and behavioural disengagement). Findings indicated that coping in practice was consistent, but in competition, the coping strategies utilized by the swimmers varied. Thus, coping varied from context-to-context (training to

competition). A limitation of the paper, which was acknowledged by Crocker and Isaak, was that the swimmers may have been reporting what they 'usually do' rather than what they 'actually did.'

In two related studies, Gaudreau and colleagues examined the nature of coping among adolescent golfers. Gaudreau, Lapierre, and Blondin (2001) assessed pre-competitive, during competition, and post-competitive coping responses among 33 male adolescent golfers (M age = 16.6 years, SD = 1.00). Pre-competitive coping strategies were measured two hours before competition. During competition coping was assessed 15 minutes post competition and post-competitive coping was measured 24 hours after the completion of the golf competition. Results indicated that golfers' coping responses changed across all three phases of competition. For instance, pre-competition utilization of increased effort, active coping/planning, suppression of competing activities was greater than the competitive utilization of these strategies. Behavioural disengagement was reported more frequently during competition than either pre- or post-competition.

In the follow up study, Gaudreau, Blondin, and Lapierre (2002) assessed coping 2 hours pre-competition, one hour after competition, and 24 hours after the competition, with a sample of 62 male golfers (M age = 16.35 years, SD = 1.31). Additionally, in this study, performance goal-discrepancy (PGD) was assessed, two hours before competition. A negative PGD meant a score better than the golfer's performance goal score, and a positive PGD indicated a performance worse than the pre-performance goal score. Gaudreau et al. replicated their earlier coping findings, but also found that those golfers who did not achieve their performance goal (positive PGD) for their round of golf, decreased in task-oriented, emotion, and avoidance coping from pre- to post-competition.

These studies (i.e., Crocker & Isaak, 1997; Gaudreau et al., 2001, 2002) examined adolescents' attempts to cope and provided important information about the applicability of Lazarus' transactional process perspective among adolescent athletes in sport. Coping was found to change across the phases of competition, which supports the transactional perspective and goals were found to play an important role in the coping process (Gaudreau

et al., 2002), which is further evidence to support the process perspective. One limitation, however, is that the coping process is both dynamic and reciprocal (Lazarus, 1999). Within-subject designs are one suitable method to examine it as such (Lazarus, 2000b) in addition to quantitative methods such as multilevel modelling.

One such study in the sport psychology literature which employed a longitudinal and a within-subjects design was by Holt and Dunn (2004), although it did not consist of adolescent athletes. In this study, repeated measurements of stress appraisals and coping over a six-week period, among high-level female soccer players were obtained. Their results supported Lewthwaite's (1990) finding that when participants perceived their goals to be endangered they were likely to experience anxiety (stress emotion). These findings support the theoretical framework of the transactional perspective, that stress experiences are goal directed. Holt and Dunn also revealed a recursive relationship between stress appraisals and coping responses. However, the results of the Holt and Dunn paper may be limited, because the participants only made on average six entries over a six-week period (one per week). This study could have been improved by the participants completing their audio diaries more regularly to reduce any inaccuracies in their memory (Porter & Stone, 1996).

In summary, early research with adolescent athletes has generated some interesting findings about the nature of coping among adolescent athletes. Research (e.g., Crocker & Isaak, 1997; Gaudreau et al. 2001; 2002) has found evidence in support of Lazarus (1999) that coping changes from situation to situation. However, the sport adolescent coping literature has failed to utilise descriptive methodologies to assess coping among adolescent athletes. This is somewhat surprising as qualitative research techniques have the potential to inform the literature in more detail about the nature of coping among adolescent athletes. Additionally, very little is known about what constitutes effective and ineffective coping among adolescent athletes.

Coping Effectiveness in Sport

It has been suggested that problem-focused coping will be more effective during encounters that the athlete has the potential for personal control, whereas emotion-focused coping has been proposed as being more effective during encounters in which the athlete has very little control. This is known as the Goodness-of-Fit model (Folkman, 1991, 1992). Within the sport psychology literature evidence has been found to support this model. Anshel (1996) and Anshel and Kaissidis (1997) reported that a high level of controllability to be positively linked to problem-focused coping, and more emotion-focused was used when there was less perceived controllability. Additionally, Haney and Long (1995) also found that the perceived level of control and self-efficacy were related to engagement coping strategies. Kim and Duda (2003) found partial support was also found for the goodness of fit approach. When stressors were perceived to be controllable athletes were more likely to report active and emotional calming-focused coping. However, it was perceived psychological difficulties rather than controllability, which emerged as a predictor of mental withdrawal coping strategies. Although Cresswell and Hodge (2001) found when athletes were confronted with uncontrollable environmental stressors the effective copers focused on elements of the situation that they could control. Additionally, the sport psychology literature has developed two further explanations of what constitutes coping effectiveness, the choice of the coping strategy and the automaticity of the coping strategy.

The choice of the coping strategy explanation posits that coping effectiveness may reflect differences in the selection of coping strategies, the effectiveness of specific coping strategies in a particular context, or a combination between the choice of coping strategy and the context (Bolger & Zuckerman, 1995; Crocker et al., 1998). Although there are not any explicit tests of this explanation, some studies in sport psychology have demonstrated that effective coping is related to choice of coping strategy in a particular context. Eubank and Collins (2000) found that coping strategies that facilitated performance among adolescents

were maintaining positive self-statement which included thinking ahead, being relaxed, and positive self-talk, and maintaining positive focus. Factors which detracted from performance were lack of concentration, uncertainty, preoccupation with significant others, and negative self-talk statements. Positive relations between active coping, planning, and optimising emotions with effective coping has also been reported (Gaudreau, Blondin, & Lapierre, 2002; Pensgaard & Duda, 2003). Thus, the choice of certain coping strategies have been associated with effective coping in sport.

Based on findings arising from a descriptive qualitative study of US Olympic wrestlers, Gould, Eklund, and Jackson (1993) concluded that the automaticity of coping responses was strongly related to coping effectiveness and superior performance. Further support for the relationship between coping automaticity and effectiveness has been demonstrated. It could be argued that these athletes become much more efficient in making situation appraisals due to prior experience. Athletes who rated their coping to be more effective during competition rated their coping as being more automatic (Dugdale, Eklund, & Gordon, 2002). There are currently four explanations of what constitutes coping effectiveness within in a sport setting, but further research is warranted to provide further insight into coping effectiveness.

Although the concept of coping effectiveness is not fully understood at this time, coping effectiveness is important and has been found to have a positive influence on performance (Haney & Long, 1995; Pensgaard & Duda 2003), reducing anxiety (Campen & Roberts, 2001) and pleasant affective experiences (Ntoumanis and Biddle, 1998). It is therefore important that researchers examine this area of coping research in sport, as it has the potential to have a large impact on performance.

Coping in Golf

Only four studies within the sport psychology coping literature have addressed coping among golfers (Gaudreau & Blondin, 20004a; Gaudreau, Blondin, & Lapierre, 2002; Gaudreau, Lapierre, & Blondin, 2001; Giacobbi, Foore, & Weinberg, 2004). The two studies

by Gaudreau et al., (2001, 2002) have already been reviewed in the adolescent sport coping research section. But overall, it appears golfers' coping attempts change during competition. During competition golfers have been found to engage in more disengagement (Gaudreau, Blondin, & Lapierre, 2002) and less active coping (Gaudreau & Blondin, 2004a; Gaudreau, Lapierre, & Blondin, 2001) than either pre- or post competition. To date there is only one descriptive study examining coping among golfers. Giacobbi, Foore, and Weinberg (2004) categorised coping as cognitive, relaxation techniques, off course efforts, golf course strategies, avoidance coping, emotion-focused coping. Although the sample consisted of club level golfers, little is known descriptively about the coping attempts of high-level golfers and it appears that more descriptive research among adolescent golfers is required.

Summary

Overall it appears that sport psychology researchers have an understanding of coping with performance-related stressors in sport among adults, but less is known about adolescent athletes. Additionally, little is known about what constitutes effective and ineffective coping, and this information is crucial for the field of sport psychology to have a positive influence on athletes. Another area that needs developing is longitudinal research which examines coping prospectively, thus allowing researchers to examine how goals, stress, and coping interact with each other (Lazarus, 2000b).

CHAPTER 3:

STUDY 1

A Phenomenological Analysis of Coping Effectiveness Among International Adolescent

Golfers

Abstract

The purpose of this study was to examine instances when international adolescent golfers coped effectively and ineffectively with performance-related stressors during competition. Eighteen male Irish international golfers (M age = 17 years) participated in semi-structured interviews pertaining to their coping experiences during golf competition. Data were thematically analysed using Interpretive Phenomenological Analysis (Smith & Osborn, 2003). Strategies associated with effective coping were rationalizing, re-appraising, blocking, positive self-talk, following a routine, breathing exercises, physical relaxation, and seeking on-course social support. Alternatively, different types of coping experiences (trying too hard, speeding up, routine changes, negative thoughts, lack of coping) were associated with ineffective coping. Theoretical and applied implications of these findings are discussed.

A Phenomenological Analysis of Coping Effectiveness Among International Adolescent Golfers

Despite its potential importance from an applied perspective, very little research has examined coping effectiveness in sport psychology. Several researchers have suggested that qualitative research may help provide a basis for understanding coping effectiveness (Aldwin & Revenson, 1987; Lazarus, 1999, 2000b; Ntoumanis & Biddle, 1998; Somerfield, 1997; Somerfield & McRae, 2000). Lazarus (1995) proposed that to investigate research problems such as coping effectiveness, “we should use careful, in-depth interviews and observations, preferably naturalistic, in which contradictions in word and act allow the observer to make better inferences about what the person is thinking and feeling” (p. 194). Following this advice, and Somerfield’s (1997) suggestion to focus qualitative coping research on a specific type of stressor, coping during competitive golf performances were selected as a specific aspect of lived human experience in sport for in-depth analysis. Aldwin and Revenson (1987) criticised the checklist coping effective research for suggesting that participants using more coping strategies suggests that they are coping more effectively. By examining coping experiences qualitatively a greater insight was established in what constitutes adaptive and maladaptive coping experiences.

Thus, the purpose of this study was to qualitatively examine instances when international age-group golfers coped effectively and ineffectively with performance-related stressors during competition.

Method

Methodology

This study was interested in establishing a contextualized perspective of golfers subjective experiences of managing performance-related stressors. As such, this study used Interpretive Phenomenological Analysis (IPA; Smith, 1996; Smith & Osborn, 2003). IPA is

suitable for discovering how people “are perceiving the particular situations they are facing, how they are making sense of their personal and social world. IPA is especially useful when one is concerned with complexity, process, or novelty” (Smith & Osborn, 2003, p. 53).

Given the purposes to examine coping with performance-related stressors in golf, IPA enabled the study to consider personal and social worlds while retaining a focus on mental process. The adoption of this methodology was also consistent with suggestions to employ in-depth qualitative approaches to study coping (Lazarus, 1995, 1999, 2000b; Somerfield, 1997; Somerfield & McRae, 2000).

This contemporary phenomenological methodology has its roots in Husserl’s phenomenology (1913/1983), and more recent interpretive phenomenology (e.g., Van Manen, 1997). IPA is also connected to symbolic interactionism (Denzin, 1995) because it is concerned with meanings constructed by individuals within a social and personal world. Finally, IPA shares a connection with social and cognitive psychology in that it is concerned with mental processes. Although Smith and Osborn (2003) suggested that researchers could engage the IPA methodology from a variety of philosophical perspectives, this study approached this from an interpretive stance, which is the paradigm most consistent with IPA. The interpretive approach involved ontological views assuming multiple perceptions of reality, an epistemological belief in the subjectivity of human knowledge, and a methodological preference for interpersonal interaction as a means of collecting data (Sparkes, 1992).

Participants

In accordance with IPA guidelines (Smith & Osborn, 2003), this study purposefully sampled a relatively homogenous group of golfers of similar ages and competitive level. This study solicited golfers who had represented their country and had played in many different types of competitions (e.g., club, county, national, and internationals). It was assumed that these players would have experienced performance-related stressors and would have coped

both effectively and/or ineffectively with these stressors at one time or another. It was also assumed that adolescent golfers performing at international level would have a great deal of personal investment in their performances and ability to cope with performance-related stressors because their success would potentially have a significant impact of their future career prospects in golf. Finally, it was anticipated that these golfers would be interested in discussing their coping experiences with the interviewer.

Participants were 18 male Irish golfers aged between 14 and 21 years (M age = 17 years, SD = 2.3 years). Fourteen participants attended high school, two were at university, and two worked in addition to playing golf. All participants were associated with international representative teams run by the Golf Union of Ireland. Two players were full internationals, two were under-21 internationals, 10 were under-18 internationals, and four were under-16 internationals. Handicaps ranged from +1.5 to -3 (M handicap = -0.9, SD = 1.9). Although all the golfers were internationals, there were discrepancies in terms of prior competitive golfing experience, which ranged between five and fourteen years (M = 8.3 years, SD = 2.97 years).

Procedure

Written contact was made with the Golf Union of Ireland to explain the study. The Union gave permission for the study to be conducted and provided mailing addresses for their international youth golfers. Forty-one players were sent a letter detailing the nature of the study and a consent form, and 19 agreed to participate in this study (one player was interviewed but his data were removed because he was too young in comparison to the other players, aged only 12 years old). In the letter, it was stated that the study was sanctioned by the Golf Union of Ireland, but that participation was voluntary and that there were no negative consequences for non-participation. Those golfers who wished to participate in this study contacted the researcher. Interviews were conducted after the researcher received a signed consent form. In cases where the golfers were under 18 years of age, parental consent

was also obtained. Participant anonymity and confidentiality was assured both verbally and in writing, and to ensure confidentiality pseudonyms have been used throughout this paper.

Data Collection

Interview protocol. All participants were involved in a confidential telephone interview conducted by the researcher that lasted between 45 and 115 minutes, with most interviews lasting around an hour, which is normal for interviews in IPA (Smith & Osborn, 2003). Although telephone interviews have been successfully conducted in past research with international athletes (e.g., Gould, Eklund, & Jackson, 1993), there was a concern about the lack of intimacy and the difficulties the researcher faced in establishing rapport with each person. Rapport and trust are important issues in qualitative interviewing (Smith, 1995), particularly in the type of phenomenological work we conducted whereby each participant was expected to tell a stranger (i.e., the researcher) about challenging situations they had experienced in their sporting lives.

To help overcome some of the limitations of telephone interviewing, the researcher called each participant prior to the interview to introduce himself and describe the nature of the interview. The participants were told that they were to be asked about stressful situations they had experienced relating to their golf performance, and the researcher tried to answer any questions the participants had. Most questions were procedural (e.g., “how long will the interview last”) rather than about the content of questions that would be posed. The participants were informed that there was no set time limit, and the duration of the interview would be dependent on how much they had to say. The researcher also disclosed some personal information, explaining that he was a 24 year-old PhD student with a long-standing interest in golf. He had played golf for five years, and had a handicap of six. The researcher and the participant then talked for a short while about golf (general ‘small talk’ rather than a conversation directly relating to the study). This prior contact helped prepare the participants

for the formal interview, and provided opportunities for the researcher to initiate a professional relationship.

Semi-structured interviews. In accordance with the majority of IPA studies, data were collected using a semi-structured interview (Smith, 1995; Smith & Osborn, 2003). With semi-structured interviews the researcher has a set of questions on an interview schedule, but the interviewer is guided by the schedule rather than dictated by it. Within this approach, the interviewer (a) attempts to develop rapport, (b) puts minimal emphasis on the ordering of questions, (c) probes interesting areas that arise, and (d) follows the respondents' interests or concerns. The aim here is to "try to enter, as far as possible, the psychological and social world of the respondent. Therefore, the respondent shares more closely in the direction the interview takes, and the respondent can introduce an issue the investigator has not thought of" (Smith & Osborn, 2003, p. 57).

The interview schedule. As Smith and Osborn (2003) advised, in IPA the interview starts with the most general question possible, and then if this question does not elicit sufficient information, probing questions or prompts may be used. After an initial rapport-building conversation (about the participants' career, involvement in golf, occupation, etc), it was intended that the golfers provided stories about when they coped with performance-related stressors. Accordingly, a definition of stress and performance-related stressors (modified from Gould, Finch, & Jackson, 1993) was read out at the start of the interview. This definition was: "I am interested in your stress experiences during competitive golf. Stress refers to the things that cause you negative worry or concern. Stressors are the individual factors that cause you worry or concern resulting in negative emotions." Each person was then asked the most general question possible associated with the research purpose: "Please describe a time you experienced a large amount of stress and handled it well." Colloquial language was used (i.e., 'handled it well') because the golfers would understand this term better than 'coped effectively.' Because these general questions can

sometimes produce insufficient responses, the researcher had a collection of probing questions which were intended to elicit more specific information (Smith & Osborn, 2003). These probes included questions like: 'Tell me more / explain more about that?' 'How did that make you feel or think?' 'How did you respond to that?' Most importantly for this phenomenological approach, the researcher invited concrete accounts of actual experiences that had occurred. The study chose to ask about effective coping first because we thought this would help the participants to relax and help the interviewer build more rapport. The second main guiding question involved asking each participant to describe a time when they felt they were 'under stress but did not handle it well.' Together these guiding questions provided a basis for the participants to discuss instances of effective and ineffective coping. Every attempt was made to follow the participants and understand their story rather than merely follow a standardized order of questions (Smith & Osborn, 2003).

Conducting the interviews in this manner ensured that the participants' evaluations of effective and ineffective coping were obtained, rather than the interpretations/ definitions of what constitutes effective or ineffective coping. That is, the participants may have reported on situations when they subjectively appraised that they had coped effectively but they actually lost a game or not won a competition. Using participants' subjective appraisal of the relative effectiveness of coping is consistent with Lazarus (1999) suggestion that coping is a subjective phenomenon. Furthermore, this approach is consistent with the chosen phenomenological methodology because in phenomenology the participant is considered the 'expert' and it is the meanings she/he associates with her/his experiences that are of interest to the researcher (Smith, 1996; Smith & Osborn, 2003).

Data Analysis

The data were initially analysed by using IPA (Smith, 1996; Smith & Osborn, 2003). The aim of this analytical approach is to explore the participant's view to understand and integrate as far as possible an 'insider's perspective' of the phenomena under study.

Following verbatim transcription of all interviews, each manuscript was read several times. During this reading and re-reading, notes were made in the left-hand margin to reflect on interesting or significant comments in relation to stressors and coping. As this process advanced, certain blocks of text were isolated (into 'meaning units') and tentative theme titles were written in the right-hand margin. The titles of themes represent more precise psychological terminology, whereas notes reflect participants' comments 'in vivo' (Smith & Osborn, 2003). The researcher's thoughts and interpretations about the data were also annotated. IPA differs from traditional content analysis procedures (e.g., Maykut & Morehouse, 1994) in that the aim of the procedure is to provide the reader with the overall experience of the participant sample. This is reflected in the way the data is presented as rich quotes rather than findings being tallied up (Smith & Osborn, 2003).

In order to transform notes into themes, connections were made between participant's actual statements and the researcher's interpretations (Smith & Osborn, 2003). Once all 18 transcripts had been subjected to IPA in their entirety, a list of emergent themes reflecting the richness of the participants' experiences was created. These themes were then connected to each other based on similarities and apparent inter-relationships. As the themes were clustered they were checked with the transcripts to ensure that the connections worked for the primary source material (i.e., the actual words of the participant). Once a coherent list of related themes was finalized, extracts representing themes were selected (summaries of which are presented in Tables 1 p. 44, and 2, p. 49). At this point, the participants were re-contacted to discuss the researcher's interpretations in a member-checking procedure (Lincoln & Guba, 1985), which is reported below.

A brief word is warranted on the role of the themes (see Tables 1 p. 44, and 2, p. 49) in phenomenological research. As Van Manen (1997) explained, themes are "like the knots in our webs of experience, around which certain lived experiences are spun and thus lived through as meaningful wholes (...) Themes are only fasteners, foci, or threads around which

the phenomenological description is facilitated” (pp. 90-91). In other words, themes are the skeleton upon which the body of the story (i.e., the results) are written. Consequently, the final stage of data analysis involved developing a written account from the themes, which is an important part of the analytic process (Smith & Osborn, 2003). The themes were written into a coherent description of the golfers’ coping experiences, using the participants’ ‘voice’ wherever possible (see results section). This written account was then discussed, reviewed, and re-written several times. This continuous cycle of writing, discussion, and re-writing extended over several weeks. The challenge here was to acknowledge and represent the complexity of the golfers’ experiences without being unduly reductionistic in the data presentation. Given that the purposes of the study were to understand effective and ineffective coping with performance-related stressors in golf, it was decided to focus the written section of the results on coping responses rather than discussing stressors at length. This study chose to provide a data ‘reduction’ or summary of the themes (i.e., Tables 1, p.44, and 2, p. 49) in order to provide the reader with more transparency by which to judge the analysis. To reiterate, the themes presented in Tables 1 and 2 are not the outcomes of the study per se, but rather the framework upon which the written description was founded.

Validity/Trustworthiness/Goodness Criteria

This study adhered to a non-foundational approach to validity (Sparkes, 1998). The non-foundation approach involved developing specific techniques that could be used for this particular study in order to enhance its ‘trustworthiness’ (Lincoln & Guba, 1985) or ‘goodness’ (Stearn, 1998). As such two specific techniques, bracketing and member-checking were used, which are explained below.

Bracketing. Prior to and during the data collection and analysis the researcher maintained a reflexive journal to help ‘bracket’ his personal experiences and consider the influence of his personal values and golfing experiences on the research (Smith & Osborn, 2003). He wrote about times when had coped well (and badly) with performance-related stressors, and he was careful to avoid imposing his view of coping onto the participants’

accounts, or interpreting their words purely in the content of his own experiences. This was also achieved by the researcher asking open questions such as “How did you feel about _____?” which invited an open ended response. This technique may help the researcher to start moving toward the engagement of the scientific phenomenological reduction (Giorgi & Giorgi, 2003). However, given that the adoption of the phenomenological reduction is a complex task for a neophyte researcher (and most likely impossible to achieve in the short-term as it represents a philosophical state of mind), this study paid more attention to bracketing assumptions than to adopting a philosophical position. In addition to making entries about how his assumptions may have been influencing the research, the author also engaged in regular conversations with his PhD supervisor, who played the role of ‘critical friend’ (cf. Holt & Sparkes, 2001). The critical friend helped uncover biases in the analytic approach, question analytic decisions, and ask about how certain examples reflected the golfers’ subjective experiences. Instances where the PhD supervisor queried analytic decisions were settled through a process of advocacy and discussion whereby both researchers discussed their interpretations. Combined, maintaining a reflexive journal and engaging in debriefing discussions helped the researcher become more aware of his own perspective and ‘voice’ as well as being aware of the perspective of the participants’ voice. These techniques raised the researcher’s self-awareness, which were assumed to add to the quality of the data analysis.

Member-checking. Participants first received a two to four page written copy of their results, including brief descriptions of the key themes obtained from the entire data set. The researcher then telephoned the participants three days later and engaged them in short (10 minute) conversations about the findings. The participants were asked some verification and clarification questions in order to add to the depth of the data collected (Lincoln & Guba, 1985). If there was a quote whereby the meaning was unclear, the researcher asked for clarification. Given that this study was attempting to portray the participants’ subjective experiences, in every case where there were questions or queries about interpretations (which

were relatively few), it adhered to the participants' perceptions rather than the researchers' perceptions. The participants were also asked to verify that they had indeed been discussing instances of effective and ineffective coping (and that that the researcher had categorized these instances appropriately). Perhaps most importantly, the researcher explained the types of coping strategies associated with the participant's own effective and ineffective coping, and asked him to corroborate (or refute) his personal profile. Participants were also asked if/how their personal case appeared to 'fit' with the wider context of the entire data set. Without exception, all participants corroborated their personal profiles and could locate their own experiences within the wider context of the complete data set. This indicated the researcher had done a good job of providing suitable detail and portraying a breadth of coping experiences. For a copy on an interview transcript see Appendix B.

Results

The Nature of Performance-Related Stressors Experienced by Elite Adolescent Golfers

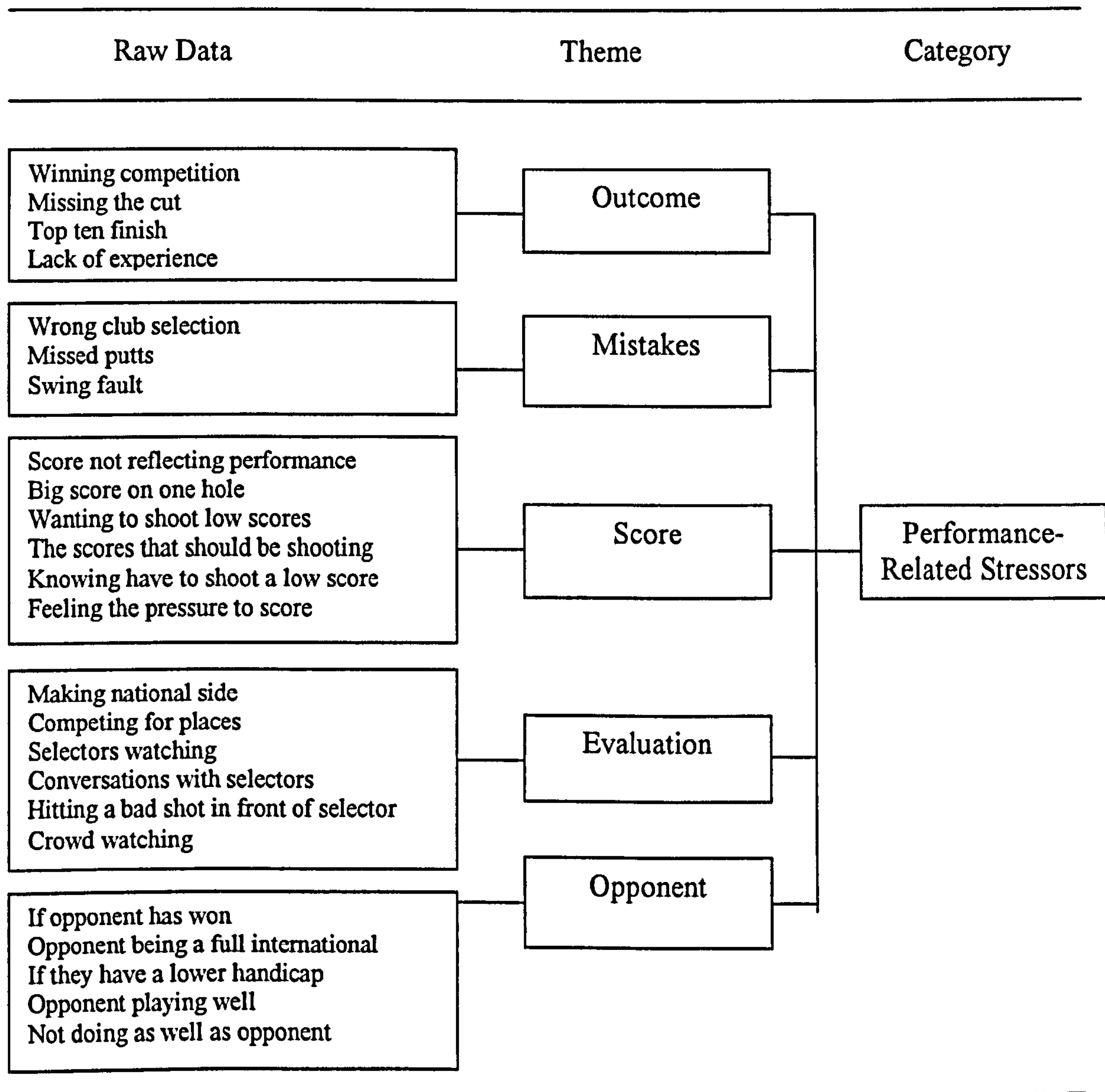
Rather than describe all the stressors in detail, Figure 2 (p. 38) was created to reflect the range of performance-related stressor themes that were identified through IPA. Although an extremely reduced summary, Figure 2 indicated that competition involved numerous types of stressors relating to outcome, mistakes, score, evaluation, and opponents. The following quote from Neil, an 18-year-old full regional championship winner, epitomized the participants' accounts of performance-related stress in golf. Neil was discussing the time he won his first regional competition:

Going into the last round I was one behind my playing partner and he fell back and it was between myself and someone from the group ahead of us. It was on his home course and there were about 30 people at the 14th hole. Being only 17 years old it was quite an experience as both of us had struggled at the start of the round. He had been in this position [before], but I had never been in that position and I dropped four shots in the first 10 or 11 holes, I think from never being in that

position before and being a bit nervous, and a lot people out watching that day. Then I got my act together and I knew what was going on from cheers in his group. The last putt I hit was probably the most nervous I have ever been over a shot. It got to the stage that going down my last hole, well I thought that I needed to make a par to get into a play off but it turned out that I needed a par to win the competition. I hit an iron onto the fairway and an iron onto the green and I thought I had two putts to get in for a play off. From thirty feet I hit it six feet by [the hole]. It didn't help things and I remember that is the most nervous I have been standing over that putt. I can literally feel my legs shaking now as I think about it, I was very nervous and I managed to get it in and it was the most nervous I have ever been, it being my first serious competition and playing under pressure.

Neil's account demonstrates how performance was a stressor that included appraisals of having little previous experience of the situation, a crowd following, specific shot demands, and the fact that he was so close to winning the competition. It is likely that Neil's assertion that "it was the most nervous I have ever been" reveals that he was experiencing anxiety and was therefore required to cope in order to perform effectively (cf. Lazarus, 2000a). This account is provided to give the reader an indication of the complexity and nature of the types of performance-related stressors the golfers were attempting to cope with.

Figure 2. Stressors reported by international adolescent golfers



Effective Coping: Combining Cognitive, Behavioural, and Emotional Coping Strategies

Effective coping involved the use of several different coping strategies, often in combination (see Figure 3, p. 43 for overview, and Table 1, p. 44 for examples). Cognitive strategies such as rationalizing, re-appraising, blocking, and using positive self-talk were reported. Behavioural strategies involved following a routine, whereas emotionally-oriented coping strategies involved the use of breathing exercises, physical relaxation, and seeking on-course social support. Because it became apparent that effective coping involved the use of several strategies in combination, rather than provide examples of specific coping strategies examples of effective coping experiences are presented in order to provide contextualized accounts of the lived experience of effective coping in golf (which is consistent with the phenomenological methodology employed).

Trevor, a 20-year-old full international with a handicap of +1.5, described how he tried to regain a sense of control when he found himself worrying about his obligations of playing well for his team:

Well I was playing this week and we played Ireland against Scotland and I played quite a few... a couple of big matches the previous week in match play. I was quite nervous over the last few holes and maybe started to walk quickly so I tried to slow myself down. This week in the singles and I was one up with four to play and in the previous week [this was] when the nerves kicked in. I tried to breathe gently and stop thinking about things and stop thinking about the match being over maybe just win this hole and I tried to keep going, so I did. So [I] walked slowly and took my time and it ended up a loss but it wasn't... I made a big putt on the 18th but it was the way I went through my mannerisms just the same if I am going to play nine holes with my friend. That is the way I controlled it and I was very pleased even though I lost my match. I was very pleased how I controlled everything with my pre shot routine going through it and keeping it going.

In order to cope, Trevor tried to slow down, went through his pre shot routine (a behavioural strategy), breathed gently (to manage his emotions), and pretended that he was just playing a practice round (to manage his cognitions). These techniques appeared to enable him to gain more control of his cognitions, emotions, and behaviours. Playing for Ireland in the final stages of the qualifying in the European championships Phil (a 21-year-old full international, with a handicap of plus one) recalled an effective coping experience:

[I] concentrated on my routine and I remember thinking more over my shots. [I thought] 'Just give it 100% and if it does not come off like, what the hell. But don't back off anyway.' I kept on reminding myself over every shot to give it 100%. I kind of had it in the back of my head that 'don't worry if you do mess up it is not the end of the world.' So that helped me like, but 'don't back off ... keep going' also helped. I wanted to not come off the course thinking 'if only I had hit that shot, or did not back off that shot' kind of thing you know

In this example, Phil coped by using positive self-talk and re-appraising (both cognitive strategies). James, a 15 year old playing in his first national competition recalled, "It was kind of that I could rely on my own game and it was pulling me through and I was not expecting to hit a bad shot. If I needed to hit a particular shot I knew that I could do it." In this case we interpreted (which was confirmed by member-checking) that James felt he was coping because he could produce the shots when he needed them. Martin (who was a 17-year-old youth international, with a 0 (scratch) handicap) also emphasized the point of managing his cognitions in order to cope:

I had a club out and counted the yards, which was 140 to the pin, with a left to right wind. I was over the ball gripping it and my mind went away from the shot onto the people watching. I then pulled away from it again and started to think 'this was the wrong club' so I got another club out and took a practice and tried not think of who was watching and tried to reassure myself that 'stand back, you have got the right

club now' and I just tried to aim at the flag and said to myself 'I am going to put a confident swing on it'. My mind actually blanked out the people around the green. It was step off, forget about it, [and] concentrate on the shot. That is what I had done and I actually hit the ball in close. It helped clear my mind and turning them [negative thoughts] into positive thoughts again.

In this case Martin took a step back from the shot (a behavioural strategy), which appeared to give him an opportunity to use positive self-talk and blocking to manage his negative thought intrusions. The golfers also reported ignoring other competitors or selectors, to maintain their own focus. Danny, a sixteen-year-old golfer with a handicap of 0, and a winner of an international competition recalled:

Well I just tried to walk in front so that they [selectors] could not start talking to me. Sometimes they start asking you questions whilst you are playing and it can make you lose your concentration, so I just walk out in front of them and don't make any eye contact whatsoever. I don't mind talking to them after the round about whatever but some of them are so annoying and I can't be bothered with them whilst I am playing golf as it once made me lose my focus.

In this case it appeared that Danny was not able to alter the environment (e.g. the behaviour of the selectors), so he employed other strategies to maintain his focus (i.e., he avoided them). All the extracts presented to this point reflect proactive coping whereby stressors were anticipated and coping strategies deployed. However, some players also coped effectively after making mistakes. For example, Kieron controlled his breathing and re-adjusted his focus to cope with making a mistake:

I had just hit the ball into the water. I started deep breathing to help calm myself down, and had a drink of water to keep my mind off it. I tried to focus on the next shot. It really helped in this instance as I felt a bit calmer and ended up playing a good shot to within a couple of feet and making a bogey.

Seeking on-course social support from caddies or playing partners was found to be helpful by many of the golfers. Martin remembered an important putt in which he got help from his caddie. "I pulled away again because I was not comfortable. I began to think that it was the wrong line so I stood away. It was more just reassuring myself, just stepping away and double-checking with the caddie."

Figure 3. List of themes for effective coping strategies

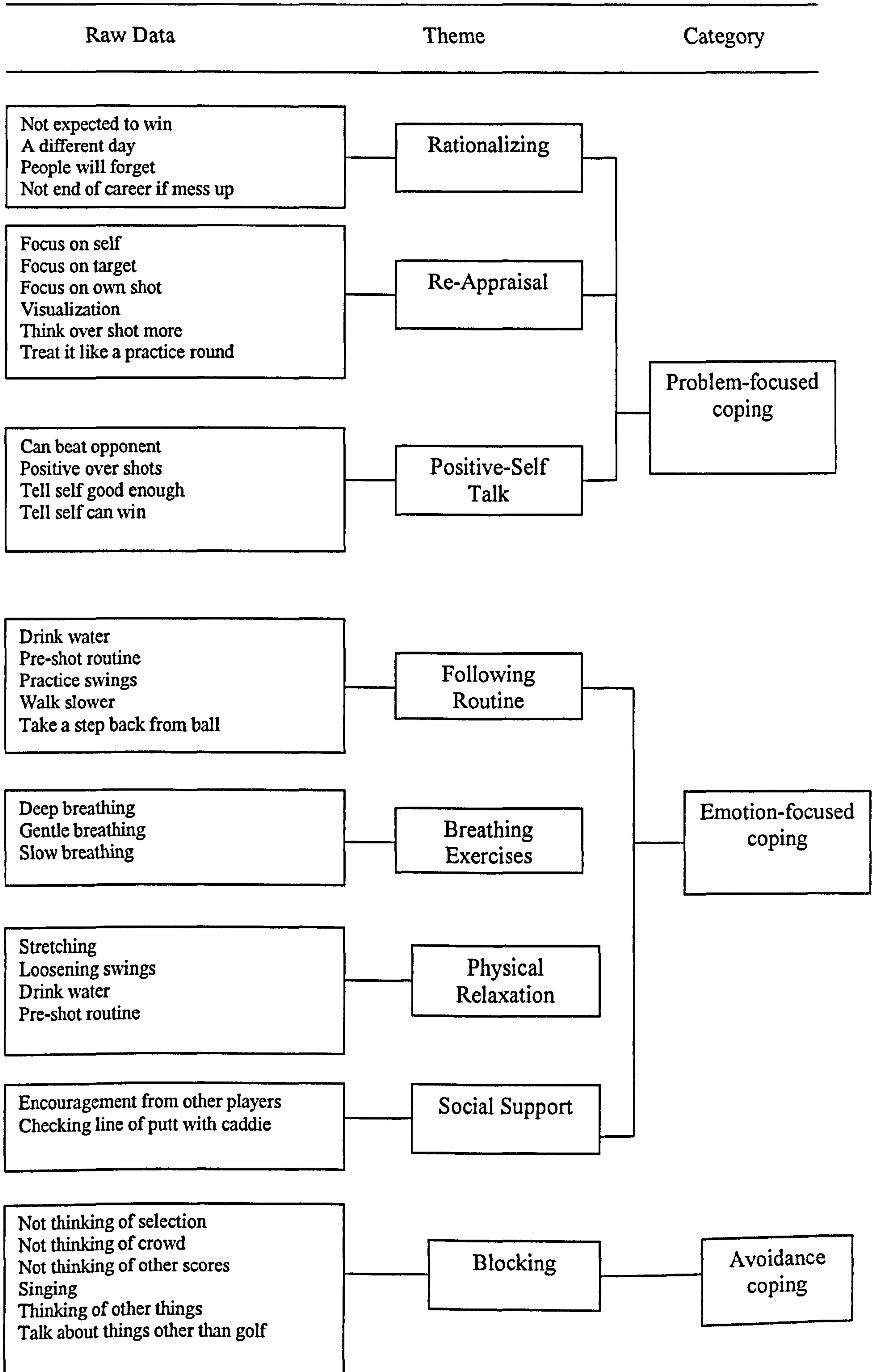


Table 1. Summary of themes and examples of raw data extracts for effective coping

Ineffective Coping: Forcing It

Coping	Number of participants	Selected quotes from participants
Cognitive Coping		
Blocking	13	<p>“Stop thinking about the match being over”</p> <p>“Really just block it out and play my own shot”</p>
Re-appraisal	12	<p>“I tried to focus on the next shot”</p> <p>“I focused on the way I was playing every shot and not doing anything different”</p>
Positive self-talk	12	<p>“Just give it 100% and if it does not come off like, what the hell “</p> <p>“Play my own game and focus on my own match”</p>
Rationalizing	11	<p>“Don’t worry if you do mess up it is not the end of the world”</p> <p>“It doesn’t matter if you don’t do it”</p>
Behavioural Coping		
Following a routine	9	<p>“I concentrated on my routine”</p> <p>“I just went through my routine”</p>
Emotional Coping		
Breathing exercises	12	<p>“I started deep breathing to help calm myself down”</p> <p>“I remember doing breathing exercises down the last fairway”</p>
Physical relaxation	6	<p>“I did some stretching to loosen up”</p> <p>“I did some extra practice swings to loosen up”</p>
Seeking on-course social support	11	<p>“Stepping away and double-checking with the caddy”</p> <p>“We [the player and the caddy] lined it up for about a minute and it worked”</p>

Overall it seemed that the golfers coped ineffectively when they increased effort and ‘forced’ their play. Specifically, ineffective coping was associated with routine changes, trying too hard, speeding up, negative thoughts, and a lack of deployment of coping skills (see figure 4, p. 48 for overview, and Table 2, p. 49 for quotes). The final point concerning a lack of coping was interesting because during member-checking the majority of the golfers said that they were generally not aware of coping poorly until they were asked to reflect. In other words, they knew something had ‘gone wrong’ with their performance, but they had not really analysed possible reasons for this. The following examples provide a contextualized view of some experiences of ineffective coping.

In the Irish youth championships last year Graham (an under-21 international) recalled an experience where he perceived that he coped ineffectively:

I wasn’t coping very well, as I was very nervous. I couldn’t... I hit the ball in the water, and it was an easy up and down, but I did not make it. I hit double bogey, and I was thinking ‘that is it.’ The next hole was a par five which was easy reachable in two with a drive and a six iron. I did not birdie that because I hit a poor tee shot and just thinking ‘its over.’ I was not coping. Well to be honest, I just was not coping. I was not losing my temper, but trying to keep calm, and was maybe trying too hard to hit the ball further.

It seemed that Graham was unable to deploy any effective coping strategies to manage his cognitions or emotions. This interpretation appeared to be corroborated when Graham was probed further about whether he did anything else to try and cope; he recalled:

I was not working on anything in particular but just to think of the way I had played the previous few holes. Looking back at it now I think ‘why did I not go through a pre shot routine and try to cope?’ But things like that did not enter my mind. I was trying to force the ball, and trying too hard after getting down and then you try not to drop shots.

Lawrence, a sixteen-year-old golfer playing in his first national youth competition, also described an experience of trying too hard:

I was working hard to get my score back, trying too hard and I ended up hitting some bad shots because I was trying too hard and playing shots that I couldn't really play. I was trying to make shots from nowhere. I was on top of a mound and it was the second shot to a par five and I was thinking of trying to make a driver off the mound from a slight up hill lie. I got it up there, but not where I should have been. I should have hit a three iron as I ended up playing into high rough.

Lawrence tried too hard by attempting to play difficult shots. In both instances (i.e., Graham and Lawrence), trying too hard resulted in poor outcomes and neither felt they had gained control of their game. Not only did this trying too hard relate to effort and shot difficulty, players would also try and win as early as possible in match play scenarios as Ben (a 16 year-old with a 0 (scratch) handicap) described:

B: I was playing in the Leinster boys last year and I was two ahead with four to play and I ended up losing by one because I was trying force the ball and trying win as early as I could instead of staying calm and I got too excited instead of being calm and just waiting until it happened.

I: Can you explain what you mean by trying to force the ball?

B: I was trying to get in early. I made mental errors, stupid mistakes, going at pins when you should go for the centre of greens and going for birdies when a par would have done.

Ben seemed to become too eager to win, which may have contributed to subsequent mental errors of being too aggressive. In addition to trying too hard, routine changes were also associated with ineffective coping experiences. For example, Will, who was 17 years-old and a scratch player, spoke of a time playing in a provincial competition where he had just hooked his first two drives off the first two tees:

W: I thought about my swing. I changed my technique as well. I have a fault of taking the club away closed, I just made sure I did not do that, for the rest of the round and every shot I hit.

I: How did this make you feel?

W: I [would] have felt more comfortable if I had not done this as it is manufactured. It decreased my confidence.

Similarly, Johnny, a competitor at two world junior championships, recalled a time when he made technical adjustments in an attempt to cope when playing in a national championship:

I was playing in this junior competition and it was a really strong wind. I was worried about how I was going to play and I ended up snap hooking my driver on three consecutive holes because I was trying to hit the ball differently to allow for the wind.

In these examples, Will and Johnny made ineffective technical adjustments, which did not result in the desired performance outcomes.

Figure 4. List of themes for ineffective coping strategies

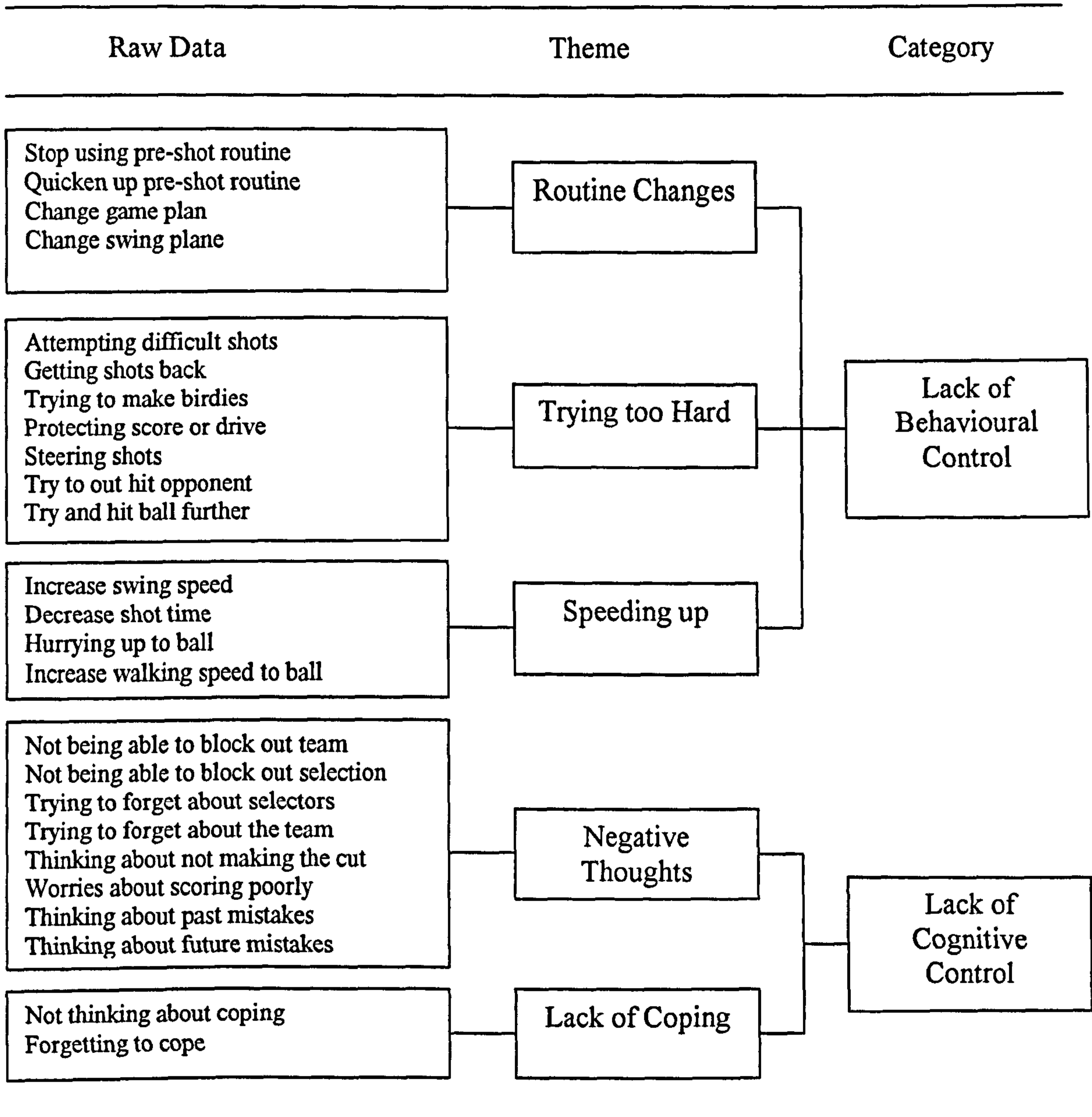


Table 2. Summary of themes and examples of raw data extracts for ineffective coping

Coping	Number of participants	Selected quotes from participants
Behavioural		
Trying too hard	13	<p>“I was trying too hard”</p> <p>“I was trying to get off to a fast start and once I got off to a bad start I was trying to make a better score than I could on the day rather than staying patient ”</p>
Speeding up	6	<p>“I wasn’t really thinking straight, I just rushed the situation”</p> <p>“I just started rushing shots”</p>
Routine changes	5	<p>“I think ‘why did I not go through a pre-shot routine and try and cope?’”</p> <p>“Got up, teed the ball up, and didn’t even think about it and whacked the ball into the trees”</p>
Lack of Cognitive Coping Strategies		
Negative thoughts	16	<p>“I was worried about how I was going to play and ended up snap hooking my driver”</p> <p>“It was like don’t hit it right and I ended up hitting a mile left”</p>
Lack of coping	10	<p>“I was not attempting to cope. I was plodding along not thinking of anything”</p> <p>“I didn’t do anything to cope. Looking back I have learned from it. I just didn’t cope and it all got to things went wild. I was trying to guide it”</p>

Discussion

This study examined instances when international age-group golfers coped effectively and ineffectively with performance-related stressors during competition. The findings indicated that strategies associated with effective coping were rationalising, re-appraising, blocking, positive self-talk, following a routine, breathing exercises, physical relaxation, and seeking on-course social support. Alternatively, different types of coping responses (trying too hard, speeding up, routine changes, negative thoughts, and lack of coping) were associated with ineffective coping. These findings imply that practitioners should encourage adolescent golfers to employ the techniques associated with effective coping, and reduce any emphasis on the techniques associated with ineffective coping.

This study appeared to provide evidence partially supporting several explanations of coping effectiveness. The outcome model suggests that if there is a favourable outcome then the person has coped effectively. This study has found support for this model as when the golfers reported their effective coping experiences they generally had a favourable outcome such as winning their match or hitting a good shot. Similarly, when the golfers had coped ineffectively they reported negative outcomes.

The goodness-of-fit perspective posits that problem-focused coping strategies would be most effective in controllable situations, whereas emotion-focused coping strategies would be most effective in uncontrollable situations (Folkman, 1992). In terms of effective coping, re-appraising, positive self-talk, and following a routine may be regarded as problem-focused strategies. Rationalizing (which is like acceptance), blocking, breathing exercises, physical relaxation, and seeking on-course social support could be considered as more emotion-focused strategies. In terms of ineffective coping, trying too hard, speeding up, and routine changes represent problem-focused strategies. Thus, more emotion-focused than problem-focused strategies were associated with effective coping, and more problem-focused than emotion-focused strategies were associated with ineffective coping. Although it

may be tempting to conclude that certain categories of coping strategies were more effective than others, Dugdale et al. (2002) urged researchers to be cautious in applying macrolevel taxonomies to describe data because the deployment of a particular coping strategy can change depending on the situation or context. Applied practitioners should also be cautious of this and not just encourage their clients to use on only certain strategies. Instead, it is suggested that practitioners teach their clients a plethora of coping strategies from both problem and emotion-focused dimensions.

There appeared to be some differences in the reported effective and ineffective coping experiences that may be associated with age and experience (see Figure 5, p.50). For effective coping, older more experienced golfers reported using cognitive coping strategies more frequently than younger less experienced golfers. Conversely, emotional strategies for effective coping were reported more frequently by the youngest golfers than the oldest golfers. These findings are corroborated by the developmental psychology literature. Coping that requires cognitive maturity (e.g., reappraisals, positive self-talk, attention diversion) tend to be employed more frequently during adolescence (Band & Weisz, 1990), and those adolescents who have reached a more mature cognitive level are capable of considering a range of coping options and selecting the most appropriate resources for managing a particular situation (Fields & Prinz, 1997; Seiffe-Krenke, 1995). Specifically, older adolescents' enhanced cognitive development and autonomy are associated with planned and action-oriented coping strategies, and greater flexibility in coping (Cheng, 2003; Lester, Smart, & Baum, 1994; Hoffman, Levy-Schiff, Sohlberg, & Zarizki, 1992). As such, the findings suggest that there were coping differences that may have been associated with age.

This study had originally assumed that golf performance would be appraised as controllable. However, in retrospect it is realised that some golfers may have been describing effective or ineffective coping with controllable stressors, whereas other golfers may have been describing effective or ineffective coping with uncontrollable stressors. Of course, this study did not specifically address the notion of control in this study, but it is plausible to assume that some performance-related stressors are more controllable (e.g., swing, focus,

etc), whereas others are more uncontrollable (e.g., opponents, weather, etc). Further research which examines golfers' subjective appraisals of the controllability of specific performance-related stressors would further understanding of our initial findings, and overcome this limitation of our study. From an applied perspective, an important question practitioners working with adolescent elite athletes may wish to ask is "Can you control the stressor?" Practitioners may then wish to teach golfers emotion-focused coping strategies (e.g., rationalizing, blocking, breathing exercises, physical relaxation, and seeking on-course social support) in order to manage uncontrollable stressors like the weather or an opponent. This relates to the notion of coping flexibility (Lester, Smart, & Baum, 1994) in that the participants were using a variety of different coping strategies. Alternatively, problem-focused coping strategies (e.g., re-appraising, positive self-talk, and following a routine) should be used for managing controllable stressors like swing and focus.

A further limitation of this study, is that although measures were taken to build a rapport with the participants the lack of face to face intimacy may have detracted from any findings generated. Although due to the busy schedule of the golfers and geographical locations, telephone interviews were the most convenient for both the participants and researcher.

As previously noted, an alternative explanation for coping effectiveness is that differences between effective and ineffective coping are related to the choice of coping strategy in the given context (Bolger & Zuckerman, 1995; Crocker et al., 1998). These findings revealed that effective coping involved different types of coping strategies in comparison to ineffective coping (i.e., effective coping involved rationalizing, re-appraising, blocking, positive self-talk, following a routine, breathing exercises, physical relaxation, and seeking on-course social support; ineffective coping involved trying too hard, speeding up, routine changes, negative thoughts, and lack of coping). Clearly different types of coping strategies were chosen during effective and/or ineffective coping episodes. Thus, the data

provide some support for the position that coping effectiveness is related to the choice of coping strategies within a specific context. The applied implication is that practitioners may wish to remind athletes that they have a choice in how they respond to situations, and they also have a choice in terms of the coping strategies they deploy. The skilful practitioner will assist adolescent golfers in choosing the most effective coping strategies for managing the stressors they encounter.

A fourth explanation is that effective coping is associated with coping automaticity (Dugdale et al., 2002; Gould, Eklund, & Jackson, 1993; Gould et al., 1999). Although the findings of the present study did not necessarily show that effective coping was more automated than ineffective coping, the data indicated that ineffective coping was associated with a lack of automaticity. That is, ineffective coping involved 'forcing it' by trying too hard, speeding up, changing the routine and so on. These coping attempts may reflect strategies that were neither well learned nor well practised. As such, the data suggest that ineffective coping was not automated, but given that the study did not directly assess the automaticity of coping in this study, caution is required when interpreting this finding. Although speculative, the applied implication is that coping strategies should be practised and well-learned to the extent that they become automated, but further research is required to address the relation between coping automaticity and effectiveness.

Although this study attempted to focus the golfers' attention on examples of coping with a single stressor (as recommended for qualitative researchers by Somerfield, 1997), data indicated that performance related stressors in golf were actually complex and multifaceted. This is an important finding, and provides evidence for coaches and applied practitioners working with elite adolescent golfers about the types and manner in which these athletes experience stress.

Typically a sample of 18 would be considered a limitation as it restricts the generalizability of findings. Ironically, in IPA research the maximum number of participants

is normally 15, and studies typically involve 5-6 participants (Smith & Osborn, 2003) because the objective is to provide in-depth accounts of individual experiences. Thus, this study may be limited by a relatively large sample size that led us to focus on breadth rather than depth of experiences. However, in accordance with the purpose, the findings did provide detailed descriptions about coping effectiveness, which may provide a foundation for future research. Research conducted in the future should also focus on the notion of control of the stressor, and determine whether this has an influence on the coping experience. Additionally, it would be interesting to see whether the effective coping experiences mentioned in this study are similar to other sports.

To conclude, there were differences in the types of coping responses associated with effective and ineffective coping. These findings suggest that elite adolescent golfers should be encouraged to use cognitive (rationalizing, re-appraisal, blocking, and positive self-talk), emotional (breathing exercises, physical relaxation, and seeking on-course social support), and behavioural (following routine) coping strategies during competition. However, they should avoid trying too hard, speeding up, and changing their routine. Additionally, these findings suggest that adolescent elite athletes are cognitively mature enough and physically capable of using a variety of coping strategies. It could be therefore be argued that adolescent elite athletes will benefit from psychological skills training from applied sport psychology practitioners.

CHAPTER 4:

STUDY 2

Stress, Coping, and Coping Effectiveness Among International Adolescent Golfers

Abstract

The purpose of this study was to examine stressors, coping strategies, and perceived coping effectiveness among elite adolescent golfers. Eleven Welsh international golfers (M age = 16.4 years) maintained diaries over a 31-day period. Overall, most frequently-cited stressors were making a physical error and making a mental error (accounting for 53% of all reported stressors). Interestingly, making a physical error was cited most frequently during the first half of the study, whereas making a mental error was cited most frequently during the later half of the study. Most frequently-cited coping strategies were blocking, increased concentration, and technical adjustments. Overall though, coping strategies that served a problem-focused coping function were cited more often than those which served an emotion-focused or avoidance function. Although mean coping effectiveness remained stable over time, considerable fluctuations in the effectiveness of coping strategies used to manage specific stressors were observed.

Stress, Coping, and Coping Effectiveness Among International Adolescent Golfers

Existing research has revealed that coping can change across situations (Crocker & Isaak, 1997) and across the phases of a competition (Gaudreau et al., 2001, 2002). Furthermore, coping influences subsequent stress appraisals (Holt & Dunn, 2004). These initial studies have revealed important information, but there is scope for adoption of alternative longitudinal research designs to complement existing research. For example, the studies by Gaudreau and colleagues (Gaudreau et al., 2001, 2002) involved micro-analysis of coping two hours prior, one hour post and 24 hours post competition, but did not examine changes in coping from competition to competition over the course of a season. Although the studies by Crocker and Isaak (1997) and Holt and Dunn (2004) collected data over a longer time period during the competitive season, neither of these studies included daily measures of coping. Daily diaries approaches to assessing coping provide a useful technique for examining coping longitudinally (Holt, 2003; Porter & Stone, 1996). The current study builds upon previously employed methodologies by engaging athletes on a daily basis over a 31-day period in the midst of the competitive season.

Longitudinal research is required to examine coping processes over time (Lazarus, 1999; Somerfield, 1997). Furthermore, research on coping effectiveness is required (Crocker et al., 1998). To help address these gaps in the literature, the purposes of this exploratory, descriptive study were threefold. The first purpose was to establish the frequency by which stressors were reported by elite adolescent golfers over a 31-day period. The second purpose was to examine the coping strategies used to manage these stressors. The final purpose was to establish the perceived effectiveness of different coping strategies.

Method

Participants

Participants were 11 Welsh international golfers aged between 14 and 18 years old (M age = 16.4 years, SD = 1.9). All players were associated with the international talent identification program run by the Welsh Golf Union. Handicaps of the participants ranged from 0 to 4, (M handicap = 1.3, SD = 1.4). All of the participants were Caucasian, attended high school, and were from families of middle class socio-economic status.

Recruitment procedure. This study was sanctioned by the Welsh Golf Union and the sport psychology consultant for the Welsh golf team assisted in the recruitment of participants. Initially, 22 members of the Welsh youth golf team were sent a letter detailing the nature of the study. It was made clear that participation in this study was voluntary, that their responses would be seen by the fourth author (the golf consultant), but otherwise their identities and responses would remain confidential. Also, it was made clear that declining to participate would have no negative consequences for the golfers in terms of team selection of services provided by the consultant. Eighteen participants agreed to participate, but seven dropped out or provided incomplete data sets. Written informed consent was provided by all participants and a parent (if the participant was under 18 years old).

The 31-Day Competitive Period

This study took place during the month of July, which was the peak of the golfers' season. During this time there were eight national or international competitions. From days 1-5 of the study the main competition was the Glamorgan Boys championship (a one-day stroke-play competition, which contributed to the junior national order of merit). Between days 6-10 there were no national or international competitions. During days 11-15 the participants played in one of two major competitions. One was the Tucker Trophy, a two-round national stroke-play competition, contributing to the order of merit. The second was the European Boys Championships, a four-day team event played in the Czech Republic,

which was the most important team competition of the season. (Golfers that were selected for the team event did not play in the Tucker Trophy; six participants took part in the European Boys Championships and five in the Tucker Trophy). Days 16 to 20 included the South Wales Open Stroke Play (a regional two-round competition which contributed to the order of merit). Between days 21 to 25 there was the North against South Wales match (an inter-squad match play team format over one round), and the Welsh Boys under-18 Championship (a one-day stroke play competition followed by a three day match play knockout competition for the top 16 golfers from the stroke play. All of the participants took part in both of these competitions). During the final period, (days 26-31) there was either the British Boys under-18 or the Welsh Amateur (i.e., open-age/adult) Championships. Both competitions lasted for five days, with an initial stroke play round, and the top placed golfers qualified for the match play knockout phases of the competitions. Eight participants took part in the British Boys Championships and the other three played in the Welsh Amateur Championships. It should also be noted that the participants also played in a variety of practice rounds, competitive club, and county events throughout the duration of this study.

Data Collection

Daily diary. The daily diary comprised three discrete sections: (a) stressor checklist; (b) open-ended coping responses section, and (c) perceived coping effectiveness Likert scale. The checklist of stressors was adapted to golf from a checklist used by Anshel (1996), who reported a goodness-of-fit index of .87, with alphas of each for each stressor ranging from .83 to .92. The checklist included the following categories: Making a physical or mental error; being criticized by coach; observing an opponent cheat; sustaining pain, injury or illness; receiving a wrong call from an official; observing an opponent perform well; difficult weather conditions; and being distracted by the crowd or someone watching. The second section was in an open-ended response format that required the golfers to write what they did to manage each of the stressors they had marked on the checklist. The third section of the

diary sheet required the participants to rate how effective each of their coping responses were in managing the reported stressors on a 5-point likert scale (1 = not effective coping to 5 = very effective coping). For a copy of a completed diary sheet see Appendix C.

To ensure that the diary was manageable and comprehensible, it was piloted with an elite male golfer (aged 21 years-old) daily for five days. After the pilot testing period, the golfer was debriefed. Because of some concerns about the structure of the diary sheet, it was reorganized. Additionally, the pilot golfer expressed that the diary sheet would have been more relevant to golf if physical and mental errors were separated. The checklist was changed accordingly. Finally, two blank boxes were added to the stressor list so that participants could add any stressors that were not included on the list.

The golfers received a complete package of diaries, along with instructions and a completed diary sheet. Two days before the study commenced, the researcher telephoned each golfer to provide further instructions about the completion of the diaries and answer any questions. All of the golfers were instructed to complete their diaries on the evening of each day they played golf to enhance the accuracy of the data (Ptacek, Smith, Espe, & Raffety, 1994; Smith, Leffingwell, & Ptacek, 1999). All of the participants were contacted on the evening of the first day of the study, and every five days hence to monitor adherence and answer any procedural questions.

Data Analysis

Stressors. The checklist of stressors over the 31 day period for each golfer was individually tallied and the total scores calculated. Additional stressors reported by the participants, which were not in the Anshel (1996) list, were categorized into themes and were counted for each person, which contributed to the total for the whole sample. Total recorded stressors for all golfers over the entire period of the study are reported in Table 3 (p.67). The four most-frequently reported stressors were analysed longitudinally by dividing the duration of the study into different time periods, in accordance with the analytic techniques used in a

previous longitudinal study of coping responses during injury rehabilitation (Udry, 1997).

There were five periods of five days, and a period with six days (days 1-5, 6-10, 11-15, 16-20, 21-25, 26-31). The number of times each stressor was recorded during the specified time periods was tallied for the whole sample and was then divided by the 11 (i.e., the number of participants). This generated the mean number of stressors experienced by the participants during each time period (see Figure 6, p. 67).

Coping. The coping responses data were transcribed verbatim by the author, and then subjected to an inductive content analysis procedure (Maykut & Morehouse, 1994). Inductive analysis involved grouping all similar coping strategies together as first-order themes. Each first-order theme was assigned a descriptive label (e.g., 'technical adjustments'). Then, following Maykut and Morehouse's advice, a rule of inclusion was written for each first-order theme. This rule of inclusion represented the essential meaning or intention of the raw data coping strategies that had been classified within that theme. For example, for the first-order theme 'technical adjustments' the rule of inclusion was "The golfers changed technical elements of their game while on the course playing. These modifications included changes to swing plane, stance, grip, and technique." The rules of inclusion were useful for establishing the unique nature of each first-order theme, and ultimately assisted in the appropriate coding of data. Eventually, all of the coping strategies were categorized into 40 discrete first-order themes, and the frequencies by which each theme was cited were tallied. Next, similar first-order themes were grouped under more abstract labels as second-order themes (e.g., 'technical adjustments' was assigned to the second-order theme of 'Behaviour Technique Coping'). Finally, second-order themes were classified according to the coping function that they were apparently intended to serve using the three dimensions of problem-focused, emotion-focused, and avoidance coping that have been recommended in the literature (Ayers et al., 1996; Connor-Smith et al., 2000; Kowalski & Crocker 2001; Walker et al., 1997). Accordingly, the strategies contained in the second-

order theme 'Behavioural Technique Coping' were classified as serving a problem-focused coping strategy. The total tallied coping strategies reported and the results of the final classification across the 31-days of the study are reported in Table 4 (p.70).

Given that data analysis was initially completed by the first author working alone, to establish the trustworthiness of the findings inter-rater reliability checks were independently completed by the PhD supervisors. The supervisors received 50% of the raw data transcripts to check the classification of this information. The level of agreement from the first author's initial analysis with the second supervisor's analysis was 94%, and 96% with the third supervisor's analysis. Following discussions between the authors, an additional theme was added (positive re-appraisal) and several raw data coping strategies were recoded. After these adjustments there was 99% agreement with the first supervisor, and 97% agreement with the second supervisor. Once there was confidence that the coping strategies had been appropriately classified according to their coping function, they were analysed longitudinally across the same time periods used for the stressors (cf. Udry, 1997). To produce the mean scores for each time period, the number of coping first-order themes in the three coping functions were tallied up across the sample during each time period for each participant, and then divided by 11 (see Figure 6, p. 74).

Coping effectiveness. The final analytic technique was designed to provide an indication of the effectiveness of coping strategies deployed to manage the most frequently-cited stressors. The number of times each coping theme was used to manage physical errors, mental errors, observing an opponent play well, and difficult weather conditions were tallied up for the whole sample over 31-days. The coping effectiveness of the strategy in relation to each specific stressor was tallied up and then divided by the frequency of coping themes reported for managing the particular stressor. This process generated a mean coping effectiveness score for each coping strategy in relation to the stressor it was used to manage (see Table 5, p. 72). For instance, making technical adjustments to manage physical error

stressors was reported on 28 occasions and had a mean coping effectiveness of 3.7.

Alternatively, technical adjustments were reported on two occasions to cope with mental error stressors with a mean coping effectiveness of 4.0. In order to establish coping effectiveness longitudinally (see Figure 6, p. 74), the perceived coping effectiveness rating of each coping strategy used by all of the participants were tallied and divided by the number of deployed coping strategies during each period. This process generated a mean effectiveness of all the coping strategies across all of the participants in each time period.

Results

The golfers completed diaries on 250 days out of 341 potentially reportable days, yielding an overall completion rate of 73% (range: 58% to 90%). Across the 250 person-days of data collected, participants reported 369 stressors from 24 different stress sources (Table 3), and 474 coping responses (Table 4).

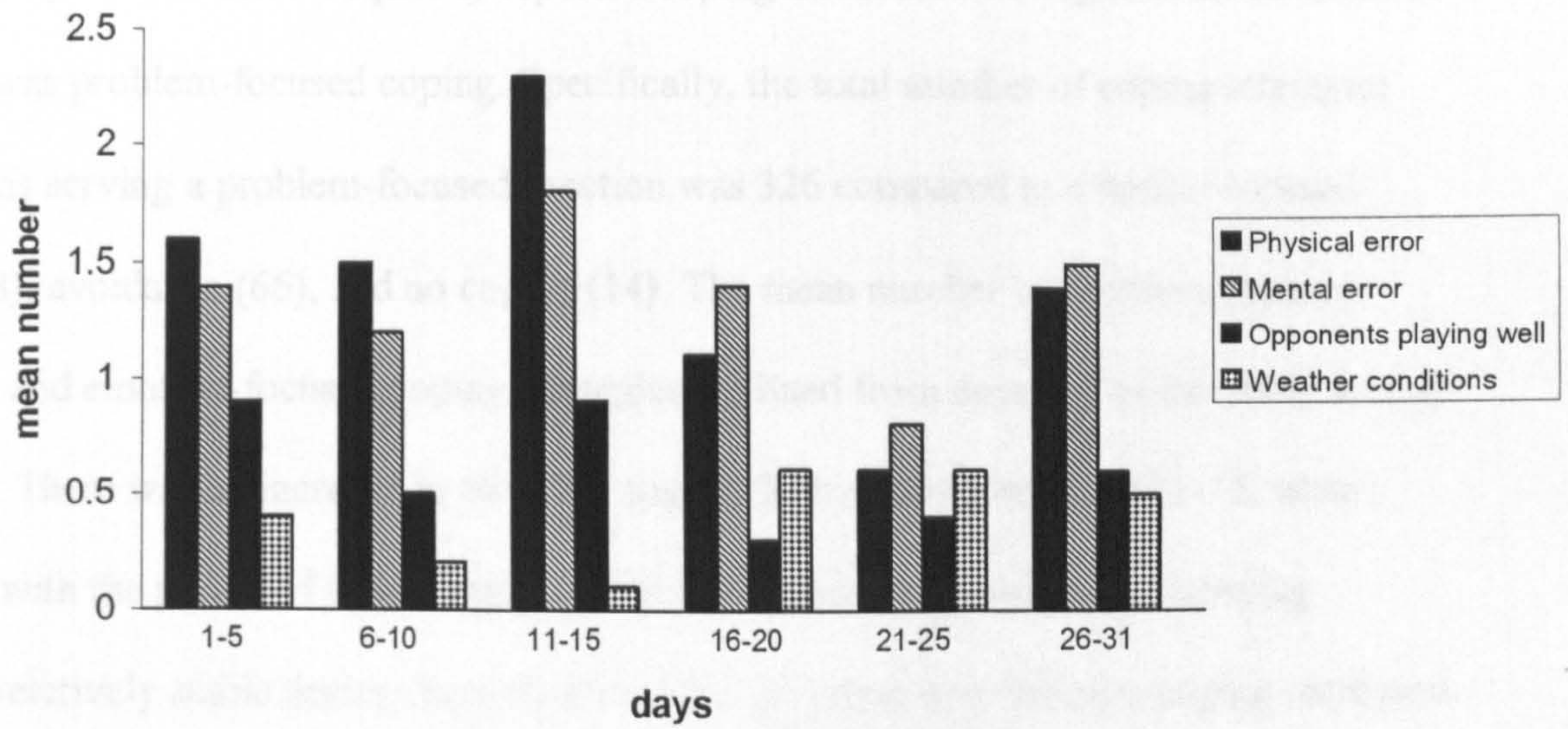
Stressors. The four most frequently reported stressors were making a physical error (109), making a mental error (88), observing an opponent play well (49), and difficult weather conditions (32) (see Table 3). Notably, the stressors of making a physical error and making a mental error accounted for 53% of all reported stressors. As Figure 5 indicates, in the first three time periods making a physical error was most frequently-cited, whereas making a mental error was most frequently-cited in the latter three time periods as the season progressed. Figure 5 also reveals that the golfers reported the most stressors during days 11 to 15 of the study. In fact, the mean number of reported physical errors, mental errors, and observing an opponent play well were at their highest during this period. This coincides with two of the most important competitions of the season (i.e., the Europeans Boys Championships and the Tucker Trophy). The mean number of reported physical and mental errors declined during days 16-20 (during which time the participants played in a regional tournament) and then again in days 21-25 (when an inter-squad match was played along with the Welsh Boys championship). Stressors increased again during the final period of the study

(when the players were competing in the more prestigious British or Welsh (adult) amateur championships).

Table 3. Total stressor frequencies for 31-day period

Stressor	Frequency
Making a physical error	109
Making a mental error	88
Observing an opponent play well	49
Difficult weather conditions	32
Being distracted by the crowd	15
Being criticized by coach/parents	12
Sustaining pain or injury	12
Putting	9
Winning	9
During competition nerves	6
Opponent losing temper	5
Observing an opponent cheat	4
Course difficulty	3
Tiredness	3
Selection	2
Expectations	2
Score	2
Bad playing partner	2
Losing confidence	1
Learning a new shot	1
Playing against a friend	1
Negative thoughts	1
Playing with girls	1
Pre-competition nerves	1
Receiving wrong call from an official	0

Figure 6. Longitudinal analysis of four main stressors reported over 31 days.



Coping. At the first-order coping strategy level, blocking (52) was the most frequently-cited single response, followed by increased concentration (42), and technical adjustments (41). The most frequently reported coping dimension throughout the duration of the study was problem-focused coping. Specifically, the total number of coping strategies classified as serving a problem-focused function was 326 compared to emotion-focused coping (68), avoidance (66), and no coping (14). The mean number of problem-focused, avoidance and emotion-focused coping strategies declined from days 1-5 of the study during days 6-10. There was an increase in all of the coping functions during days 11-15, which coincided with the period of most frequently-cited stressors. Problem-focused coping remained relatively stable during days 16-20 and 21-25, whereas avoidance coping increased during days 21-25 and emotion-focused coping decreased during the same time period. During days 26-31 there was an increase in problem- and emotion-focused coping but a decrease in avoidance coping.

Table 4. Classification and frequencies of coping responses over 31 days

Coping function	Second-order theme	First order theme (frequencies)
Problem-Focused coping	Behavioural technique coping	Technical adjustments (41)
		Practised (14)
		New shots (10)
	Cognitive technique coping	Rhythm (3)
		Swing thoughts (28)
		Trusted swing (18)
		Trying, but not trusting stroke (3)
	Behavioural coping	Pre-shot routine (24)
		Weather protection (11)
		Increased effort (10)
		Drunk water/energy drink (6)
		Not giving up (4)
		Walked slower (2)
Warmed up (1)		
Preparation	Stuck to strategy (28)	
	Took more time/care (8)	
	Changed strategy (6)	
	Planning/preparation (5)	
Concentration	Increased concentration (42)	
	Focused on their own game (23)	
	Committed to the shot (19)	
	One shot at a time (9)	
	Played off opponent (3)	
	Focused on opponent (2)	
	Focused on the target (2)	
	Set achievable goals (3)	
Thought ahead (1)		
Emotion-Focused coping	Relaxation techniques	Visualization (4)
		Breathing exercises (1)
		Physical relaxation (1)
	Acceptance	Positive appraisal (24)
		Positive re-appraisal (13)
		Accepted mistakes (8)
Social	Acceptance of others (1)	
	Social support (13)	
Avoidance coping	Cognitive avoidance	Sought advice (3)
		Blocking (52)
		Ignoring other people (7)
	Behavioural avoidance	Laughing (6)
		Left course (1)
Lack of coping	No coping	No coping response reported (14)

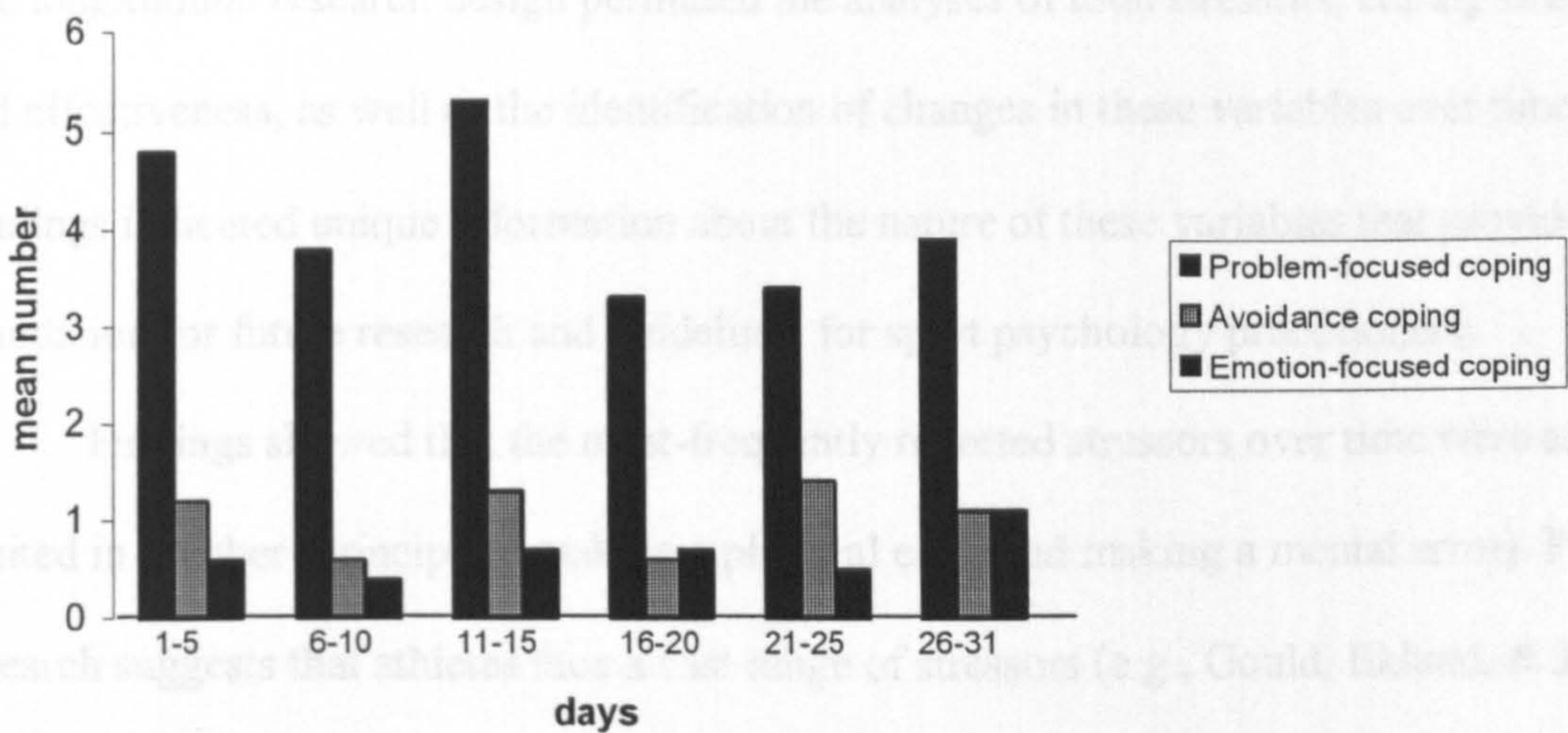
Coping effectiveness. Figure 6 shows that overall mean coping effectiveness remained relatively stable throughout the 31-day period of the study. However, there was considerable fluctuation in the mean effectiveness of strategies used to manage specific stressors, with scores ranging from 1.0 - 5 (out of a maximum of 5: see Table 5). The most frequently-cited coping strategies were not rated as being the most effective responses. For example, to cope with making a physical error the most frequently-reported coping strategy was making a technical adjustment (28), which was rated with a mean perceived effectiveness of 3.7. However, the most effective coping strategy for managing a physical error was committing to the shot (cited 12 times, M effectiveness = 4.5) followed by the golfers trusting their swing (cited 9 times, M effectiveness = 4.2). Similarly, to cope with mental errors the most frequently reported coping strategy was blocking (cited 12 times, M effectiveness = 3.5) followed by the golfers sticking to their strategy (cited 11 times, M effectiveness = 3.4). But, the most effective coping strategy used to manage this stressor was committing to the shot (cited 6 times, M effectiveness = 4.2).

Table 5. Coping strategies, frequencies and mean effectiveness in managing the four most-frequently cited stressors

Stressor	Coping strategy	Frequency	Mean effectiveness
Physical error	Technical adjustments	28	3.7
	Swing thoughts	25	3.9
	Pre-shot routine	12	3.5
	Committed to shot	12	4.5
	Blocking	10	3.6
	Increased concentration	10	3.7
	Trusted swing	9	4.2
	Practised	7	4.3
	Positive appraisal	6	3.9
	Accepted mistakes	4	3.7
	Stuck to strategy	3	5
	Rhythm	2	3
	Trying but not trusting stroke	2	1.5
	Increased effort	2	3
	Visualization	2	4
	Not giving up	1	3
	Focused on target	1	3
	Physical relaxation	1	3
	Positive re-appraisal	1	3
	Sought advice	1	3
New shot/different club	1	2	
Ignoring other people	1	2	
Mental error	Blocking	12	3.5
	Stuck to strategy	11	3.4
	Increased concentration	11	3
	No coping response reported	9	1.8
	Pre-shot routine	7	3
	Committed to shot	6	4.2
	New shot/different club	6	4
	Positive appraisal	6	3.7
	Positive re-appraisal	4	3.8
	Changed strategy	4	3.3
	Trusted swing	3	4
	Accepted mistakes	3	3
	Took more time/care	3	4
	Practised	2	3.5
	Swing thoughts	2	3.5
	Made technical adjustments	2	4
	Planning/preparation	2	4.5
	One shot at a time	2	3.7
	Laughing	2	2.5
	Set achievable goals	2	3.5
Trying but not trusting stroke	1	1	
Increased effort	1	3	

	Thought ahead	1	1
	Breathing exercises	1	4
	Visualization	1	4
	Social support	1	4
	Sought advice	1	3
	Ignoring other people	1	3
Opponent playing well	Focused on own game	18	3.6
	Stuck to strategy	9	4.2
	Blocking	8	3.1
	Increased concentration	4	3.2
	Played of opponent	3	3
	Increased effort	2	3
	Pre-shot routine	2	3.5
	Positive re-appraisal	2	4
	Focused on opponent	2	1
	Committed to the shot	1	4
	Positive appraisal	1	4
Weather	Weather protection	7	3.2
	Technical adjustments	4	3
	Increased concentration	4	4
	Water/energy drink	4	4
	Took more time/care	4	4
	New shot/different club	3	3.3
	Positive re-appraisal	3	4
	Pre-shot routine	2	4
	Stuck to strategy	2	3.5
	Positive appraisal	2	3.5
	Changed strategy	1	2

Figure 7. Longitudinal analysis of coping functions and coping effectiveness reported over 31 days.



1993), and although many stressors were identified here, the longitudinal approach that was employed demonstrated that making errors were the most salient stressors over time. Errors have previously been identified as sources of stress in competitive youth sport (e.g., Eklund, Eklund, Petlichkoff, Peterson, & Hump, 1991), possibly because of the implied responsibility, failure and negative social evaluative consequences associated with making mistakes (e.g., Small, & Wiechman, 1998). It was interesting to note that making a mental error was reported more frequently than making a physical error as the season progressed. This finding has applied implications because it suggests that initially athletes were more concerned with their physical performance, but as the season progressed mental performance became more salient. This may have been due to the increased pressure on the golfers during the later stages of the study, which could have contributed to increased errors.

Further fluctuations in the frequency by which stressors were reported coincided with the relative importance of the golf competitions played. For example, the highest number of errors were reported during the period of most important European competitions (days 11-15), whereas the frequency of reported stressors declined during less prestigious competitions. From an applied perspective, this suggests that the relative importance

Discussion

The present study examined the frequency of stressors, coping strategies, and their perceived effectiveness over a 31-day period among elite international adolescent golfers. The longitudinal research design permitted the analyses of total stressors, coping strategies, and effectiveness, as well as the identification of changes in these variables over time. Findings indicated unique information about the nature of these variables that provide both a foundation for future research and guidelines for sport psychology practitioners.

Findings showed that the most-frequently reported stressors over time were actually limited in number (principally making a physical error and making a mental error). Previous research suggests that athletes face a vast range of stressors (e.g., Gould, Eklund, & Jackson, 1993), and although many stressors were identified here, the longitudinal approach that was employed demonstrated that making errors were the most salient stressors over time. Errors have previously been identified as sources of stress in competitive youth sport (e.g., Gould, Eklund, Petlichkoff, Peterson, & Bump, 1991), possibly because of the implied performance failure and negative social evaluation consequences associated with making mistakes (Smith, Smoll, & Wiechman, 1998). It was interesting to note that making a mental error was cited more frequently than making a physical error as the season progressed. This finding has applied implications because it suggests that initially athletes were more concerned with their physical performance, but as the season progressed mental performance became more salient. This may have been due to the increased pressure on the golfers during the latter stages of the study, which could have contributed to increased errors.

Further fluctuations in the frequency by which stressors were reported coincided with the relative importance of the golf competitions played. For example, the highest number of stressors were reported during the period of most-important European competitions (days 11-15), whereas the frequency of reported stressors declined during less prestigious competitions. From an applied perspective, this suggests that the relative importance

associated with each competition influenced the golfers' stress appraisals. However, because the study did not evaluate the golfers' appraised goals, the research is unable to establish this explanation with any certainty. Sport coping research suggests that stress appraisals and subsequent coping responses are goal directed (Holt, 2003, Holt & Dunn, 2004). Future research should include measures of goal commitment because without this variable the individual has nothing at stake (Lazarus, 1999).

Strategies that were classified as serving a problem-focused coping function were cited more frequently than those serving emotion-focused or avoidance coping functions. The highest frequency of coping strategies coincided with the period when the most stressors were reported (days 11-15: see Figure 6). Caution is warranted in interpreting this finding though because the manner in which the diary was constructed required each participant to report coping strategies used to manage each stressor (i.e., when more stressors are reported, it is likely that more coping strategies will also be reported). Having added that caveat, the golfers reported 369 stressors and 474 coping responses overall. Therefore, the golfers actually reported more than one coping strategy per stressor. It could be argued that a strength of the open-ended coping response format that was employed is that the golfers were able to report everything they did to cope with a stressor, rather than being limited to one coping response which would not have portrayed an accurate picture of their coping experience.

Blocking was the most frequently-cited first-order coping strategy. Similarly, Gould, Eklund, and Jackson (1993) found that blocking was used most frequently by elite wrestlers for managing performance stress. Blocking is a form of cognitive avoidance, and Aldwin (1994) suggested that deferring action and letting events play themselves out can be an effective coping strategy for minor stressors. Overall though, problem-focused coping strategies were used more than any other type of coping, which is consistent with previous

findings reflecting adolescent athletes' preferences for active coping strategies (Crocker & Isaak, 1997; Gaudreau et al., 2001, 2002).

Mean coping effectiveness scores remained stable over time, but there were considerable fluctuations in the perceived effectiveness of specific coping strategies. These fluctuations suggest that the selection of a particular coping strategy for managing a stressor may be important. In other words, the choice of coping strategy in a specific context may be associated with effective coping (Bolger & Zuckerman, 1995; Crocker et al., 1998). However, this study did not assess the outcome after the implementation of each coping strategy, the perceived controllability of the stressors, or the automacity of the coping strategies. This study is therefore unable to assess the outcome model (Folkman, 1991; 1992), the goodness-of-fit approach (Folkman, 1991; 1992) or the automacity theories of coping effectiveness.

A limitation of the diary design was that whereas the golfers sometimes reported more than one coping strategy to manage a stressor, they only reported a single coping effectiveness score. Thus, it was not possible to report effectiveness for emotion-, problem-focused, or avoidance coping individually because sometimes the golfers reported two strategies (one problem-focused, one emotion-focused) but only one effectiveness score. The measure of coping effectiveness lacked sophistication, but it did enable us to present initial descriptive data pertaining to the perceived effectiveness of coping over time. The design of future coping diaries should take this limitation into account in order to develop more sensitive measures. Better evaluation of coping effectiveness is an important future direction because in non-sport settings there is evidence that the use of problem-focused coping strategies by children and adolescents are related to positive developmental outcomes and negatively related to emotional, behavioural, and social problems (Ayers et al., 1996; Compas, Malcarne, & Fondacaro, 1988). Theoretically, problem-focused coping should be most effective in situations where the individual can exert some control over the situation

(Lazarus & Folkman, 1984). Therefore, it is important to measure coping effectiveness in order to understand more about the outcomes of adaptive coping.

The small sample size limits the generalizability of the findings. However, given that this was a descriptive exploratory study with elite adolescent athletes that represents a unique contribution to the literature, and the findings provide a basis for on-going research. In particular, the findings of this study suggest that daily diaries offer a viable approach for the longitudinal collection of coping data. Using daily diaries for longitudinal coping research also has two distinct advantages. First, reducing the recall period can help overcome problems associated with retrospective research such as memory decay resulting from the passage of time, or distorted recollections that are based on reconstructive memory processes (Schwartz & Sudman, 1994). Indeed, Ptacek et al. (1994) reported an average of 26% variance between daily and retrospective coping measurements. Second, with retrospective approaches participants are likely to report how they would normally or usually behave, whereas with daily reports of coping participants are more likely to report how they actually behaved or reacted in the particular situation (Smith et al., 1999). Although end of day methodologies have been criticised as participants only concrete and discrete events and fail to report ongoing and complex problems (Folkman & Moskowitz, 2004).

From an applied perspective, the study has generated some interesting findings. Although adolescent golfers faced a wide range of stressors, over a sustained period they were likely to experience making physical and mental errors, observing an opponent play well, and poor weather conditions more frequently than any other stressors. This research has provided initial evidence in the strategies that should be most effective in managing these stressors. For instance, when golfers experience stressors of making a physical error they could be encouraged to make an effort to commit to future shots and trust their swing and possibly be warned against making technical adjustments during play. When golfers experience mental error stressors they should be instructed to plan their next shots, take more

time, and again, commit to the shot. For observing an opponent play well stressor, golfers should focus on their strategy for the round and focus on their own game as opposed to their opponent. These findings provide a basis for the creation, implementation, and evaluation of coping interventions, the results of which will ultimately provide guidance for sport psychology consultants.

Future research should assess the notion of perceived stressor controllability. This study would have been enhanced had this be measured in this study. This will allow researchers to explore the goodness-of-fit approach in more detail. Researchers should also examine other aspects of the Lazarus (1999) model such as goals and emotions in relation to stress and coping.

CHAPTER 5:

STUDY 3

Coping During Golf Performances

Abstract

The purpose of this descriptive, exploratory study was to identify and examine adolescent golfers' stress-appraisals and coping attempts *during* golf performance. Five high-performance adolescent golfers participated in 'think aloud trials' (Ericsson & Simon, 1993) over six holes of golf. Participants competed for a cash reward based on their scores. Verbal reports were audio-recorded during each performance, and later transcribed verbatim. Data were analysed using protocol analysis from which five idiographic reports were written. Member-checking interviews (Lincoln & Guba, 1985) were conducted to verify that the reports accurately reflected the golfers' experiences. Results indicated that stressor-appraisals and coping attempts changed throughout the performances. Stress appraisals appeared to be related to the participants' performance goals, and an array of different coping attempts was deployed to manage apparently similar stressor-appraisals. Results are discussed in relation to theoretical conceptions (i.e., Lazarus, 1999) and previous research, and the suggestions for the use of think aloud protocols in future studies are considered.

Coping During Golf Performances

Studies by Crocker and Isaak (1997) Gaudreau et al., (2001, 2002) have provided important information about the applicability of the transactional process perspective (Lazarus 1999; Lazarus & Folkman, 1984) among adolescent athletes in sport settings. Coping was found to be contextual, changed across the phases of competition, and performance goals appeared to influence coping attempts. Notably, these three studies employed longitudinal research designs that facilitated the analysis of coping over time. One limitation of findings to date is that during competition coping has yet to be adequately assessed because studies have relied on retrospective measures of performance-related coping. For example, Gaudreau et al. (2001) had athletes complete measures pre- and post competition, but *during* competition coping was actually measured 15 minutes after the competition ended. This is relevant because with the passage of time people provide less accurate accounts of how they coped with a stressor. Ptacek, Smith, Espe, and Raffety, (1994) on averaged reported 26% variance, and Smith, Leffingwell, and Ptacek (1999) reported on average 25% variance between daily and retrospective accounts of coping.

Therefore, it could be argued that the most accurate accounts of coping with performance-related stressors would be obtained *during* performance. In order to provide data to fill this gap in the literature, the purpose of this study was to identify and examine adolescent golfers' stressor appraisals and coping responses *during* golf performance, as they occurred.

Method

Participants

Participants were five English-Caucasian, high-level adolescent golfers (M age = 16.8 years, $SD = 1.3$; M handicap = 1.4, $SD = 1.7$), who were assigned the pseudonyms to protect their anonymity. Participant 1 ('Adrian,' aged 16 years old, handicap of one) had played competitive golf for six years and was a member of his county under-18 team and had represented England once. Participant 2 ('Ian,' aged 18 years old, handicap of two) had played competitive golf for ten years, and represented his county at two different age groups.

Participant 3 ('Dan,' aged 18 years old, scratch handicap) played for his county team, and had been selected for the England school of excellence (which indicated that he was one of the top eight players in his age group) and had represented England five times. Participant 4 ('Stephen,' aged 15 years old, handicap of four) had played competitive golf for five years and had represented his county at under-16 level. Participant 5 ('Nigel,' aged 17 years old, handicap of 0) had played competitive golf for four years and was previously a member of the England school of excellence, representing England once. Two of the golfers had full-time jobs (Dan and Nigel), two of the golfers were at high school (Adrian and Stephen), and one participant played golf full time (Ian). Ethical approval was obtained and each participant completed standard informed consent procedures. For those participants under 18 years old, their parents/guardians also provided informed consent.

Think-Aloud Protocol

A 'think-aloud' protocol (Ericsson & Simon, 1993) was selected as a suitable method to obtain data about stressor-appraisals and coping responses during performance (thus minimizing the event-recall period; Ptacek et al., 1994; Smith et al., 1999). The think-aloud protocol provides a way of collecting data concurrently in ecologically valid settings. Using this protocol, participants are requested to speak their thoughts out loud while they are performing certain tasks. These verbal report data are collected during or immediately following task performance, and data (assumed to represent thought processes) are subjected to systematic examination. In the past, studies involving think-aloud protocols have been criticised because of observed decrements in performance (e.g. Gagné & Smith, 1962) and explanations that were inconsistent with behaviour (e.g. Nisbett & Wilson, 1977). However, in a review of over forty studies, when participants were just instructed the think-aloud during a task, there was no evidence that giving concurrent verbal expressions of one's thoughts altered the accuracy of performance compared to subjects who completed the same tasks silently (Ericsson & Simon, 1993).

Procedure

The participants were read instructions detailing the specific nature of the study, informing him that he was required think-aloud during six holes of golf. These instructions were adapted to golf based upon the guidelines set out by Ericsson and Simon (1993). It was emphasized that the participant were not required to *explain* their thoughts. Rather, each participant was instructed to talk continuously throughout the six holes, apart from when he was just about to take his club back for their shot. Participants were asked to resume talking immediately after completing their swing. Each participant was told that if he were silent for a long period (20 seconds), he would be asked to resume thinking aloud. The researcher walked behind each golfer during the six holes, and there was no communication beyond the investigator reminding three of the participants to continue thinking aloud (which occurred once, on the first hole, in all cases). Other than the presence of the principal investigator, each participant performed alone.

The golfers were offered financial performance incentives, which were explained to them during the instruction period. A score of one under par or better for the six holes would result in a cash reward of 15 British Pounds, and a score of level par would result in a cash reward of five British Pounds. The financial incentive was offered to induce some of the emotions associated with competition, provide an incentive for the golfers to perform as well as they could (Masters, 1992), and create a goal to which the golfers could commit (Lazarus, 1999). This was important methodologically because in think aloud trials participants are required to focus on the task in hand rather than on the verbalization of their thoughts (Ericsson & Simon, 1993).

Before the start of the experiment all participants took part in a series of think aloud practice exercises to ensure that they could think aloud adequately (Ericsson & Simon, 1993). This practice consisted of three different types of tasks: (a) counting the number of dots on a page; (b) an arithmetic exercise; and, (c) an anagram problem-solving task. If the principal investigator deemed that the participants had not grasped thinking aloud while performing a task the participants during this warm-up period, three additional tasks were completed.

Data collection. Each participant recorded his golfing goals/aims for (a) the season, (b) the next month, (c) aspects of performance during six holes of the study e.g., hit all greens in regulation, and (d) his intended score for the six holes of golf. Each participant was then wired up to a digital voice recorder, and data collection commenced when the golfer left the practice green. Recording proceeded continuously until the golfers holed their putt on the final (sixth) hole. Data collection lasted from 44 to 68 minutes (M minutes = 52.4, SD = 9.6). These times varied due to the different speed the golfers played at and the different length of the holes on each course. Each golfer played on their home course (none of the golfers were from the same club), and used their own golf clubs. The holes were planned out prior to the start of the study to finish as close to the clubhouse as possible, so this did not always mean playing holes one to six.

Data Analysis

An idiographic approach was adopted to examine the variations in individual experience of stressor-appraisals and coping responses (Holt & Dunn, 2004). Each participant's data set was subjected to 'protocol analysis' as recommended by Ericsson and Simon (1993). Data were transcribed verbatim, and each transcript was subjected to checks for 'relevance' and 'consistency'. To fulfil the relevance criterion the verbalizations by the participants should be relevant to the task, which in this case stressor-appraisals and coping responses associated with golf performance. Data which were not relevant were removed from the data set. To fulfil the consistency criterion, verbalizations should be consistent with verbalisations that precede them. Streams of consistent verbalizations are assumed to represent cognitive processes and, "they can be used as evidence for the course and nature of these processes" (Ericsson & Simon, 1993, p. 170). All verbal data collected from each participant was consistent with previous verbalisations.

Following checks for relevance and consistency, each transcript was subjected to line-by-line analysis (Maykut & Morehouse, 1994) to identify stressor-appraisals and coping responses. Data (typically a short sentence) were coded as meaning units, and a label for each meaning unit was notated in the margins of the transcript. Ericsson and Simon (1993) suggested that there should be a close match between the verbalizations and the labels used

for the encoded categories, as the encoding process will be more reliable. For example, the verbalization “The wind is strong into my face, tee up low” was encoded as ‘head wind’ (stressor-appraisal) => ‘tee low’ (coping attempt). The verbalization “I need to make a three here to go round in level par” was encoded as a score appraisal (stressor). The encoded segments were then placed in chronological order to represent the stress and coping experiences of the data. Based on the outcomes of the protocol analysis coding, a qualitative report for the six holes was written for each participant (each report was approximately six pages of single-spaced typed text). For a copy of a think aloud transcript see Appendix D.

Member-checking. An adaptation of Lincoln and Guba’s (1985) member-checking procedure was conducted to confirm the accuracy of each qualitative report and to provide the participants with opportunities for further elaboration. The participants were sent their individual qualitative report within seven days of completing the trials, and were given a further two days to read the information. The principal investigator then telephoned each participant and asked him to comment on the accuracy of the qualitative reports. Most importantly, this procedure allowed the golfers to confirm (or refute) that they had actually felt under pressure during the experiment. All five of the golfers commented that their qualitative report was representative of their experience. The golfers also confirmed that their performance over the six holes was meaningful to them, and two players made unsolicited comments that they were surprised at the intensity of the experiment, saying that they “really felt under pressure” during the trials. Thus, member-checking helped establish that the reported verbalizations were representative of stress and coping experiences during golf performance.

Results

A summary of the stressor-appraisal coding system is presented in Table 6. A summary of the coping attempts coding system is presented in Table 7. A series of chronological ‘decision trees’ (Ericsson & Simon, 1993) for each participant are reported in Table 8. The numbers and symbols reported in Table 8 are based on the coding scheme for stressor-appraisals and coping responses reported in Tables 6 and 7. For example, at the start of hole 1, Adrian’s verbal report (Table 8) was represented by the following numbers and

letters S-1→C-55→C-29→C-31→H, which corresponds to an appraisal of the wind (S-1), to which he responded by teeing the ball low (C-55), deciding to hit a draw (C-29), taking a practice swing (C-31), and then hitting the shot (H). By recording the data this way it is possible to show every appraisal and coping response verbalized by each participant over the six holes of golf.

Adrian

Adrian's goals for the season were to get his handicap down to scratch, maintain his place in the county squad, and play for England. During the next month, Adrian wanted "to work on his swing, making it more compact and practice a lot." For the round of six holes in this study, Adrian wanted to shoot one under par, hit every green in regulation or better, and take less than 10 putts. Adrian failed to reach this performance goal (recording a score of 25, which was one over). As revealed by the idiographic profiles reported in Table 8, Adrian reported a total of 86 stressor-appraisals and 67 coping attempts. Indeed, stressor-appraisals were reported more than coping attempts on every hole. During his round Adrian was most concerned about his score (S-2; 29 stressor-appraisals) and the wind (S-1; 11 stressor-appraisals). In terms of coping responses, he most frequently reported using positive appraisal (C-32; 19 coping attempts), and swing thoughts (C-33; 12 coping attempts).

In terms of the pattern of Adrian's responses, during holes one and two he typically reported one or two stressors, followed by one or more coping attempts. But as the round progressed he began to report longer sequences of stressor-appraisals. For example, he reported five consecutive stressor appraisals prior to his second shot on hole three; prior to his second shot on hole four; prior to his tee shot on hole five, and prior to his second shot on hole six. This may have been related to his score, because he bogied holes five and six. Furthermore, longer sequences of stressor-appraisals would indicate an absence of effective coping. It appears that Adrian appraised more sustained stressors without deploying coping attempts as the round progressed and his goals for the round (i.e., his score) were threatened.

Adrian's qualitative comments revealed more how his stressor-appraisals increased as the round progressed. He felt some pressure to score well from the first hole, saying "It's an easy hole this and I need to hole the putt for eagle and then birdie the next, for 3 under and then a couple of pars on the other holes." But even after missing the eagle putt on hole one he was positive, saying "Good effort, still got a birdie putt." By the second hole he was becoming more negative, saying, "Level par is crap" and by hole three Adrian was very annoyed, saying: "Four putts though isn't it and I wanted to hit less than ten." Adrian coped by engaging in positive self-talk "birdie this [hole, it] is not that easy but I can still do it". He was concerned with his form and the consequences for other competitions, saying "I need to play better than this when I am playing in the Yorkshire boys, I need to get my swing more compact." After missing the green, Adrian was again concerned with his overall score, but coped by focusing on swing thoughts for his next putt, "I want a solid positive stroke." By hole five he was more frustrated and annoyed about his score, and said "Come on you want to score at least two under which I should be but instead I am level par." Adrian hit the ball in the bunker. After missing his first putt, Adrian used positive self-talk and a swing thought to cope, and said "Come hole this and you can birdie the next to be level par. I can take the break out of this putt and hit it dead straight. Come on solid stroke." On hole six, after hitting his tee shot into the trees, Adrian accepted he would not be able to birdie the last hole and play the six holes in level par, but told himself he still had a chance of making par. He knew that a one putt would mean nine putts so wanted to hole this putt. He coped by trying to concentrate and think about previous putts he had hit, and looked at the putt from both sides. He missed the putt, and said "I need to do some bloody practice."

Table 6. Stress-appraisals, coding, descriptions, and raw data examples

Number	Assigned stressor label	Description	Example of 'Raw' Data Quote
S-1	Wind	When wind was perceived to have an effect on the shot	"The wind is strong into my face"
S-2	Score	Concerns about score for the hole or overall score	"I need to make a par, at least so I can stay at level par"
S-3	Lie	When the golfers perceived their ball was lying poorly	"I have another s***e lie"
S-4	Tree	A tree obstructing the intended line of the next shot	"I have got a line through, but there is a tree in the way"
S-5	Holing short putt	Putts from within five feet	"It is a good chance of getting in, about four foot. I don't want to miss it"
S-6	Green quality	Poor quality greens which would effect the run of the ball	"Greens aren't looking too good, it's a joke. How crap are these greens?"
S-7	Losing ball	Not being able to find ball	"I need to find this golf ball quite desperately"
S-8	Error	Either physical (swing fault) or mental (club selection)	"What have you done? That was f***ing awful, you stupid w****r"
S-9	No. of putts	Concerns about the number of putts in the round	"Four putts though isn't it and I wanted to hit less than ten"
S-10	Course Hazards	Included ponds, streams	"There is a stream near the green, so make sure it is high and over it"
S-11	Pin position	Where the pin was located on the green	"The pin is right at the back today and is playing really long"
S-12	Distance	Worries about working out the correct distance	"It is 150 from there so it is 170, 175"
S-13	Flier	When the ball was in rough which can add extra 10 yards on shot	"Flier, through the back"
S-14	Up and down	Wanting to make a chip and putt from around green	"One of these could do with going in, but as long as I get my par"
S-15	Body temperature	Increases in body temperatures	"Getting quite hot, is anyone coming up 15?"
S-16	Exams/revision	Worries about forthcoming exams	"I have an exam on Monday, I will have to do some revision"
S-17	Dehydration	Feeling thirsty	"I am feeling a bit dehydrated"
S-18	Swing	Concerns about swing	"Solid swing don't snap hook this ball like last time"
S-19	Performance	Worries about performance	"Got to take advantage of them. B*****s"
S-20	Impressing	Wanting to impress the researcher with golf ability	"Lets try and impress this Adam, come on"
S-21	Bunker	Being in a bunker	"Shit it has gone into the trap"
S-22	Team selection	Thinking about being selected in future teams	"They are never going to pick me for England"
S-23	Waiting	Waiting to play shot due to either slow play or green keepers	"Hopefully I wont have to wait for the green to clear like I did last time"
S-24	Uncomfortable	Feeling uncomfortable in self	"I am not feeling comfortable at all"
S-25	Concentration	Struggling to concentrate	"See the line, umph. Lost concentration now"
S-26	Course	Course conditions (e.g., long grass in rough, water logged areas)	"It is getting a bit tougher"
S-27	Club selection	Concerns about which club to hit and consequences of poor choice	"I have got to get this club right"
S-28	Needing putt	When the golfers felt they needed to hole a putt for their score	"I need to hole the putt for eagle"

Table 7. Coping, coding, descriptions, and raw data examples

Code	Assigned coping response	Description	Example of 'Raw' Data Quote	Coping Dimension
C-29	Draw	Trying to shape the ball flight (left to right for right handed golfer)	"A bit of a draw now, just trying to hold it up"	Problem-focused coping
C-30	Fade	Trying to shape the ball flight (right to left for right handed golfer)	"Try and put some cut on it"	Problem-focused coping
C-31	Practice swing	Taking a practice swing before hitting the ball	"Be compact"	Problem-focused coping
C-32	Positive appraisal	When the golfers tried to be positive about the situation	"You are capable of rolling this in"	Emotion-focused coping
C-33	Swing thoughts	Thoughts about specific elements of the swing	"Get you hands through at impact"	Problem-focused coping
C-34	Stance	Related to width of stance	"Widen my stance"	Problem-focused coping
C-35	Blocking	Shutting out thoughts	"Forget about the last shot"	Avoidance
C-36	Previous shots	When the golfers thought about previous shots they had played	"Hole it, just role it in, just like you were the other day"	Emotion-focused coping
C-37	Shot planning	Specific aspects of shots planned (e.g., landing area)	"Pitch it onto the green, pitch it here probably, low one"	Problem-focused coping
C-38	Practice	When the golfers felt they needed to practice in the future	"I need to do some bloody practice"	Problem-focused coping
C-39	Routine	Going through a set routine	"Stick to the routine"	Problem-focused coping
C-40	Water	Drinking water	"I need a drink"	Problem-focused coping
C-41	Visualization	Imagining the desired shot	"See the shot, pitch it just there"	Problem-focused coping
C-42	Checking sand	Texture of the sand is checked	"Check how heavy the sand is. Quite thin"	Problem-focused coping
C-43	Change goals	When the golfers changed unattainable goals	"Go for level par now"	Problem-focused coping
C-44	Head down	A conscious effort to keep the head down after impact	"Keep your head down after hitting it"	Problem-focused coping
C-45	Solution	Thinking of a solution for previous errors	"Change set up slightly"	Problem-focused coping
C-46	Plan strategy	A strategy of how the hole will be played	"Big drive, three wood and two putts"	Problem-focused coping
C-47	Remember scores	Remembering previous scores on a hole	"I have done it before"	Emotion-focused coping
C-48	Trust	The golfers wanted to trust their swing	"Just trust it"	Emotion-focused coping
C-49	Alignment	Changing alignment of the stance	"Open it up for a fade"	Problem-focused coping
C-50	Lesson	Remembering a previous lesson and implementing it on the course	"Remember what he said"	Problem-focused coping
C-51	Hit through break	When the golfers hit a putt harder to take the break out of a putt	"Firm hit, straight at the cup, take out the break"	Problem-focused coping
C-52	Revision	Planning to do some revision after the trials finished	"I will have to do some revision"	Problem-focused coping
C-53	Concentration	Focusing on their concentration levels	"Come on, concentrate"	Problem-focused coping
C-54	Reason for error	Trying to work out the reason for errors	"I didn't get through it enough"	
C-55	Tee low	The ball was teed lower	"Tee up low"	
H	Shot hit	When the golfers hit the shot	N/A	
MP	Missed putt	Represents a putt that was hit, but missed	N/A	
HP	Holed putt	When a putt was holed	N/A	

Ian

In terms of his goals for the season, Ian wanted to get his handicap from two down to scratch. Specifically during the course of the next month, Ian wanted to get his handicap down to one and just generally “start playing better.” For the specific six-hole round, Ian wanted to hit all of the greens in regulation and take three or four one putts. His target score was to play the six holes in two under par. Ian failed to reach this performance goal (recording a three over score of 28). Ian reported a total of 68 stressor-appraisals and 54 coping attempts (see Table 8). During his round Ian was most concerned about the wind (S-1; 15 stressor-appraisals), his score (S-2; 14 stressor-appraisals). On six of the 15 occasions Ian reported the S-1 (wind) stressor-appraisal he responded with C-37 (shot planning) coping attempt. Overall, Ian reported C-33 (swing thoughts) as the joint most-frequency coping attempt (16 times), along with shot planning (C-37; 16 coping attempts).

There were also some notable patterns in Ian’s responses. For example, there was considerable variation in the amount of stressor-appraisals Ian reported, with a high frequency on the first three holes, the fewer instances reported on hole number four, returning to a high frequency on the final two holes. Although he tended to report one or two stressor-appraisals followed by one or two coping attempts, there were some longer streams. For example, following his second shot on hole one, he reported five consecutive stressor-appraisals (score, bunker, lie, wind, performance) followed by four consecutive coping attempts (positive appraisal, checking sand, swing thoughts, shot planning).

The qualitative analysis of Ian’s data revealed that he experienced frustration about making mistakes, which prevented him from reaching his performance goal. On the first tee Ian was worried about the wind, but he tried to remember the last time he had hit a successful shot from that position. After going in the bunker and then hitting a poor shot out, Ian was disappointed that he would not be able to make a birdie. Ian became concerned by his score, on holes two, three, four and five. After hitting what he described as poor shots on

hole two he tried to be positive from around the green, "I can walk off here with a decent score, it is not too bad over the back of the green. Ok, get it up there, and chip and run and save the score." Ian was again concerned about his score and desperately wanted "get one back" on the third hole. To cope Ian tried to be positive, and accept the mistakes he had made. But he felt the pressure on a putt he had on hole four to prevent him from dropping another shot "It has a good chance of getting in that, about four foot. I don't want to miss it. I will take my time on it and get the right line on it." After making a bogey on hole three, Ian was frustrated and felt as though he had to "to chase a score". Again, he was concerned about his score and desperately wanted to make an up and down for birdie, and focused on his birdie putt, which he holed. Ian tried to remember a past experience to cope after a poor tee shot on hole six, saying "I made par from there yesterday." After playing what he thought was a good shot his thoughts turned to his poor putting performance and the rain. He mentioned feeling uncomfortable on the sixth green, "I am feeling uncomfortable. See the line, lost concentration now."

Dan

Dan's goals for the season were to "get his handicap down to plus one or better, maintain his position in the England school of excellence, and win an international tournament." Over the next month, Dan wanted to finish in the top ten of his next competition. Dan wanted to hit all of the fairways from the tee and score one under or better for the six holes. Dan failed to meet his personal performance goal, but by scoring even par he did receive the lesser cash reward. As revealed by the idiographic profiles reported in Table 8, Dan reported a total of 58 stressor-appraisals and 47 coping attempts. Coping attempts were reported more than stressor-appraisals for the first hole, but this trend was reversed for all subsequent holes. During his round Dan was most concerned about his score (S-2; 23 stressor-appraisals) and the wind (S-1; 12 stressor-appraisals). In terms of coping

responses, he most frequently reported using swing thoughts (C-33; 22 coping attempts), and planning his shot (C-37, 18 coping attempts).

In terms of the pattern of Dan's responses, during holes one and two he typically reported one or two stressor-appraisals, followed by one or more coping attempts, apart from hole one where there was sequence of coping strategies. As the round progressed, he began to report longer sequences of stressor-appraisals, most notably on holes four and five. For example, he reported five consecutive stressor appraisals after hitting his tee shot on hole four and hole five, and three consecutive stressor-appraisals before hitting his tee shot on hole six. This may have been related to his score, because he was one over par after three holes.

Dan was concerned by the wind on the first hole and used several coping strategies during his pre-shot routine for his second shot "Solid swing. Visualize where you are going to pitch it, focus on that spot. Swing to get the feel, get the feel for the yardage, a couple of swings, quality strike, brush the grass, feel the shot." Just before he was about to play the shot, he said the wind was picking up again but focused on his swing. After missing a birdie putt on the first green, Dan was frustrated "Got to take advantage of them [close shots to the pin] B*****." He was concerned about his performance and score. He bogied the second hole after going in the bunker, and commented on his score: "Six, on a par five. God sake. I am now one over. Can you believe it? Next hole should be nice, keep swinging." His thoughts later returned to his need to make a birdie, "Come on get a three. One over par, I need a three and get back to level. I want go round in one or under or better." On hole four, Dan commented that he felt relieved to have recovered from his tee shot and make a par, but was still concerned about his score "I am still one over and need to get at least one back." Dan was starting to feel more pressure about his score, on hole 5, "Need a birdie and have got two holes left. I can't waste a birdie [opportunity]". After hitting his second shot on the green, he said: "Big putt needed here, big putt. Come on you can do this. Further than I

thought. Oh, man. Pressure putt here. You need this one come on. I want to go round in one under". He coped by visualizing the line of the putt, and used swing thoughts. Dan was concerned and felt he had to "Take advantage of these. Pratt. They need to go in." After leaving himself a birdie chance he said, "Come on, one big putt here, come on. Here we go, eight feet. Not too much in that I don't think. Although it is quite hilly up that hill but it is straightish. Get the ball to the hole first. Solid putt, come on. Come on, make sure it is there. Get, get in, yeah. Yeah!"

Stephen

Stephen wanted to get his handicap from four down to two, do well in the county under-16s, and get his handicap down to three. For the next six holes, Stephen wanted to hit all greens in regulation and go round in one under or better. Stephen failed to reach this performance goal (recording a one over score of 25). Stephen reported a total of 82 stressor-appraisals and 92 coping attempts (see Table 8). He reported more coping attempts than stressor-appraisals on every hole except for number three. During his round Stephen was most concerned about his score (S-2; 27 stressor-appraisals) and errors (S-8; 9 stressor-appraisals). In terms of coping responses, he most frequently reported using positive appraisal (C-32, 26 coping attempts), and planning his shot (C-37, 21 coping attempts).

In terms of the pattern of Stephen's responses, during hole one and he tended to report one or two stressor-appraisals, followed by at least two coping attempts. For instance, before hitting his first shot there was a sequence of three coping responses. As the round progressed, reported one or two stressor-appraisals and one or two coping responses. However, on hole six, the trend of reporting three or more coping responses resumed. For example, he reported four coping responses prior to hitting his tee shot, and four before holing his final putt.

As the trial proceeded, Stephen became more concerned with his score and the errors that he had made. After making an error from the first tee, Stephen was "happy with the

bogey from that drive and can make it up with a birdie. I don't need to go chasing and play this hole as normal." After birdying the second hole, Stephen was concerned about his potential score on the third hole, "This has been a bit of a bogey hole in pressure situations" and coped by changing his strategy "Looking to put this one on the green. Just want to get it pin high." Stephen had to wait a while for the green keeper to clear the green, which was frustrating. After hitting his second shot in the bunker, he coped by being positive "Should be able to get it close. Ball strike, a good distance, sand first, 20% swing, that will be the right distance." After making an error on the fourth hole, Stephen did not want to make a worse score than a bogey. When he found the ball, he picked his landing spot, chipped it to less than a foot and decided he did not need his routine. Stephen felt relieved, "Pleased with chip shot, and it landed where I wanted it to. Good save in the end, maybe I was trying to clear the bunker and that was at the back of my mind." After leaving his birdie put short on the fifth hole, Stephen was worried, "I really do need to hole this one. Left lip I know that I am sure. Confident I can hole this. Short back swing, head down. Focus on line." After missing his par putt on the fifth hole Stephen made a stressor-appraisal over his score, "I am two over now. Disappointed with that. I have now got to try and make the best finish possible. Hopefully I can eagle this as it is a par five." For his second shot in he used a variety of coping responses, "I know I don't have to cut it down. Really make a full swing. Good strike and draw it in. Concentrate on making a full swing. Draw it in from right. Draw it round. Come on." Stephen still wanted to make a birdie after missing the green, and noticed a ridge for his birdie putt but coped by saying "It won't affect it if I hit it hard enough. Short back swing, head down."

Nigel

Nigel wanted to qualify for the Euro-pro tour [third tier of the European Tour] later in the year. He also wanted to improve his consistency, and reduce the number of 'wayward' shots he would play in a round. Specific to the round of golf under scrutiny here, Nigel

wanted to hit all of the greens in regulation, and score three under par. Nigel failed to achieve his goal, recording a score of 26, which was one-over. As revealed by the idiographic profiles reported in Table 8, Nigel reported a total of 74 stressor-appraisals and 52 coping attempts. Stressor-appraisals were reported more than coping attempts on every hole. During his round Nigel was most concerned about his score (S-2; 21 stressor-appraisals) and errors (S-8; 10 stressor-appraisals). In terms of coping responses, he most frequently reported using swing thoughts (C-33; 12 coping attempts), and positive appraisal (C-32; 11 coping attempts).

From the start of the trials Nigel reported up to six consecutive stressor-appraisals, followed by one or more coping attempts. For instance, after hitting his tee shot on hole one, Nigel reported six consecutive stressor-appraisals. This trend continued throughout the trial. Nigel reported five consecutive stressor-appraisals before hitting his second shot on hole two, six before hitting his second shot on hole four, four just after hitting his tee shot on hole five and three after hitting his tee shot on hole six, followed by a further four consecutive stressor-appraisals. It appears, therefore, that Nigel appraised many stressors which he did not adequately manage through his attempts to cope.

From the start of the trial Nigel was concerned about his score, saying “Try and make a birdie on the first, get off to a good start and ease the pressure off a bit”. After an error, Nigel had a putt that he wanted to make for his score, “I should make that [putt]. I will need to make a birdie though on the next hole.” He coped by lining the putt up and using swing thoughts “Straight putt, there won’t be any break in it. Firm, solid stroke, and knock it in.” Nigel was annoyed by his score on the first hole, “I did not want to make a bogey there because it has put a bit of pressure on me to make some birdies. It will be harder to go round in three under now, but as long as I don’t play worse than one under I will be happy with that.” By hole three, Nigel had become frustrated by his performance, “I need to be making fours there, I can’t be making a five when I am on the green in two. I am a better putter than

that. I am still one over and have got to get a few back.” Nigel made further stressor-appraisals relating to his score on hole four, and decided he would have to take a chance, but was confident he could execute the shot “Hit over the trees. A risk, but I need to take the risk and give myself a good chance. If I strike the drive like I have all of the others, I will be fine. Hit a draw.” Nigel made more stressor-appraisals on the fourth hole when he had left himself a long putt for birdie. “I am going to have to make a birdie down the fifth and sixth to go round in one under par today. Still, I have eagled the fifth a few times, so you never know.” Nigel was relieved to have holed the putt, but his thoughts returned to previous errors “If only I had not hit that wayward drive off the first tee and not three putted the second I would be one under par. Still, I can’t go back and have to put those thoughts out of my mind.” On the last hole Nigel was extremely annoyed with himself after playing his second shot, “Scuffed it. S*** that is short, I now have to chip in for a birdie. What a stupid shot, I should not be making those types of shots from there.” Nigel wanted an up and down, “I need to make an up and down, which I have done loads of times.” Nigel had a five-foot putt and wanted to hole it. “Feeling tight, can feel the adrenalin here.” He coped by taking some “Deep breaths. Practice swing. Hit a positive stroke. F***ing in hell, I have missed.”

Adrian’s Qualitative report

Presented below is a qualitative report for Adrian.

GOALS

Adrian’s goals for the season were to get his handicap down to scratch, maintain selection in the Yorkshire squad and then play for England. He also wanted to progress. During the next month Adrian wanted to work on his swing, making it more compact and do lots of practice. Adrian wanted to shoot one under par for the six holes of golf, hit every green in regulation or better and take less than 10 putts.

HOLE 1

Standing on the tee, Adrian was concerned with the wind, and to manage this he teed the ball low, took some practice swings and tried to draw the ball into the wind. After a solid drive down the fairway Adrian had about 200 yards left on the par five. On approaching his ball he experienced several stressors such as the score he was going to make because it was quite windy, the hole was playing its full length and his lie was not as good as it could be. There was also a tree interfering. He coped by trying to put a good swing on the ball, a nice slow swing, and hitting a high cut around the tree. His second shot went onto the green leaving an eagle putt. Adrian again thought about the score encouraging himself to play the six holes in one under, holing that putt, birdying the next which would leave him three under par after two holes. When Adrian got to the green he experienced several stressor, the wind, the poor quality of the green and thoughts of getting a birdie on the next hole. To cope Adrian used swing thoughts and thought about holing the putt. After missing his eagle putt, Adrian encouraged himself and made the birdie putt, and said it was a good four.

Par 5, Score for hole 4, Overall: 1 under par

HOLE 2

Adrian's thoughts were directed to the second hole and how he wanted to birdie, and remembered all of the times he had done it before as a way to increase his confidence. His thoughts then drifted to the previous hole, but he then consoled himself by saying it was alright. On the tee there were two stressors, the wind and the ditch, but as the shot was into wind Adrian evaluated that he would not reach the ditch. Adrian picked the line for his drive and during his pre-shot preparation he was concentrating on trying to shoot a three under par

score, and his last thought before he hit the ball was to make a birdie. He then could not see where his ball was and coped by taking his mind off the shot and thought about a football match. As he walked towards his ball he was worried about the lie he would be confronted with, and also thought about the wind, but decided the ball was lying alright. His thoughts prior to hitting the ball were concerned with being three under par for the six holes. Having missed the green with this shot he was positive about his chances of making an up and down for a birdie. He wanted to forget about the last shot, and was worried this could hamper his chances of playing the six holes in under par, as he did not want to shoot level par. On playing the chip shot, Adrian said he wanted to make at least two birdies, and then planned his shot, but was concerned about the quality of the green. He left himself a putt and tried to cope by remembering a putt he holed the other day and telling himself he was capable. After missing the putt Adrian felt as though he should be two under par, but thought he could still birdie the next and told himself it was a good putt in the end for a six.

Par 5, Score, 6, Overall: level par

Hole 3

Whilst walking to the tee, Adrian's main concern was the number of putts, as it was four up to this stage, and he wanted to take less than 10. Again, Adrian wanted to birdie this hole, but admitted it was not easy, but he still told himself he could do it. Adrian planned his shot taking into account the contour of the green, and the wind. After hitting the ball short Adrian tried to be positive about making an up and down. During this point he commented that he felt a bit hot, and started thinking about an exam on the following Monday and worried about his lack of revision. His thoughts were then more positive about how he was going to play the next shot, concentrating on his target landing area. He wanted to give himself a chance of holing the par putt. When standing over the ball Adrian's thoughts were directed

towards taking less than 10 putts for the six holes and questioned his alignment. Once he felt his line was correct he thought about birdying the next hole, and then rolled the putt in.

Par 3, Score 3, Overall: level par

Hole 4

During his walk to the next tee Adrian was feeling happy with the par and told himself that even after hitting a poor tee shot he can still make a par. His thoughts then turned to making birdies and which club he should be hitting. Immediately prior to hitting the ball Adrian told himself that he could hit the drawn shot that he wanted to hit. Whilst walking to the ball Adrian was concerned with being thirsty and trying to impress myself with his golf. He was confronted with a difficult shot and accepted that a par would be satisfactory as long as he birdied the next hole. He was also worried about his performance and that he would need to do better when playing in county competitions, but making his swing more compact like his dad said would help with consistency. When he got to his ball Adrian felt that he had hit a club too much, and was worried about the wind and how the ball might cut for his second shot in. He compensated by aiming down the right. After missing the green Adrian focused on making an up and down and remaining level par. He worked out the wind was going to be slightly helping his chip shot and was desperate to make an up and down. While preparing to hit the par putt Adrian was concerned with his overall score and thought if he could hole the putt and then birdie the next two he would be able to go round in two under par. He remembered previous putts that he has holed in the past, wanted to be positive and told himself that he did not want to take more than 10 putts for the six holes. Adrian used some swing thoughts about the stroke he wanted and tried to encourage himself, and told himself he could do it.

Par 4, Score 4, Overall: level par

Hole 5

After holing the putt on the fourth hole Adrian felt as though he had a good chance of making a birdie and he wanted to score at least two under par, and he felt as though he should be two under par at this stage. On the tee, Adrian evaluated the distance, the effect that the wind would have and the pin position. He thought that a high draw would be the best shot and wanted to put a good swing on the shot, but instead hit a poor shot and ended up in the bunker. When he was walking to the ball his thoughts turned to playing for Yorkshire and being dropped. He was also worried by the fact that he would not get picked for England either if he continues to play like this. He then tried to be positive and told himself he could make an up and down to then birdie the next hole for a one under par score. However, when Adrian got the ball he realised it was plugged and realised that it would be a very difficult shot. He attempted to cope by trying to remember what he did in his lesson on bunker player and used this by changing his stance, and hitting through the ball. Adrian hit the bunker shot to within 10 feet and wanted to hit a solid stroke to hole the putt and then birdie the next to go round in one under par. Adrian missed the putt and felt as though he should be holing those putts. His next thoughts were directed towards birdying the next for a level par score. He took the break off his next putt by hitting the ball straight.

Par 3, Score 4, Overall: 1 over par

Hole 6

Adrian's first concerns were with hitting a good tee shot so he at least had a chance of putting his second close and making a birdie. He was concerned with the wind, but decided

to hit a fade, which he put into some trees on the right. He was worried about his self image and decided that he wanted to play for pride and make a birdie. On his walk to the ball Adrian was concerned that he would not be able to get on the green in two and then thoughts turned to his exams and not being able to find the time to revise due to his golfing commitments. His thoughts returned to golf about playing poorly, losing his ball and then realising he had no shot through to the green. He told himself he still had a chance of making par though, and punched the ball out and tried to be positive about his third shot into the green. He realised that a one putt would mean nine putts so wanted to hole this putt. He tried to concentrate and think about previous putts he had hit and looked at the putt from both sides. He missed the putt and made a bogey and was not happy about going round in two over par and said he needed to practice more.

Par 4, Score 5, Overall: 2 over par

Table 8. Stress-appraisal and coping decision trees from the participants' think aloud protocols

Name	Hole	Par	Score	Sequence of stress appraisals and coping attempts	Summary
Adrian	1	5	4	S-1 → C-55 → C-29 → C-31 → H → S-2 → C-30 → S-1 → C-33 → S-3 → C-32 → S-4 → H → C-42 → S-2 → C-32 → S-1 → C-30 → C-34 → S-2 → S-28 → C-32 → S-1 → S-6 → S-2 → C-33 → C-32 → MP → PH	12 Stress-appraisals 13 Coping attempts
	2	5	5	S-2 → C-47 → S-2 → C-32 → S-1 → S-10 → C-37 → S-2 → C-33 → S-7 → H → C-32 → S-3 → C-32 → S-1 → S-3 → S-2 → C-33 → C-32 → S-2 → H → C-46 → S-8 → S-2 → H → S-6 → S-5 → C-36 → PM → S-2 → C-32 → PH	17 Stress-appraisals 12 Coping attempts
	3	3	3	S-19 → S-2 → S-11 → C-37 → S-1 → C-37 → S-2 → S-13 → C-37 → C-48 → H → S-19 → S-2 → S-15 → S-16 → C-32 → C-37 → S-2 → C-37 → H → S-2 → S-19 → C-49 → C-32 → S-2 → PH	15 Stress-appraisals 9 Coping attempts
Ian	1	5	5	S-1 → C-37 → C-29 → H → S-1 → C-37 → S-11 → C-37 → S-2 → S-19 → S-2 → C-33 → S-2 → H → S-4 → S-2 → S-19 → S-2 → S-16 → C-33 → H → S-4 → S-2 → S-19 → S-2 → S-16 → C-52 → S-22 → S-19 → S-7 → S-4 → C-37 → C-44 → H → S-2 → C-32 → C-33 → H → S-9 → C-53 → C-36 → C-32 → C-37 → C-33 → MP → C-32 → S-2 → PH	13 Stress-appraisals 13 Coping attempts
	2	4	5	S-2 → S-1 → S-28 → C-33 → C-37 → H → S-4 → S-1 → S-7 → S-4 → S-13 → H → S-19 → S-21 → C-32 → C-37 → H → S-2 → S-2 → H → C-37 → S-3 → S-2 → C-37 → C-33 → HP	14 Stress-appraisals 9 Coping attempts
	3	4	5	S-2 → C-32 → S-1 → C-33 → C-37 → C-29 → H → S-1 → S-4 → C-32 → S-1 → S-8 → C-35 → S-2 → S-7 → C-36 → S-4 → S-6 → C-33 → H → S-2 → S-14 → S-1 → C-37 → H → S-19 → C-37 → C-33 → MP → HP	13 Stress-appraisals 13 Coping attempts

4	4	5	S-2 → S-8 → C-37 → C-33 → H → S-21 → C-37 → C-33 → H → C-32 → S-21 → C-37 → H → S-2 → S-2 → S-19 → S-25 → MP → HP	8 Stress-appraisals 7 Coping attempts
5	4	3	S-19 → S-2 → C-37 → C-33 → S-1 → C-37 → H → S-2 → S-2 → C-33 → S-1 → S-10 → S-14 → C- 32 → H → C-32 → HP	9 Stress appraisals 6 Coping attempts
6	4	5	S-2 → C-33 → H → S-8 → C-36 → C-32 → S-1 → S-19 → S-3 → C-37 → H → S-19 → S-2 → C-37 → H → S-19 → C-36 → MP → S-24 → S-25 → HP	11 Stress-appraisals 6 Coping attempts
Dan	1	4	4	7 Stress-appraisals 11 Coping attempts
	2	5	6	14 Stress-appraisals 9 Coping attempts
	3	4	4	11 Stress-appraisals 7 Coping attempts
	4	3	3	9 Stress-appraisals 8 Coping attempts
	5	4	4	17 Stress-appraisals 12 Coping attempts
	6	4	3	9 Stress-appraisals 13 Coping attempts
Stephen	1	4	5	13 Stress-appraisals 17 Coping attempts
	2	3	2	8 Stress-appraisals 9 Coping attempts
	4	4	4	18 Stress-appraisal

3		S-17 → C-40 → C-35 → C-33 → S-23 → S-21 → S-19 → C-32 → C-40 → C-33 → H → S-8 → S-3 → S-2 → S-2 → C-36 → S-2 → S-21 → HP	12 Coping attempts				
4	4	5	4	5	C-32 → S-2 → C-33 → C-36 → C-32 → C-29 → H → S-4 → C-32 → S-4 → C-32 → S-8 → C-32 → S-10 → C-35 → S-4 → S-3 → C-37 → H → S-1 → C-37 → C-33 → S-21 → C-37 → H → S-13 → S-14 → S-7 → S-2 → S-9 → C-37 → MP → C-32 → HP	14 Stress-appraisals 15 Coping attempts	
5	4	5	4	5	S-2 → C-32 → C-32 → H → S-2 → S-8 → C-35 → S-1 → S-27 → C-37 → C-29 → H → S-8 → C-32 → S-2 → C-32 → S-11 → S-2 → S-28 → C-37 → C-26 → S-28 → C-37 → C-33 → S-19 → MP → S-28 → C-37 → C-33 → C-44 → C-32 → MP → HP	13 Stress-appraisals 15 Coping attempts	
6	5	4	5	4	S-2 → C-32 → S-2 → C-32 → C-37 → C-29 → C-36 → H → C-32 → S-2 → C-34 → C-35 → S-8 → S-2 → C-48 → C-37 → S-1 → C-33 → C-29 → C-33 → C-53 → H → C-32 → S-2 → C-32 → S-2 → S-19 → S-1 → S-19 → S-2 → C-37 → S-25 → C-33 → H → C-32 → S-2 → C-37 → S-25 → C-33 → C-44 → HP	16 Stress-appraisals 24 Coping attempts	
Nigel	1	4	5	4	5	S-10 → C-30 → C-39 → H → S-4 → S-2 → S-19 → S-6 → S-19 → S-1 → C-32 → S-7 → S-3 → C-37 → S-2 → C-33 → C-44 → H → C-33 → H → S-21 → S-2 → S-9 → C-32 → C-37 → H → C-33 → HP	13 Stress-appraisals 11 Coping attempts
2	5	5	5	5	S-2 → S-19 → S-1 → C-32 → H → S-8 → C-32 → S-1 → S-3 → S-19 → S-2 → S-3 → C-39 → H → S-2 → C-32 → C-37 → MP → S-8 → S-28 → C-33 → C-37 → C-49 → MP → HP	12 Stress-appraisals 8 Coping attempts	
3	3	3	3	3	S-2 → S-19 → S-2 → S-1 → C-33 → C-29 → H → S-21 → S-8 → S-21 → C-33 → H → S-28 → S-2 → C-33 → S-28 → HP	10 Stress-appraisals 4 Coping attempts	
4	4	4	4	4	S-2 → C-32 → S-4 → C-29 → C-37 → H → S-2 → C-32 → C-36 → S-19 → S-24 → S-2 → S-7 → S-3 → S-13 → C-33 → H → S-8 → S-2 → C-32 → C-37 → MP → S-28 → C-33 → HP	13 Stress-appraisals 9 Coping attempts	
5	5	4	4	4	S-2 → S-8 → S-2 → C-35 → C-32 → C-37 → H → S-2 → S-8 → S-2 → C-32 → C-29 → C-29 → H → S-2 → S-8 → S-2 → S-2 → S-28 → C-37 → MP → S-8 → HP	10 Stress-appraisals 8 Coping attempts	

6 4 5 C-56 → S-2 → C-32 → S-19 → S-8 → S-2 → C-36 → S-24 → C-57 → C-58 → C-29 → H → S-8 → S-8 → S-
19 → H → S-8 → S-2 → S-25 → S-14 → C-37 → S-3 → S-9 → C-36 → H → S-28 → C-36 → C-37 → S-24
→ C-33 → MP → C-33 → HP

16 Stress-appraisals
12 Coping attempts

Discussion

The overall purpose of this descriptive, exploratory study was to identify and examine verbal reports of stressor-appraisals and coping responses *during* golf performance. Using a think aloud protocol (Ericsson & Simon, 1993), adolescent golfers provided verbal reports of stressor-appraisals and coping attempts during an actual golf performance, which helped overcome some limitations of previous research by shortening the event-recall period (Ptacek et al., 1994; Smith et al., 1999). Overall the results indicated that adolescent golfers appraised a range of stressors during performance (28 different stressor-appraisals were coded and reported in Table 6), and possessed a similar range of potential coping strategies (27 coping attempts were coded and reported in Table 6).

Consistent with previous theoretical propositions (Lazarus, 1999; Lazarus & Folkman, 1984), and empirical research (e.g., Gaudreau et al., 2001; Holt & Dunn, 2004; Lewthwaite, 1990), stressor-appraisals appeared to be related to participants' performance goals. 'Score' was the most frequently reported stressor-appraisal by four or the five participants (Adrian, Dan, Stephen and Nigel), and was the second most reported stressor for Ian. In terms of their scores, none of the golfers actually received the larger cash prize, and only one participant (Dan) received the lesser cash prize. No one achieved his own performance goal for the round. Furthermore, the golfers were 'behind' for most of their rounds. Thus, the golfers appeared to appraise this stressor in terms of their goals.

Whereas the golfers were most consistently worried about their score, different stressor-appraisals were reported at different times. Furthermore, findings indicated that stressor-appraisals and subsequent coping responses were dynamic and transitory during the course of competition. For example, while Dan was playing his second shot into the green on the first hole, he noticed that the wind was getting up and that he would have to play a good

shot. Dan employed several coping attempts (telling himself the green would be receptive, thinking about his swing, visualizing the shot he wanted to play, focusing on the place he wanted land the ball, and performing some swings to get a feel for the length of shot). Just before he hit the ball he re-appraised that the wind was getting stronger again, and employed a different coping strategy (focusing on his swing). This example reveals information about the recursive nature of the stress-coping process; that appraisal influenced coping, and re-appraisal influenced subsequent coping. This descriptive evidence about the nature and content of coping during performance may help provide a basis for understanding the complex person-environment interactions at the centre of the coping process (Lazarus, 1999, 2000b)

Coping attempts changed frequently during all the golfers' performances. Thus, coping was dynamic throughout performance. The dynamic nature of coping is consistent with the transactional process conceptualisation of coping (Lazarus, 1999; Lazarus & Folkman, 1984). Furthermore, the present findings are consistent with previous adolescent-sport coping research, which shows that coping changes across phases of competition (Crocker & Isaak, 1997; Gaudreau et al., 2001, 2002). The present findings are noteworthy in that they corroborate previous research even though the current data were collected *during* performance (whereas other studies have used retrospective approaches).

As shown in Table 8, findings also indicated that different coping strategies were deployed to manage the same stressor at different times. For example, on the first hole, Adrian reported S-1 (wind) four times, but he used six different coping attempts (and various unique combinations of these six strategies) to manage the stressor each time he reported it. Similar patterns were observed for all the golfers throughout the trials. So, rather than participants consistently using a certain coping strategy to cope with the same stressor-appraisal, they actually used different coping strategies to cope with the same stressor when

it was appraised at different times during the performance. These data provide further information about the dynamic nature of stress and coping (cf. Lazarus, 1999, 2000b).

Although the majority of the data indicate that there was vast variation in appraisal and coping responses, the idiographic manner in which the present results were presented did reveal that one golfer more consistently used a smaller number of coping attempts than the other golfers. For example, to cope with the stressor-appraisal of 'score', Adrian reported 13 different types of coping attempts, Dan, Stephen and Nigel reported five different types of coping attempts, whereas Ian only reported three different coping attempts to deal with this stressor. This appears to indicate that Ian had a more consistent way of coping with his score than the other players.

The small sample size limits the generalizability of these findings. Although the think-aloud protocol (Ericsson & Simon, 1993) facilitated the analysis of stressor-appraisals and coping attempts during performance. It would have been difficult to conduct the experiment during a golf competition (because the golfers' verbalizations would have distracted other competitors). This was a limitation because previous findings indicate that adolescent golfers must also cope with stressors related to their opponents or the match referee (Dale, 2000; Holt & Hogg, 2002). In the future it may be possible to conduct think aloud protocols with larger samples (and analyse the data nomothetically), actually creating mock competitions to more realistically represent competitive performance. Another limitation of the current study which may be overcome in the future would be to address the notion of coping effectiveness. That is, this study cannot infer that the use of fewer coping strategies implies more effective coping, or that the use of more coping strategies indicates less effective coping. Combining think aloud protocols with retrospective measures of coping effectiveness may help to explain differences between athletes' coping patterns.

The major strength of this study was the golfers' stressor-appraisals and coping attempts were assessed in 'real-time' during performance, which represents a unique

contribution to the literature. This methodology enabled us to overcome some limitations of previous research and reduce the event-recall period. Although some caution has to be taken, as the think-aloud protocol employed in this study did not allow for pre-competitive coping strategies to be measured (e.g., Gaudreau, Blondin, & Lapierre, 2002). Additionally, this protocol would not have identified more complex stressors which require more time for reflection (Folkman & Moskowitz, 2004).

Think aloud protocols offer a promising avenue for stress and coping researchers. Given that I only sampled males in the current study, in the future it will also be important to examine the nature and content of adolescent females' coping experience to establish if any gender differences are present. The results of this study revealed descriptive information about the complex nature of stressor-appraisals and coping responses during performance among adolescent golfers. I anticipate that these descriptive findings will help to generate more precise explanations about adolescent coping in sport in the future.

CHAPTER 6:

EPILOGUE

The aim of this research programme was to examine how international adolescent golfers cope with performance related stressors. This thesis would be of interest to both applied practitioners and sport psychology researchers as it provided information on the demands faced by international adolescent golfers and the coping strategies they use to manage these stressors. A further aim of this thesis was to gain an understanding of what constitutes of effective and ineffective coping during golf performance.

The purpose of Study 1 was to examine the instances when international adolescent golfers' coped effectively and ineffectively with performance-related stressors during competition, retrospectively. Eighteen male Irish golfers aged between 14 to 21 years old participated in semi-structured interviews pertaining to their experiences of coping effectively and ineffectively with performance-related stressors. Performance-related stressors consisted of outcome, mistakes, score, evaluation and opponents. Interestingly, effective coping consisted of cognitive control strategies (rationalising, re-appraising, blocking, positive self-talk), behavioural control strategies (following routine), and emotional control strategies (breathing, physical relaxation, seeking social support). Ineffective coping consisted of a lack of behavioural control (routine changes, trying too hard, speeding up) and lack of cognitive control (lack of coping, negative thoughts).

This study partially supported several explanations of coping effectiveness. The findings supported the outcome model as the golfers reported a favourable outcome when they reported coping effectively. Evidence was also found to support the goodness-of-fit approach (Folkman, 1991, 1992) as some emotion-focused strategies were associated with effective coping with uncontrollable stressors, and more problem-focused than emotion-focused strategies were associated with effective coping with controllable stressors. The findings also supported the notion that effective and ineffective coping were related to the

choice of coping strategies (Bolger & Zuckerman, 1995), as effective coping strategies were very different from ineffective coping strategies. Although the automaticity of the coping responses were not directly assessed (Dugdale, et al., 2002; Gould, Eklund, & Jackson, 1993), ineffective coping was associated with strategies that would neither be well learned nor practised, suggesting that ineffective coping was not automatic, although further research is required to address automaticity.

Although Study 1 was useful in providing descriptive information about a subject that researchers know very little about (e.g., coping effectiveness among international adolescent golfers), it has some methodological limitations. Research from mainstream psychology has strongly suggested that with the passage of time, people do not and perhaps can not provide highly accurate accounts of how they coped with a stressor finding on average 26% (e.g., Ptacek, Smith, Espe, & Raffety, 1994) and 25% variance (Smith, Leffingwell, & Ptacek, 1999) between daily and retrospective coping accounts. Smith et al. (1999) concluded that this high level of discordance is sufficient to have a negative impact on research with findings that are dependent on retrospective recall.

To reduce the amount of time between recall and the event, an alternative methodology was selected in Study 2, but the purposes of Study 2 were similar to Study 1, to examine stressors, coping strategies and coping effectiveness. Instead of data being collected by retrospective interviews, data was collected via a 31-day diary study, which was completed at the end of each day by the participants. As such, 11 Welsh international adolescent golfers aged between 14 and 18 participated in this diary study, with an overall completion rate of 73% (range: 58% to 90%).

The four most frequently reported stressors were making a physical error, making a mental error, observing an opponent play well, and difficult weather conditions. Although previous sport psychology research has provided long lists of stressors (e.g., Dale, 2000; Gould, Eklund, & Jackson, 1993; Holt & Hogg, 2002) the longitudinal approach that was

employed demonstrated that making errors were the most salient stressors over time. Overall though, problem-focused coping strategies were used more than any other type of coping, which is consistent with previous findings reflecting adolescent athletes' preferences for active coping strategies (Crocker & Isaak, 1997; Gaudreau et al., 2001, 2002).

Mean coping effectiveness scores remained stable over time, but there were considerable fluctuations in the perceived effectiveness of specific coping strategies. These fluctuations suggest that the selection of a particular coping strategy for managing a stressor may be important. In other words, the choice of coping strategy in a specific context may be associated with effective coping (Bolger & Zuckerman, 1995; Crocker et al., 1998).

Although this study reduced the time between the event and recall compared to Study 1, some researchers have even suggested that end-of-day recall may be inaccurate (Stone & Shiffman, 1994). Additionally, end-of-day coping measurements are limited because participants only tend to report discrete stressors. However, the challenge for Study 3 was to reduce the time between the event and recall even further.

Think aloud methodology was selected so that the golfers could verbalise their stress appraisals and coping responses as they occurred. The purpose of study three was to identify and examine adolescent golfers' stress-appraisals and coping attempts during golf performance. Five participants (three age group internationals, two county players) participated in think aloud trials over six holes of golf. The golfers appraised a wide range of stressors and coping strategies, with the golfers concern about their 'score' being the most frequently reported stressor.

Consistent with theory (Lazarus, 1999; Lazarus & Folkman, 1984) and empirical research (e.g., Gaudreau et al., 2001; Holt & Dunn, 2004; Lewthwaite, 1990) stress appraisals were goal-directed and coping was seen to be both a recursive and dynamic process. So, rather than participants consistently using a certain coping strategy to cope with the same stressor-appraisal, they actually used different coping strategies to cope with the

same stressor when it was appraised at different times during the performance. Furthermore, the present findings are consistent with previous adolescent-sport coping research, show that coping changes across phases of competition (Crocker & Isaak, 1997; Gaudreau et al., 2001, 2002).

Applied Implications

The findings from these three studies imply that practitioners should encourage adolescent golfers to employ the techniques associated with effective coping (e.g., following a routine, seeking social support and positive self-talk) and reduce any emphasis on the techniques associated with ineffective coping (e.g., making technical adjustments and not making any attempt to cope). Although practitioners should refrain from only encouraging their clients to use only a limited number of strategies. Instead, it is suggested that practitioners teach their clients a plethora of coping strategies from both problem and emotion-focused dimensions.

More specifically, when golfers experience stress caused by making a physical error they could be encouraged to make an effort to commit to future shots and trust their swing and possibly be warned against making technical adjustments during play. When golfers experience mental error stressors they should be instructed to plan their next shots, take more time, and again, commit to the shot. For observing an opponent play well stressor, golfers should focus on their strategy for the round and focus on their own game as opposed to their opponent. Additionally, when golfers are putting they should be advised to concentrate on the putt, rather than thinking ahead to the next hole and what they intend to score on that hole.

Future Research

Within the sport psychology coping literature researchers have been accused of just providing lists of stressors and coping responses (Gould, 1996). Although this initially

provided crucial information on sources of stress and the types of coping strategies used by a variety of athletes from different sports, more sophisticated research is required in the future. Researchers should concentrate on examining stress and coping as a process longitudinally to further assess the relevance of the stress and coping model proposed by Lazarus (1999) and Lazarus and Folkman (1984). To do this researchers need to adopt single subject designs and examine participants on repeated occasions to examine the relationships between goals, stress appraisals, and coping.

In addition to conducting prospective and within-subject research, researchers should continue to seek new methods of collecting data which reduce the amount of time between the event and recall. The diary and think aloud methodology served this purpose extremely well, and it is proposed that these methodologies are used in a variety of different sports.

Coping effectiveness appears to be an important concept and has a variety of implications which have been discussed within this thesis. Future research should continue to examine the various models of coping effectiveness so researchers have a greater understanding of what constitutes adaptive and maladaptive coping. Once a greater understanding of coping effectiveness has been developed theory guided interventions should be tested, as this has the potential to have an extremely significant impact upon athletic performance.

From a more conceptual view point, researchers should examine other aspects of the Lazarus model. In particular, sport psychology researchers should examine in more detail perceptions of controllability over stressors, goals, and more importantly the effects of stress and coping on emotions (Lazarus, 1999). This has the potential to examine the importance of coping on both performance and well-being through the study of emotion.

Future research should also examine potential age related differences, and build upon the initial findings in study 1. Although study 1 established age related differences, due to the qualitative research methodology employed here, it is difficult to demonstrate

developmental differences with certainty. Additionally, future research should examine stress and coping among female high-level golfers to examine any developmental differences.

Conclusion

The three studies suggest that high-level adolescent golfers appraise a variety of performance related stressors during golf. Study 1 provided some descriptive evidence with regards to the performance related stressors among a sample of Irish golfers. Studies 2 and 3 examined stressors over specific time periods, during a month and six holes of golf respectively. The evidence from Studies 2 and 3 suggest that the most prominent stressors among adolescent golfers relate to errors, both physical and mental, and score.

The findings presented in this research programme also suggest that adolescent golfers use a variety of different coping strategies during golf to cope with performance stressors. The types of coping strategies utilised by the participants were very similar throughout all three of the studies ranging from blocking to positive appraisal.

These studies have found evidence to support the theory posited by Bolger and Zuckerman (1995) that coping effectiveness is related to the choice of coping strategies in that coping effectiveness in studies one and two appeared to be related to choice of coping strategies. There was also evidence to support the outcome model, the goodness-of-fit approach and the automacity theory of coping effectiveness. In future studies, perceptions of control and the automacity of coping could be measured, to assess the other theories. But it is clear that international golfers are confronted with numerous demands when playing golf, which they have to cope with. This research programme has given insight in these issues and provides practical advice to golf performers.

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APPENDICES

APPENDIX A

Coping in sport: A summary

Studies were considered for inclusion in Table Appendix A if they provided quantitative or qualitative data on coping in sport and had been published as full papers or research notes in peer reviewed journals. Studies were excluded if they had only been published as abstracts or conference proceedings. Studies were obtained through electronic literature searches on SPORTdiscus (1975 to present), PsychLIT (1975 to present) and PsychINFO (1975 to present) which were all searched in November 2004.

Papers were first reviewed by title, then by abstract and then finally by full text, excluding those at each step that did not satisfy the inclusion criteria. Six hundred and nine references were removed from reading their title during the first phase of sifting. The abstracts of articles, which could not be excluded at the sifting stage, were then read and 129 references were excluded from the study at the second stage of sifting. A total of 80 full papers were screened and 18 papers were excluded. As such, 62 papers were included.

Of the 62 papers in this systematic review 50 were quantitative and 12 were qualitative. The number of participants in the quantitative studies ranged from 21 to 1491 participants (M number of participants = 246.65, SD = 237.1). The mean age of the participants in the quantitative studies ranged from 13 to 33.8 years (M age = 21.91 years, SD = 5.08). The mean percentage of males in the quantitative studies ranged from 0 to 100% of the sample (M percentage of males = 60.28, SD = 23.12). The mean percentage of females in the quantitative studies ranged from 0 to 100% of the sample (M percentage of females = 39.72, SD = 23.12).

The number of participants in the qualitative studies ranged from 1 to 180 participants (M number of participants = 27.9, SD = 50.2). The mean age of the participants in the qualitative studies ranged from 11.9 to 26.6 years (M age = 23.55 years, SD = 5.95). The mean percentage of males in the qualitative studies ranged from 0 to 100% of the sample (M percentage of males = 61.5, SD = 41.82). The mean percentage of females in the

qualitative studies ranged from 0 to 100% of the sample (M percentage of females = 38.5, SD = 41.82).

Table Appendix A. Coping in sport: A summary

Study	Participant Information	Instrumentation	Main findings
Amiot, Gaudreau & Blanchard (2004)	121 (50 M, 79 F) athletes from a variety of sports, ranging from regional to national level (M age = 18 years)	Sport Motivation Scale (Brière, Vallerand, Blais, & Pelletier, 1995), Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), The Coping Inventory for Competitive Sport (Gaudreau & Blondin, 2002), Sport Achievement Goals Scale (Gaudreau, Amiot, Blondin, & Blanchard, 2002)	Self-determined motivation positively predicted task orientated coping and non-self-determined motivation positively predicted engagement coping. Task orientated coping was positively associated with goal attainment and disengagement orientated coping was negatively associated with it.
Anshel (1996)	421 club male basketball, field hockey, soccer, rugby and volleyball players (M age = 16.4 years)	128-item inventory developed to assess coping style	Evidence to support the goodness of fit approach, as when the athletes were faced with acute uncontrollable stressors were more likely to engage in avoidance coping strategies. Coping styles were related to the stressor.
Anshel (2001)	28 male professional rugby league players (M age = 22.4 years)	Structured interviews	The participants engaged in a variety of different coping strategies including approach-cognitive strategies, approach behavioral coping strategies, avoidance coping strategies, avoidance-behavioral coping strategies, and a variety of post match coping strategies: did not cope, remained on task.
Anshel & Delany (2001)	52 (36 M, 16 F) child field hockey players. Mean age not reported	Structured interview	The athletes tended to use avoidance coping strategies after negative cognitive appraisals and approach coping following positive appraisals.
Anshel, Jamieson & Raviv (2001)	251 (174 M, 77 F) athletes from a variety of different sports. Level of participants	Instrument to measure cognitive appraisals and another to measure coping strategies.	The selection of coping strategies was influenced by the appraisal of the stressor. Avoidance coping was strongly related to threat appraisals, error, and harm

Anshel and Kaissidis (1997)	not reported (M age = 23.7 years) 190 (93 M, 97 F) basketball players of various levels aged between 18 to 44 years	Miller Behavioral Style Scale (Miller, 1987), Coping Style Inventory for Athletes (Anshel & Kaissidis, 1997)	Approach and avoidance coping by participants who exhibited low coping consistency across situations depended more on situational than personal variables. The participants also used more approach coping than avoidance coping during games.	appraisals for the stressor pain.
Anshel, Porter & Quek (1998)	477 (288 M, 189 F) national and club athletes from a variety of sports, aged between 15.8 - 20.3 years.	Survey (untitled) developed to examine acute stress sources and typical coping responses	Males were more likely engage in approach coping, compared to females. Males engaged more in physical activity after sustaining pain/injury or a errors due to environmental conditions.	
Anshel & Wells (2000)	147 male high-level basketball players (M age = 24.6 years)	Inventory developed that identified the athletes' approach and avoidance coping strategies following four predetermined stressful events	Approach coping was reported most on three of the four stressful situations, being physical abused (70% of the players), missing an easy basket (76%), and losing the ball (78%). Only for the stressor, receiving a bad call from the referee did players use avoidance coping the most (63%).	
Anshel, Williams & Hodge (1997)	633 club to international athletes from the US (n = 296, M age = 20.7 years) and Australia (n = 337, M age = 20.6 years).	Developed coping inventory which comprised of 134 items	Females reported approach-emotion coping more than males in response to specific stressors.	
Arathoon & Malouff (2004)	68 club female field hockey players (M age = 27.2 years)	Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988)	The participants reported lower positive affect scores after losing a match. The participants who focused on a coping statement and positive thought decreased less than those participants who did not undertake the task.	
Bebetsos & Antoniou (2003)	85 (44 M, 41 F) National badminton players (M age = 22.3 years)	Greek version of Athletic Coping Skills Inventory-28 (Goudas, Theodorakis, & Karamousalidis, 1998)	The older athletes in the sample were better prepared to cope with adversity, and reported better emotional self-control.	
Campen & Roberts (2001)	52 (31 M, 20 F, gender of one participant unknown)	Competitive State Anxiety Inventory-2 (Martens, Burton,	Social coping strategies were perceived to be the most effective for reducing anxiety. The female athletes	

	recreational runners (M age = 37 years)	Vealey, Bump, & Smith, 1990), State Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) 30-item coping questionnaire developed for study	were more likely to use social supportive strategies.
Cresswell & Hodge (2001)	47 international life saving athletes (M age = 23.7). Gender of participants not reported.	Structured interviews	When confronted with uncontrollable environmental stressors the effective copers focused on elements of the situation that they could control.
Cresswell & Hodge (2004)	124 international touch rugby (M age = 26.2 years) and surf life savers aged (M age = 23.7 years)	Athletic Coping Skills Inventory-28 (Smith, Schutz, Smoll, & Ptacek, 1995), Trait Sport Confidence Inventory (Vealey, 1986), Sport Anxiety Scale (Smith, Smoll, & Schutz, 1990). Ways of Coping Checklist (Folkman & Lazarus, 1985).	Confidence scores were positively associated with coping with adversity scores, and anxiety scores were negatively associated.
Crocker (1992)	237 (119 M, 118 F) athletes from different sports and levels (M age = 21 years)	COPE (Carver, Scheier, & Weintraub, 1989), Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), and performance goal incongruence (Crocker & Graham, 1995)	Coping strategies which were classified into eight dimensions, active-coping, problem-focused, seeking social support, positive reappraisal, self-control, wishful thinking, detachment and self-blame.
Crocker & Graham (1995)	337 (208 M, 169 F) regional to national athletes from a variety of sports (M age = 20.5 years)	M-COPE (Crocker & Graham, 1995)	Females used higher levels of seeking social support for emotional reasons and increasing effort to manage goal frustration
Crocker & Isaak (1997)	25 (13 M, 12 F) regional swimmers (Median age = 13 years). Mean age not reported.		Findings from the competitive swim races provided evidence against the notion of a coping style in swimming. The training session findings provided evidence of consistent coping.
Dale (2000)	7 male elite decathletes aged	Phenomenological interviews	Coping strategies which were classified into six coping

between 26-30 years.

dimensions: imaging/visualizing, being aware of keys, competing only against self, confidence in one's training, consistency, camaraderie. Different coping strategies were utilized depending on the source of stress.

Dugdale, Eklund & Gordon (2002)	91 international athletes (M age = 25.6 years). Gender details not reported	COPE (Carver, Scheier, & Weintraub, 1989), open ended question for most stressful experience, cognitive appraisals measured on 9-point Likert scale	Athletes were less likely to respond to unexpected stressors. Athletes who rated their coping to be more effective during competition rated their coping as being more automatic.
Eklund, Grove & Heard (1998)	(Study 1: 870 (626 M, 244 F); Study 2: 621 (391 M, 230 F)) from various sports and levels from regional to national (M age = 22.24 years)	COPE (Carver, Scheier, & Weintraub, 1989), MCOPE (Crocker & Graham, 1995).	The 14-factor model of the cope inventory and a 10-factor model of the Modified-COPE were the most appropriate inventories for examining slump related coping among athletes
Eubank & Collins (2000)	24 (10 M, 14 F) regional and national gymnasts and tennis players (M age = 17.8 years)	Competitive State Anxiety Inventory-2, (Martens, Burton, Vealey, Bump, & Smith, 1990), COPE (Carver, Scheier, & Weintraub, 1989), semi-structured interviews	The facilitators used more problem and emotion-focused strategies compared to the debilitators, who appeared limited in their use of these strategies.
Gaudreau & Blondin (2002)	316 (171 M, 145 F) competing in international, national, provincial, and regional competitions (M age = 17.4 years)	L'inventaire des Stratégies de Coping en Compétition Sportive (Gaudreau & Blondin, 2002).	Effort expenditure, mental imagery, relaxation and venting of unpleasant emotion varied significantly across the level of the athletes expertise, with the elite athletes utilizing these strategies more than the lower level athletes. Venting unpleasant emotion and effort differed significantly between genders.
Gaudreau & Blondin (2004a)	144 male golfers (M age = 27 years).	LOT-R (Scheier, Carver, Bridges, 1994), L'inventaire des Stratégies de Coping en Compétition Sportive (Gaudreau & Blondin, 2002), Positive and	Task-orientated coping and disengagement coping during competition played a facilitative and debilitating role in PGD. Task orientated coping allowed the golfers to master the requirements of the task and reduce the discrepancy between that of their

Gaudreau & Blondin (2004b)	148 (82 M, 69 F) athletes from a variety of sports and levels (M age = 17.4 yrs)	Negative Affect Schedule (Watson et al., 1988) L'inventaire des Stratégies de Coping en Compétition Sportive (Gaudreau & Blondin, 2002), Positive and Negative Affect Schedule (Watson et al., 1988). MCOPE (Crocker & Graham, 1995), Positive and Negative Affect Schedule (Watson et al., 1988)	Athletes were classified into four clusters of coping, low utilization of coping strategies, high utilization of coping strategies, high utilization of task-oriented coping, and high utilization of disengagement-oriented coping.
Gaudreau, Blondin & Lapierre (2002)	62 male golfers (M age = 16.35)	MCOPE (Crocker & Graham, 1995), Positive and Negative Affect Schedule (Watson et al., 1988)	Coping changed across all three phases of competition. Behavioral disengagement was reported more frequently during competition. Golfers who did not achieve their performance goal decreased in task-oriented, emotion, and avoidance coping.
Gaudreau, Lapierre, & Blondin (2001)	33 male adolescent golfers (M age = 16.6 years)	MCOPE (Crocker & Graham, 1995)	Coping changed across all three phases of competition. For instance, pre-competition utilization of increased effort, active coping/planning, suppression of competing activities was greater than the competitive utilization of these strategies.
Giacobbi, Foore, & Weinberg (2004)	11 male college student golfers (M age = 21.18 years)	Semi-structured interviews	Coping was categorized as cognitive, relaxation techniques, off course efforts, golf course strategies, avoidance coping, emotion-focused coping .
Giacobbi & Weinberg (2000)	273 (136 M, 137 F) college athletes (M age = 19.57 years)	Sport Anxiety Scale (Smith et al., 1990), MCOPE (Crocker & Graham, 1995). Semi-structured interviews	High trait anxious athletes used different coping behaviours such as denial, wishful thinking, and self-blame compared to low trait anxious athletes.
Gould, Eklund & Jackson, (1993)	20 male international wrestlers (M age = 26.6 years)	Semi-structured interviews	Coping strategies reported by the wrestlers were categorized into four dimensions: thought control strategies, task focus strategies, behavioral based strategies, and emotional control.
Gould, Finch & Jackson (1993)	17 female national figure skaters (M age = 25 years)	Semi-structured interviews	Coping attempts by the participants was categorized into the dimensions: rational thinking and self-talk, positive focus and orientation, social support, time management and prioritisation, pre-competitive mental preparation and anxiety management, training hard and

smart, isolation and deflection. The skaters implemented different coping strategies depending on the stressors they experienced.

Goyen & Anshel (1998)	74 (39 M, 35 F) adolescent state athletes (M age = 15.4 years) and 65 (37 M, 28 F) club level athletes (M age = 26.6 years).	Questionnaire designed to assess stress and coping responses.	Males reported problem-focused coping more than females, who in turn reported more emotion-focused coping responses. Emotion-focused coping was more common among adolescent males than adolescent females.
Grove, Eklund & Heard (1997)	630 (410 M, 220 F) athletes of different sports and levels (M age = 21.64 years)	Ways of Coping in Sports Scale (Madden, Kirkby, & McDonald, 1989)	Performance slumps were related to seeking social support, Wishful Thinking, Effort/Resolve, Emotional Control
Hammermeister & Burton (2001)	315 (209 M, 106 F) club level to professional triathletes (M age = 35 years) distance runners (M age = 38 years) and cyclists. (M age = 28 years)	Endurance Athlete Demographic and Background Questionnaire, Coping with Endurance Sports Questionnaire, Perceived Threat to Competitive Endurance Goals Inventory, Perceived Controllability of Competitive Endurance Goal Threats Inventory (all Hammermeister & Burton, 2001), and the Competitive State Anxiety Inventory-2 (Martens et al., 1990)	Results supported the Lazarus and Folkman (1984) model of stress and coping. Perceived threat accounted for a greater percentage of variance in cognitive and somatic anxiety than did perceived control or coping resources.
Hammermeister & Burton (2004)	318 (262 M, 56 F) triathletes, distance runners, and cyclists of all levels (M age = 33.8 years)	Endurance Athlete Demographic and Background Questionnaire, Coping with Endurance Sports Questionnaire, Perceived Threat to Competitive Endurance Goals Inventory, Perceived Controllability of Competitive Endurance Goal Threats	Male and female athletes appraise stress in a similar way, but females used more emotion-focused coping strategies than males (positive reinterpretation, emotional social support, and dissociation). Males reported the higher use of suppression of competing activities and association, and lower use of social support than female athletes. Females also reported venting (maladaptive) of emotions more than males.

Haney & Long (1995)	178 female basketball (M age = 18.7 years), soccer (M age = 20.4 years), and field hockey (M age = 20.4 years) university players	Inventory (all Hammermeister & Burton, 2001), and the Competitive State Anxiety Inventory-2 (Martens et al., 1990). Competitive State Anxiety Inventory-2 (Martens et al., 1990), Ways of Coping Checklist (Folkman & Lazarus, 1985), secondary appraisals and secondary appraisals of self-efficacy (Likert scale) were measured over two rounds	Performance and performance satisfaction in round one influenced appraisals and coping during the second performance. Control appraisals were associated with disengagement coping, and both engagement and disengagement coping were related to performance and performance satisfaction.
Holt (2003)	1 male international cricket player, aged 31 years	Four semi-structured interviews	Coping responses used to manage these stressors were evaluation and planning, proactive psychological skills and reactive psychological skills. Coping responses influenced subsequent stress appraisals and coping.
Holt & Dunn (2004b)	4 female national soccer players, aged between 21-28 years	Audio-diaries over a six week period	Coping was classified into four dimensions, reappraising, use of social resources, performance behaviours and blocking. The soccer coped differently depending on the stressors that they appraised. Coping was classified as emotion-focused coping, or problem-focused coping.
Holt & Hogg (2002)	10 female international soccer players (M age = 23.7 years)	Semi-structured interviews	Active/problem-focused coping and avoidance/withdrawal coping strategies were deemed effective during competition. When stressors were perceived to be controllable athletes reported active and emotional calming-focused coping. It was perceived psychological difficulties which was as a predictor withdrawal.
Holt & Mandigo (2004)	33 male club cricket players (M age = 11.9 years)	Concept maps (Novak & Gowan, 1984)	
Kim and Duda (2003)	722 (482 M, 240 F) Division I university US (M age 20 years) and Korean (M age = 19.69 years).	Experience of psychological difficulties (Kim & Duda, 2003), perceived controllability (Likert scale), Approach to Coping in Sport (Kim, 1999), coping effectiveness (Kim & Duda, 2003)	

Kowalski & Crocker (2001)	Study 1: 126 high school students (52 M, 74 F) (M age = 15.39 years) Study 2: 683 high school students (344 M, 339 F) (M age = 15.46 years)	Coping Function Questionnaire (Kowalski & Crocker, 2001)	An 18-item CFQ, which assessed problem-focused, emotion-focused, and avoidance coping function was presented. Through a confirmatory factor analysis, in study two, the CFQ measurement model was found to be an acceptable measurement model for both male and female adolescents.
Kolt, Kirby & Lindner (1995)	115 (32 M, 83 F) gymnasts ranging from international to club level gymnasts (M age = 14.9 years)	Ways of Coping With Sport Questionnaire (Madden et al., 1989)	The coping responses reported most frequently were increased effort and resolve, wishful thinking, seeking social support and problem focused coping. Female gymnasts were more likely to use seeking social support to cope with performance slumps than males.
Krohne & Hindel (1988)	36 'top' table tennis players. Gender nor specific level of participants was reported. (M age = 18.75 years)	State-Trait Anxiety Inventory (Laux, Glanzmann, Schaffner, & Spielberger, 1981) Sport Competitive Anxiety Test (Martens, 1977) ABI (Krohne, 1986)	The participants used cognitively avoidant sport-specific self-regulatory techniques, very little information searching and had very few interfering cognitions during competition.
Lane, Jones & Stevens (2002)	91 (M 40, F 51) national tennis players, (M age = 16.23 years)	Self-esteem Scale (Rosenberg, 1965), MCOPE (Crocker & Graham, 1995) Self-efficacy (Lane et al., 2002)	Individuals with high self-esteem reported more problem-focused coping strategies. Low self-esteem was associated with behavioral disengagement, self-blame and humor.
Madden, Jeffery, Summers & Brown (1990)	133 (84 M, 49 F) club basketball players (M age = 24 years).	The Stressful Situation in Basketball Questionnaire (Madden et al., 1990), The Ways of Coping with Sport (Madden et al., 1989)	Participants with high levels of stress reported used increased effort and resolve, problem-focused coping, social support-seeking, and wishful thinking strategies more frequently than low competitive stress participants
Madden, Kirby & McDonald (1989)	21 (12 M, 9 F) state to international distance runners aged between 14-20 years	Ways of Coping with Sport (Madden et al., 1989)	Increased effort and resolve, and problem-focused coping were reported consistently as strategies for coping with a performance slump.
Ntoumanis & Biddle (1998)	356 (223 M, 133 F) British university athletes from a variety of sports (M age =	Short version of COPE inventory (Crocker & Graham), Positive and Negative Affect Schedule	Problem-focused coping predicted positive affect, and emotion-focused coping predicted negative affect. The perceived effectiveness predicted positive affect, and

	20.83 years)	(Watson et al., 1988), coping effectiveness (six one item questions, Likert format).	negatively, negative affect. High coping effectiveness groups were associated with more pleasant experiences.
Ntoumanis & Biddle (2000)	366 (223 M, 133 F) British university athletes from a variety of different sports (M age = 20.83 years)	COPE Inventory (Carver et al., 1989), Modified Mental Readiness Form-2 (Krane, Joyce and Rafeld, 1994) Competitive State Anxiety Inventory-2 (Martens et al., 1990).	Perceptions of facilitative cognitive anxiety were related to problem-focused coping. High levels of cognitive anxiety were related to emotion-focused coping and avoidance coping.
Ntoumanis, Biddle & Haddock (1999)	356 (223 M, 132 F) British university athletes participating in a variety of different sports (M age = 20.83 years)	Task and Ego Orientation in Sport Questionnaire (Duda & Nicholls), Short Version of Perceived Motivational Climate in Sport Questionnaire-2 (Newton & Duda, 1993) Short Version of the COPE Inventory (Crocker & Graham, 1995), Positive and Negative Affect Schedule (Watson et al., 1988) Semi-structured interviews	Athletes high in task orientation were more likely to report active coping responses. High ego and performance climate participants were more likely to report avoidance and emotion-focused coping.
Park (2000)	180 (117 M, 63 F) current national or former national athletes from a variety of sports (M age = 25.5 years)		Coping was categorized into seven coping dimensions: psychological training, training and strategies, somatic relaxation, hobby activities, social support, prayer and substance use.
Pensgaard & Duda (2003)	61 (25 M, 31 F) international athletes (M age = 27.6 years)	COPE (Carver et al., 1989), and a series of Likert scales measuring 'most stressful experience,' 'coping effectiveness,' and 'emotions.'	Coping effectiveness emerged as a positive predictor of objective competitive results. Coping effectiveness also positively predicted subjective performance. Dysfunctional emotions emerged as a negative predictor.
Pensgaard & Roberts (2003)	69 (50 M, 20 F) international athletes (M age = 25.2 years)	Performance measured as placing. The Perception of Success Questionnaire (Roberts,	High task/low ego athletes employed more active coping and social support strategies than high

Treasure, & Balague, 1998), COPE (Carver et al., 1989)	task/high ego, and low task/low ego groups
Pensgaard, Roberts & Ursin (1999)	The Olympic athletes reported more redefinition and growth coping strategies. Paralympic athletes were also more satisfied with effort and results.
69 Olympic (49 M, 20F) and 30 Paralympic (23 M, 7 F) athletes from winter Olympic Sports. Age was not reported	Perception of Success Questionnaire (Roberts, Treasure, & Balague, 1998), Perceived Motivational Climate Questionnaire (Roberts & Ommundsen, 1996) COPE (Carver et al., 1989) and Qualitative interviews
Pensgaard & Ursin (1998)	Problem and emotion-focused strategies were employed at all times, while cognitive defense strategies were employed more frequently days before and after competition.
69 (final gender split not reported) elite athletes from Winter Olympic sports (M age = 25.2 years)	Open ended stress question, perception of control, satisfaction with results, COPE (Carver et al., 1989)
Philippe, Seiler & Mengisen (2004)	The weightlifters had a lower mean score on avoidance coping than triathletes, runners or swimmers. Men used more task focused coping than women.
80 (44 M, 36 F) elite and club athletes (M age = 23.1 years)	The Coping Inventory for Stressful Situations (Endler & Parker, 1990)
Poczwadowski & Conroy, (2002)	Coping was categorized into appraisal-focused coping, emotion-focused coping, problem-focused coping, avoidance-focused coping and failing in coping.
16 (8 M, 8 F) 8 athletes and 8 performing artists Mean age not reported.	Semi-structured interviews
Prapavessis, Grove, Maddison & Zillmann (2003)	Strong self-handicapping tendencies are related to the greater use of emotion-orientated coping (denial/avoidance and wishful thinking) during competitive performances, which take place during a performance slump.
Study 1: 65 M, M age= 20.45 years; Study 2: 141 athletes (M age = 21.5 years; Study 3: 220 M athletes. M age = 22.60; Study 4: 120, 82 M, 38 F, M age= 34.75 years) athletes from a variety of sports and levels	The Self-handicapping Scale (Jones & Rhodewalt, 1982), The Coping Inventory for Stressful Situations (Endler & Parker, 1990), Ways of Coping in Sport Scale (Madden et al., 1989), Competitive State Anxiety Inventory-2 (Martens et al., 1990)
Smith, Schutz, Smoll & Ptacek (1995)	A strength of the inventory is that it was specifically designed for the purposes of conducting sport research and has been validated using confirmatory factor
637 male and female athletes (gender split not reported) from high school sports and a	Athletic Coping Skills Inventory-28 (Smith, Schutz, Smoll, & Ptacek, 1995)

Tammen (1996)	university football team. Eight international runners. Neither gender or age of the sample was reported	The Mental Readiness Form (Krane, 1994), Borg Scale (Borg, 1978), heart-rate monitors, interviews (type of interview not stated)	analysis. Increased running pace resulted in associative coping. Disassociative coping was found to occur during the early stages of the trial.
Wang, Marchant, & Morris (2004)	88 undergraduate basketball players. (M age = 21 years). Gender not reported	Coping Style Inventory for Athletes (Anshel & Kaissidis, 1997), CSAI-2 (Martens et al., 1990).	Approach style coping was significantly related to choking, and avoidance style coping was not significantly related to choking.
Yoo (2000)	411 (234 M, 177 F) athletes from a variety of sports and levels ranging from club to national level (M age = 21 years)	Culturally-Specific Coping Scale for Korean Athletes (Yoo, 2000)	Transcendent and avoidance coping were inversely correlated to problem and emotion-focused coping. Positive relationships between transcendent and avoidance coping, and problem and emotion-focused coping.
Yoo (2001)	532 (332 M, 200 F) elite and non elite athletes from a variety of sports. (M age = 21.23 years)	Culturally-Specific Coping Scale for Korean Athletes (Yoo, 2000)	Elite athletes reported more problem-focused and transcendent coping strategies than non-elite athletes. The athletes from individual sports reported higher scores on avoidance and transcendent coping that team sport athletes. Males were more likely to use problem-focused coping than females, who were more likely to use emotion-focused and transcendent coping.

APPENDIX B

INTERVIEW TRANSCRIPT EXAMPLE

A Think of a time when you were under a large amount of pressure and you handled it very well. Describe everything about it

D It was actually recently towards the end of May there. It was the senior cup it is actually a pretty high standard, but it is for my own club. It surprised me in a way because I was more nervous and worried playing then than I was playing for Ireland. I think the difference was because it was stroke play and you know yourself it is when you cant have any disasters or you're you are screwed. Match play for Ireland was match play so you can have a bad hole. The worst thing was the first tee. I was so nervous I don't know why I think it was the pressure from other team mates expecting me to shoot a good score or just pressure on myself. I remember the first tee now, I was very, very nervous but I actually handled it well and played it very well because I had the best score of the day.

A What did you do to handle it

D On the first tee people always say when you are nervous to take deep breaths and the pro at my club has been to a conference about it and says that when you are nervous to take a few deep breaths and just try and close your eyes and visualise your shot more, trying to think what you have got there. I remember the first tee we shook hands with the guys and then I walked to the side of the tee so I could calm down and try and picture the shot and I hit a cracker down the first which was intimidating as there was trouble down both sides. Even for the first 5 or 6 holes I had the nervous feeling but I kept doing it over every shot and it seemed to help a bit.

A So you think that contributed to your managing of the situation

D I think it did cause I was more calm as I could feel my heart going and the deep breaths kind of helped slow it down and relaxed it more

A Were there any other things you did to cope?

D I have a big problem with belief. I step up to the hole and see trouble both sides and I think about where not to put it. This is actually a bad attitude to have. We've been down with the Irish panel for the last two weekends and I have been asking questions like and I think it is an area I need to improve on the mental side. When you play in a tournament and there is a lot of trouble down both sides I couldn't really stand up and confidently say I am going to hit there. It was more like don't hit it right and I hit it a mile left. That kind of stuff.

A Were there any other things that you did on that particular day when you coped really well?

D I think I remember thinking about the shot a lot more. If I was not too sure I took more time and I can remember stepping away from the ball. I remember a putt on one of the holes and I went through my pre shot routine. I pulled away again because I was not comfortable. I begin to think that is the wrong line so I stood away. It was more just reassuring myself, just stepping away and double checking with the caddie. It was mostly just that day anyway.

A Prior to the competition, what were your aims?

D Well the senior cup result can go for you. Especially for Ireland team. So my target was to shoot the best score only my team but also for myself so it would build the confidence for going away and show the selectors that I can shoot a good score. That was the main objective

A You mentioned that you got very stressed out during this competition and you weren't sure why. Was this partly due to it then?

D I think so yeah I felt a lot of pressure on me like I play a lot with the guys on my team and I felt a lot of pressure. There was a lot of talk that there was 4 good players and the fifth was weak. We knew that at least three of us had to shoot a really low score to qualify. It was self pressure from ourselves we had to shoot good scores to qualify. It was that kind of feeling. On the first tee I was thinking if I play bad we are not going to qualify. Feeling the weight on you shoulders.

A Did anyone help or hinder your coping?

D Yeah, my caddie, he is actually my father who played for Ireland himself years ago, he has been there and knows my problem. He is always telling me and before that round he put his arm around me and said go and son just go out and believe in yourself. He was the one that told me about the breathing and he said if you are not sure step off it. His target for me was that he wants me 100% sure of what I am going to do over the ball and if I am 100% sure nine times out ten I will pull off the shots that I want to. He just said on the first tee just focus and if you are not sure I am here for help which really did help me.

A Now, think of a time when you were under a large amount of pressure and you did not handle very well. Describe everything about it

D This was this week when I did not handle it again. You have different types of golf courses links and parkland. This was links and I play parkland so this was a worry as well as links courses are a lot tougher. The pressure was the 6 man boys team being picked and there was 5 places guaranteed and there was me and two others going for the final place. So there were pressures to shoot good scores there to get on the team. That was the main pressure and also for myself to go and shoot a good score. The most pressure was that team being picked.

A During this round what were you doing to cope?

D I was you teeing off and I was not confident playing or striking the ball where I wanted to and I was more or less to be honest with you not worrying about the mental side worrying about the technical side getting too much caught up there. In the end I was hitting bad shots and then getting bad tempered. I was a wee bit nervous on the first tee and I tried the breathing again and tried to close my eyes and picture the shot again. As the round went on that left and then the head came more about technical stuff and shying away from the mental side

A So you kind of forgot about it

D Yeah I Kind of forgot about the pressures and was worrying about the 6 man team and how I was hitting it and how I could fix the mental side.

A Why do you think that you didn't cope?

D The main thing was the lack of confidence and belief in myself. It was definitely not there and it was the belief that I couldn't play the course and I was not confident that I could beat those two guys going for the team. My mind drifted away from the tournament and more a less playing for the team was a bad thing. I was trying to tell myself around the course look it is only a team and there is going to be more teams picked so what is the worry about it? Reassuring myself that. I did not tell myself that too many times because I kept forgetting about it and that team was everything.

A What were your goals for the day?

D There were two. There was the 36 holes on the first day. The goal for the first day due to the tough conditions was that I knew if I broke 80 I would be dead on. My main objective was to try and strike it well, score well and not make any mental errors like hitting the wrong club or having negative thoughts over the ball. If I had any negative thoughts I would step off try and reassure

myself, which was the target for the first day. The second day was to try and break 80 and be confident.

A How important was the competition to you then?

D It was very important to make that team cause all of the tournaments we play in are U21 so I have many years left in that one for me it was to play well and get on the 6 man team.

A Did anyone help or hinder your coping?

D Not on that round, it was individual as I did not have a caddie.

A OK. I would now like you to talk about other things that have caused you worry or negative thoughts during all of your time playing competitive golf. Stress refers to the things that cause you worry or negative thoughts. Stressors are the individual factors that cause worry or concern resulting in negative emotions. Think of some stressors.

D One thing that causes stress, is what other people think and it distracts me from playing, what people think and their opinion is of me and that counts from members in golf clubs to players in competitions. Give me an example

D Playing in the Fred Daly match and our club captain was watching and for some bizarre reason I never play well in front of him and I felt I had to because I was getting picked in the Ireland panels and he had not seen me play golf before and I thought he had high expectations of me cause I thought he would be thinking this kid should be good and every time I saw him I felt under pressure because I was hitting bad shots and thought he was getting an opinion of me being a bad player. It is just something, even when I see him now I still have that kind of worry in my head. I can see him going 'Oh God' I never play well in front of him. That can distract my game and make me more nervous under pressure.

A What other things

D Would be playing hole and there is trouble on both sides such as out of bounds down one side and long rough on the other. That will cause me a lot of worry especially one incident was the senior cup 2-3years ago. We played at Marvin Donegal which is a really tough course and there was all out of bounds of right. I can remember the night before is that was all I could think about it was just like one hole and having to get past the second hole. I was having a game plan and the first was grand, no problem it was the second. Out of bounds right and you don't want to hit one out of bounds. I remember walking up to the tee and I hit it left actually. I hit it so far left to be sure. There was no confident shot there and it caused me a lot of worry. It also caused worry for the rest of the round, there was no real game plan it was just to get past the second hole.

A What other things?

D the type of course will worry me as well. I remember for some reason I always want to know what type of course it is. Is it a easy or is it hard. If people say it is hard it makes me worried. When people say that you have to hit a lot of long irons which means it is a very long course, that will kind of worry me as well. All of the boys are hitting the ball quite long and you have to be quite accurate as well and them things worry me.

A What else

D Greens especially and the type of greens you are putting on. I am sure in England you putt on different surfaces compared to your own club. When I leave I think I am a disadvantage coming away from my greens as they are so slow and you are going to other greens especially in the senior cup the greens were so, so quick and it was worrying as I thought 'am I going to putt well, or am I going to putt poorly, which if I do my round will be bad?' that kind of thing you know. How you putt determines what score you are going to have.

At the end of the day the saying goes you swing for show and putt for money so if you are not putting well you are not going to play well.

A Although you are worried about the greens, it is more how you will put and how many you will take.

D Yes, on your own course you will expect the worse of about 30 putts, and if you are going away and you have 36 that is six shots worse and that is going to be a bad score. That is the worry you have there. I can't think of anymore things that cause me worry. The biggest worries that I have are people watching and having trouble both sides of the fairway.

A You mentioned people watching, who?

D Probably in club tournaments it could be spectators, mates. A lot of guys at my club know what I am capable of playing so I am not nervous playing with those guys or having them watching me it is maybe the guys who haven't seen me before and they say what they have heard about me. When I am playing golf I don't mind it is just the odd person of who is watching, as I mentioned before with the club captain. I have seen him a few times and my mind always sees him first and I feel under pressure. My mind has drifted from hitting the fairway to the club captain is watching and hitting a good shot. Another one is playing down in tournaments and maybe you are picked on the team. I got picked for the Wales match which I was telling you about and I remember going out of the trailer with Ireland gear in my bag, and I could see a few guys watching me and I was going 'god they know I have got picked for Ireland and what are they thinking if I hit a bad shot here?' They might think I am not a good player so I am thinking about how they view me. Instead of forgetting about it because it not even relevant.

A Coping refers to conscious efforts to lessen the impact of a stressor and can involve many different things. We will go through each stressor and I will ask

you in turn what you did to cope or manage the stressor. The first thing was the worry of others, what did you do to cope?

D Well I remember the day it happened there was the club captain and it was after I came off the par 3 and he said "how are you going?" and I said "I am 3 up" and then he said "good man" He then asked how I was playing and then I said "well". I suddenly thought that 'I don't play well in front of Shamus the captain. I have told him I am playing well and I am know facing a hard shot with water left and out of bounds right and have put more pressure on myself'. My mind was going away from the guy I was playing against, he was not that good and even if I played poor I could beat him. I pegged the ball up and my mind was going 'Shamus is watching, Shamus is watching'. I stood off the ball and just tried to picture the shot, see the tree and hit it straight at it 'be confident' and I stood over it and the last minute before I hit the ball 'Shamus' is watching and I hooked it straight into the water. I remember walking up and once again I was gutted as I was thinking 'Shamus has seen me hitting another bad shot'. I never really found a way to deal with that, with people watching.

A What did you try to do?

D I stepped away, and tried to think of positive thoughts and that I was going to hit a good shot with a good swing. We were always told by the Irish panels that if you talk positive to yourself 9 times out of 10 you will be positive. I was over the ball and I felt dead on and I was going to hit it the thoughts came back 'Shamus is watching'. I was trying to block it out but it did not work. That happened 2-3 years ago and I have learned to deal with it. Another time with Shamus watching and I said to myself 'I am playing well and this is the time to show him that I can do it'. There were no worries about him watching me, I just turned it round into a positive attitude and said to myself that 'I am going to hit a good shot'. I had a few practice swings and hit it to within 4 feet

and won the match. There was no worry there even though there were lots of people and worry. I turned it round, it wasn't like revenge it, well maybe it was I was going to show him that I can do this. That was the instance that reversed it, it was a positive attitude. The result was that I beat the hole but when I was worried about Shamus I lost the hole and that is the only way I can deal with it or have learned to deal with it.

A Trouble on both sides what did you do to cope?

D Once again, it was on the 1st tee. That day the wind was blowing and it was on a elevated tee which makes it very high and hard to control the shot. There is bad trouble right and left is high sand dunes like hay. So I remember taking a few practice things. What I have learned to do over the last few years is to pick out a flag or a cut of the grass and say to yourself 'I am going to hit it there'. I remember on the 1st tee saying that to myself. A few years ago I would have said don't go right but I have learned from the Irish panel not to do that. The word no don't go right means what you will do is hit it right. I tell myself what I will do. That kind of attitude. I put a real confident swing on it and it went real straight, and if it doesn't come off a least I have been confident as too many times I have stood up don't hit it left and made a poke shot. Know I stand up and think I am going to try and make a good swing and it might not come off but at least I am trying. It seems to improve each year the more experience I get. Another instance was on another hole this year, a par 4 which you can drive. You need to carry about 260 yards, I remember in the practice swing I hit an iron to lay up and hit a scared shot so thought that in the 1st round I was going to go for it and am going to put it on the green and aim at the path with a good confident swing and I made 4 confident swings on the 4 days of golf.

A Another source of stress that you mentioned was playing on a links course.

What did you do to cope?

D If I wake up on the morning and the weather is bad and windy you think 'god, I am not used to playing in the wind' and if you hit one off line you know you are going to be in trouble. If it is a links course I tell myself that 'I am not a wild hitter' and try and cope that way and also try and be positive, trusting my ability. I tell myself 'make a confident swing, if it comes of good, if not, at least you have made a confident swing'. So that helps, but with the wind I would try and reverse it by saying that it is the same for everyone here and that I am not the only person with the worry. I would also say that I don't need to hit the driver all of the time and that I can hit an iron to keep it low. If there is a left to right wind and I draw the ball. I can say what will I hit then think 'an iron so the wind won't touch it' that is how I deal with it. The best way to deal with it is say that it is the same for everyone and as long as I use my head and try and hit it straight, keeping a disaster off my card, that is how I would deal with that problem.

A Another source of stress is the rain

D Yes. If you wake up in the morning and it is raining you think 'oh god, the grips are going to get wet'. I won't be able to grip the club as the grips will all be wet.

A Another thing was different greens and taking more putts, what did you do to cope?

D You know yourself, I play at a parkland course and the greens are quicker on links courses, because they are sand based. This week I played and the greens were lightning quick and the worry was always in my head 'these greens are going to be quick, what am I going to do? How many putts am I going to have?' The way I dealt with that kind of stress before I went I would go up to

a place where I live where the greens are American style greens and they are very quick and the greens, if you putt on them and you go anywhere else in Ireland they won't be as quick as them. So it was the worry of quick they would be and I would take myself up to the Hilton near where I live and putt up there and practice on good surface. That is where you kind of get used to the speed. There have been a couple of times where I have not had the chance to go up there and I went to the course going 'god they have been cut what I am going to do?' I remember one time the first hole in a championship and you could tell the greens had been shaved and they were a lot quicker and the worry was how quick will they be and how many putts am I going to take. It was the first hole of the championship and you don't want to be taking six or seven on the first hole. It was a pretty big par putt and I put the ball down and remember walking to the hole, walked half way, swung the putter to feel the distance and how to test the speed is to look at how the grass is growing which I have never done this before. If the grass is growing to the hole the putt is going to be quicker and if it is against it is slower and I tried to think of that. It seemed to work O.K. as the grass was growing away so I thought don't hit this too hard and tried to stroke it nicely. If I could not practice near home before I would take a wee bit longer over the putts and worry about what way the grass is growing. Also the wind again which can be a factor again in putting this week. If you had a downhill putt which is down wind it was very tough. Once again I took my time.

A Another source of stress was playing in front of crowds and people watching, what did you do to cope?

D Well there was a time when I had a shot into the green at my club and there were lots of people around the green. I had a club out and counted the yards which was 140 to the pin with a left to right wind. I was over the ball griping it

and my mind went away from the shot onto the people watching. I then pulled away from it again and started to think this was the wrong club so I got another club out and took a practice and tried not think of who was watching and tried to reassure myself that 'stand back, you have got the right club now' and I just tried to aim at the flag and I am going to put a confident swing on it. My mind actually blanked out the people around the green. It was step off, forget about it, concentrate on the shot. That is what I had done and I actually hit the ball in close. It helped clear my mind and turning them into positive thoughts again.

A You mentioned putting, taking more time, how effective were these things?

D The one that I found most effective was taking more time over your putts because I know if you rush a shot you are not going to play it very good but if you play a shot with more time. It is the same with anything, say you are doing an exam and you work at it longer you are going to know more about it the information. The way I see it is that reading the greens is like reading books the more you read it the more chance you will understand it. That is the way I would do it. If I take more time and see how the putt will break I will putt a lot better. That is my opinion now and spend more times over the greens so I am 100% sure where I am going to hit the putt. But also I am not saying that going up to the Hilton is a bad idea you know once again it is the same as practising at the same course I would hit a few putts and pretend that I am at the championships and that I have a 10 footer for par and try and go through the same routine that I would. Once again I would just be rehearsing my putts.

A Re cap of list of stressors, any others

D The opposition, maybe what they have done. If they have won, I can't believe I forgot this one it was of the major ones. Maybe you are playing somebody who has won a certain tournament and he is an Irish senior international or

somebody who was a pro or had turned back to amateur, something like that there. Letting their reputation worry you which would be one of the major things.

A What did you do to cope?

D I remember that match which I was telling you and Shamus was watching. This guy was off +1 and this guy was in the Irish senior panel and had great experience. I remember stepping up to the first tee and the team captain said you are playing Andrew Morse and I was like 'who is Andrew Morse?' and he goes 'you got the short straw, this guy is an Irish international' and I went "oh shit". Why did he tell me that? It was kind of a straight worry of you know I cant beat this guy. He is too good and is not going to make any mistakes and then I remember when I hit off I remember on the first I did not look at him I tried to ignore him. I tried not to look at him swinging and I remember just trying to think of where my ball is going and my caddie goes "Don't expect this guy to hit bad shots" and I am thinking 'why are you telling me this?' I want to be reassured that I can beat him. I played round and we were all square and there were positive thoughts in my head that 'I can beat this guy, I am of scratch and he is off +1. There is one shot difference and no reason why I can't beat him'. He is a good player then I would tell myself that I am a good player. The other way of looking at it is I am playing G----- M----- who is in the Walker Cup team he is a very good amateur golfer, and is one of the top 10 amateur golfers over there and I am playing against him. Now the attitude is that I want to play him. I want to play the best player they have because my attitude is that he is expected to beat me and I am not expected to beat him so therefore there is no pressure on me and the pressure is on him. It is reversing the tables saying to myself that there is no pressure on me and this guy is expected to beat me. I would also say he has won this and that but today is a

different day. The attitude before was that I want the worst player but now I want the best player. Know matter what you are going to get credit from playing this guy even if you loose 5 and 6. I know tell myself that I am good enough, I have proved myself, I have played for Ireland and keep saying this guy is expected me to win and this kind of relieves tension there.

- A Any others
- D No that is it.
- A O.K. Fine

APPENDIX C

DIARY SHEET EXAMPLE

SECTION A- Please tick if the descriptions below were a source stress, worry or concern whilst playing. In boxes J and K you can add additional sources of worry or concern	SECTION B- What did you do or try to do manage/cope with each concern that you had. Write down in the columns below all of the things that you did to deal with each stressor	SECTION C- Rate the effectiveness of your coping by circling the number 1 2 3 4 5 not effective Very effective
A--Making a physical error. (e.g. swing fault) <input checked="" type="checkbox"/>	Tried to think about one swing thought	1 2 <input checked="" type="checkbox"/> 3 4 5
B--Making a mental error (e.g. wrong club selection) <input type="checkbox"/>		1 2 3 4 5
C--Being criticised your coach/parents <input type="checkbox"/>		1 2 3 4 5
D--Observing an opponent cheat <input type="checkbox"/>		1 2 3 4 5
E--Receiving a wrong call from official <input type="checkbox"/>		1 2 3 4 5
F--Observing an opponent play well <input checked="" type="checkbox"/>	Concentrated on my own game and shut out thoughts of my opponent	1 2 3 4 <input checked="" type="checkbox"/> 5
G--Playing badly due to weather/course conditions <input checked="" type="checkbox"/>	Took more care over my stance and used a wider stance because of the wind	1 2 3 <input checked="" type="checkbox"/> 4 5
H--Being distracted by the crowd/someone watching <input type="checkbox"/>		1 2 3 4 5
I--Sustaining pain or injury <input type="checkbox"/>		1 2 3 4 5
J--Leading to competition	Concentrated on my own performance and told myself I could do it	1 2 3 <input checked="" type="checkbox"/> 4 5
K--		1 2 3 4 5

APPENDIX D

THINK ALOUD TRANSCRIPT EXAMPLE

HOLE 1

The wind is strong into my face, tee up low, playing a bit of a draw now, just trying to hold it up. Just off the left trap. Two practice swings, shot. A good drive, I have about 200 yards left, that should be a four or a five iron. Just try and knock it on the green, two put and make birdie. Try and put some cut on it, it should be alright. Quite windy, so the hole should be playing its full length, I have got to put a good swing on it and not lash it. Hopefully I have got a good lie. Its not too bad. Just have a look a lie, I think it is going to be a high cut and bend it around the tree. It's a good enough lie and its about 200 yards from there, 210. Slightly in, but it is a flier lie. That's a 6 iron. Hit it around the tree, come on put a good swing on it. Nice slow swing. Straight through the gap, nail it. Stay left. Great shot, exactly what I wanted it to do. Come on hold the green, come on, great shot. Come on shoot one under today, come on shoot one under today. Hole the putt, shoot one under. That is a great shot into the wind, I just had to put more cut onto it slowly, widen my stance. I need to keep cutting like that and keep the ball at the top of my stance. It's a an easier hole this and I need to hole the putt for eagle and then birdie the next, for 3 under and then a couple of pars on the other holes. That's a cracking shot that, good. Lets roll this in, knock it in. Yeah good shot Adrian. Come on. Wind is going a bit, that might help a little, it is going to break half a hole from that side, hit it pretty firm as it is going to be bobbly. Half a hole that side, come on hole this then you can get birdie on the next. 3 under come on, good putt, good stroke. Firm, roll it in, roll it in, nearly, nearly, good effort still got a birdie putt. Knock it it, knock it in. Have some bottle roll it in. Good four.

HOLE 2

Birdie the next, you can birdie the next, all of the times I have done it before. It could have been a three but it is alright. Good four down their today, one under that is good. It is a good drive down here now. It is just into wind, yeah it is just into wind. Its good. Drive down here today, I wont reach the ditch I think. Come on. Come on Adrian, lets shoot one under, no, lets shoot three under. Come on three under. Straight over the bunker, straight over the middle of the bunker. Get a birdie. Nice swing, come nail the ball. Lets just nail it. Lost it, where is it, I can't see where that went. I should find it, it will be alright, I think it went straight. It will be alright, they are easy to find down here. Is there any football on tonight? West Ham played last night, I wonder who won. I think it was one all, after the first leg it was one nil to Ipswich. Where has this ball gone now, I thought I nailed it, I struck it well. Come on, I need a good lie. One good lie that is all I want. Oh, its not too bad. Please give me a good lie. I just want to be to the right of the trees. It should be alright, I will just have to hit a draw here. Into wind, into wind, it is 150 from there so it is 170, 175, if that's my ball there. It's a good lie., but a bit sat down. 7 iron, no 6, no 7. I want to nail it, three under come on, three under. Come on, straight over the tee, straight at the back of the ball. It's a good shot, go on, go on. Sit sit, sit down, its too big, did not catch it right. Hold it up more, finish off your swing, come on. Up and down it easy, for birdie. I need to hit two under now. Up and down, come on. You can do this, just chip it in, it is into wind, hit a bit harder. Come on, forget about the last shot. Come on, I hope I have got a good lie, I hope it is not sat too bad. Show some fucking bottle, I want to be looking at shooting under par here. Level par is crap. Why has it gone left? Or it is alright, not too bad. Lob wedge or pitch it. Yeah pitch it onto the green, pitch it here probably, low one. Hard green, pitch up there, just on the fringe and let it run out. Good chip come on, swing high. Come on, I want two birdies. Or, it did not run, still

got a birdie putt. Greens aren't looking too good, it's a joke. How crap are these greens, come on knock it in, knock it in. Never mind never, mind. Bobby greens as well. Hole it, just role it in, just like you were the other day, you are capable of rolling this in just, there. Good putt, good effort. Nearly. Just of the right lip. What am I fucking doing, I should be two under par but I am not I am going to be level. I tried to birdie it, but never mind I can still birdie the next. Yeah good putt that.

HOLE 3

Four putts though isn't it and I wanted to hit less than ten. You are not going to do. No, I can birdie this, is not that easy but I can still do it. Pin top right, aim to the hollow, just into that hollow. The course is looking better and the wind is going where? The wind should take in. It is OK even though, I did not birdie that last, I just have to birdie this. Come on. Fucking hell, come on. How far have we got, 170, 177, slightly down wind, it might fly a bit. Is it a little seven or a big eight? 177, yeah big eight, come on trust yourself to hit a good shot. Good shot, let the wind take it right. Fucking hell, get up, fly ball, seven iron man, that's a seven iron there, oh shit, fuck, fucking hell, one, two three, four, five, six, seven, eight, 178, you can hit seven iron, That's a seven iron all of the way that. Chip and putt, that, you can still chip and putt that. Come on. Its alright. Come on, never mind, its up hill, its alright. Take three sand walk off. Getting quite hot, is anyone coming up 15? Are we are alright, we can play the sixteenth after this. I have an exam on Monday, sports studies, I will have to do some revision, Can't believe how close they are now. I hit that about 150, about 150. Its alright, just think about this, how you are going to play. I want to pitch it onto the green there, come on. Sand wedge, it should run up, come on, at least give yourself a chance, give yourself a chance of dropping one, give yourself a chance for par, go on. Not too far up, as it is going to run quite a bit. I just want to pitch it on the green as it is going to run on a bit. Just on the green there, a yard on, come on. Come on Adrian,

chip this. Or that is just how you played it, good that. A bit over, but it is alright, roll it in for a three, just roll it in for a three. Good, you have this for a par, come on, roll it in man, still three for par and you want to take less than ten putts. Go on. Is that lined up? Yeah its good, just roll it in, just off the right, that's good and birdie the next few, I should birdie the next. Roll this fucker in. Yeah good putt, Adrian.

HOLE 4

Good putt that, good putt that. You see, after a crap tee shot you can still make par. I need to get birdie now. Just get birdies here, come on. Four, two about three iron straight over that. Come on, I want a couple of birdies, what happened to three under? Come on, just a good tee shot, a straight one, you know you can hit it, go on. A bit of a draw. Nail it. Draw, draw man, that's alright, short of the ditch. Not the easiest of shots but it should be alright. I am getting a bit thirsty. Lets try and impress this Adam, come on. I can't believe I have finished school today. I was laughing but some of the girls were crying. Not the easiest of shots, but as long as I walk off with no worse than par and then birdie the next. Its alright, its good, what's that over there? I need to play better than this when I am playing in the Yorkshire boys, I need to get my swing more compact like my dad says. What have you done here, it should not have been a four iron off the teen. Down wind, it is just about a wedge. It might cut a bit so aim it up the right. Straight over, come on, lets have a good shot. Nail it. Not good, or what crap, that is just shit, what did I do there? What a load of shit. Never mind, I will just have to chip and put it again it is alright. Come on, I need to make a par, at least so I can stay at level par, what have I been bloody doing. Come on, positive chip, and make a good stroke. The wind is slightly behind so it is going to help the chip. Make sure I put it closer than I did the next time, come on I need to making an up and down here. If I pitch it there it should roll on towards the hole with that slope there. Come on Adrian, you can do this come on, I want to be at least one,

under, make this and I can birdie the next two to be two under come on. What have you done? That was fucking awful, you stupid wanker, I am never going to do it now. Come on be positive, I have holed some good putts in last few months, come on I want to take no more than ten putts. This green looks a bit better, it is a straight putt, and I am going to hole this for my par, come on I want a solid positive stroke, I need to be holing these putts. Come on Adrian, come you can do this come. Putt, get in, go on, yes.

HOLE 5

Right Adrian you are level par, come on putt the next tee shot close and make a birdie. Come on you want to score at least two under which I should be but instead I am level par. Right its 150, 155 yards to the pin, wind slightly behind again, with the pin tucked on the right, you want a high draw, pitch it on the mound and let it feed in. Come on, come on, put a good swing on this ball, come on be compact and hit the back of the ball. Nail it. Draw, draw, come on fucking draw, come on, shit you fucking wanker, I am in the bastard bunker, what have I just done, why did I do that? I can't play like this when I play for Yorkshire, as I will get dropped and they are never going to pick me for England, what an idiot. Come on, I can do this, I can still make an up and down from the bunker for my par and birdie the next hole to shoot a one under. Fucking hell, my ball is plugged, look at that, I am never going to hit a good shot, how unlucky is that? Come on, remember what you did in your lesson on bunker play, come on open you stance more and really hit through the ball, at least give yourself a chance. Right, you have knocked it to within 10 feet, you should be holing these putts, come on Adrian if you want to do well these are the putts you have to hole. It is going to break slightly from the right but if I hit it firm I am going to be ok. Come on solid stroke so I can then birdie the next and play round in one under. Go on, get in, oh shit, I should be holing these putts. Come hole this and you can birdie

the next to be level par. I can take the break out of this putt and hit it dead straight.

Come on solid stroke. Get in.

HOLE 6

I need to a solid drive down the left so I have a good chance of going close with my next one on. Come on, the wind is going slightly across so I will have to use it and hit a fade letting it drift back. I am looking like an idiot here with some of the shots I have played to night, I need to get a bit of pride back at least. Come on Adrian, birdie, birdie for one under for the six holes, restore a bit of pride, come on. Hit a high fade let it drift into the middle of the fairway on the wind, come. Put a positive swing on it, just like that one and again a good positive swing on it. I am not even lined up properly. Right, come on nail it. Hold up, hold up, shite, I am going straight towards the trees I am not going to be able get on the green in two I am going to have chip out. Fucking hell, what a shite shot that was, I am not going to be able to make birdie now, no way. I wonder what questions are going to come up next week, I had better do some more revision on muscle joints and coaching as the teacher thinks these might come up this year and I am not really the best at these things. I should be able to find time tomorrow, and Friday, but I am playing golf in the Yorkshires on Saturday. Shit, if I play like that then I am going to do shite. I had better do some practice, but what about my exams? The ball went on this line, where is it? Fucking hell, don't say I am going to lose the ball, that will cap what has been a shite night. Come on man find it. There is no shot through I am going to have to chip out, there goes my chance of even shooting level par, what an arsehole. Come on, chip out, pitch on, hole the putt and that is a par and still only one over. That is fairly respectable with this high wind. Come on make sure you hit the back of the ball, you don't want to be leaving it in

here Adrian. Aim for that tree with a punchy shot and that will be in the middle of the fairway. Keep your head down. Well out, come on a solid pitch and I can still make my par. What have I got in, that was 150 there, it is probably going to be about, err, 140 or something like that. Easy pitching wedge, knock it stone dead, go on knock it stone dead. You know you are good enough to do this come on. Put a compact swing on it and at least give yourself a chance of making a par. Go ball, go, go, roll out, shot. Right I am going to make a par here, take one putt and I will have hit 9 putts. I wonder who that is watching from the clubhouse. Come on Adrian, concentrate on what you have to do, you can do this. Think about the some of the putts you have holed before when it mattered and put a really good stroke on. It looks like it is going to break from the right, but I should easily make this putt, come on. Have a look from the other side, make sure, hit a positive stroke. Come on, one over par. Shit, I missed it, come it is not over yet, hole the next putt. Two over par is shite, I need to do some bloody practice.