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### Title and Abstract

Title to include: A concise indication of the research question/problem.  
Abstract to include: A concise summary of the empirical study undertaken.

### Introduction and literature review

To include: outline of context (theoretical/conceptual/applied) for the question; analysis of findings of previous related research including gaps in the literature and relevant contributions; logical flow to, and clear presentation of the research problem/question; an indication of any research expectations, (i.e., hypotheses if applicable).

### Methods and Research Design

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### Results and Analysis

To include: description and justification of data treatment/data analysis procedures; appropriate presentation of analysed data within text and in tables or figures; description of critical findings.

### Discussion and Conclusions

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CARDIFF SCHOOL OF SPORT

DEGREE OF BACHELOR OF SCIENCE (HONOURS)

SPORTS COACHING

AN EXAMINATION OF THE ROLE OF THE COACH IN DEVELOPING MENTAL TOUGHNESS IN ROWERS?

(Dissertation submitted under the discipline of ______

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AN EXAMINATION OF THE ROLE OF THE COACH IN DEVELOPING MENTAL TOUGHNESS IN ROWERS?
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ACKNOWLEDGEMENTS

I Joseph Tomlinson (the researcher) would like to thank the following for assisting and helping in the completion of my dissertation. Firstly Brendan Cropley as my dissertation supervisor, for supporting and guiding me, it has been instrumental and greatly appreciated. Secondly Bramble Cobbins for transcribing my interviews and lastly the participants for giving up their time.
Abstract

Altogether four elite rowing coaches were interviewed to discover whether mental toughness can be coached within rowing. The interview guide was based on prior research into coaches perspectives of mental toughness specifically Weinberg et al., (2011). Findings revealed mental toughness to be developed through tough or harsh environments, where athlete’s uncounted harsh experiences. Harsh experiences were seen to be competition or critical incidents, coaches also outlined how a training programme can be seen to develop mental toughness. Other underlying themes that were produced from the study were specific characteristics of mental toughness associated with rowing, also the importance of the coach athlete relationship in the development of mental toughness. Finally the study also outlines a possible negative side to mental toughness. Practical implications highlighted the need for further research to conduct sport specific research into the development of mental toughness, and within this development to consider the situation requiring mental toughness and personality of the performer.
INTRODUCTION
1.0 Introduction

Picture this, for any sporting fanatic, over recent years there have been a number of dates in the calendar that would have been pencilled in and dedicated to sport. These could include the 2010 Football World cup final, 2011 Rugby World cup final, and more recently the 2012 Olympics in London, and within The Olympics the 4th August (Men’s Rowing four’s final).

For anyone watching each final, the first few seconds after the final whistle or finishing line would notice one significant difference between the athletes. Both New Zealand and Spain were ecstatic as they had just won their respective World Cup finals, picture back to images pure ecstasy. Contrary to this, the four rowers who won gold at the finish line couldn’t even turn and congratulate each other, complete exhaustion. They had the capability to push themselves to complete exhaustion for success; to be able to do this must require psychological characteristics of mental toughness.

To be successful in sport, coaches need to understand how to provide the correct sporting environment to promote performance. Coaches and athletes alike understand the importance of the mental side to sports coaching. Scholars from society’s such as International Society of Sport Psychology (ISSP) and the Association of for the advancement of Applied Sport Psychology (AAASP) till this day are still researching for the optimal environment or behaviour in which an athlete or sports team can be at their optimal levels of performance. (Murphy, Shane, & Dawsonera, (2004).

As well as once finding the right environment, researchers are exploring how coaches peruse training practices to create this ‘right’ environment in different sports teams, furthermore the possibility of coaching to create a certain characteristic within a performer that produces this optimal level of performance. As Weinberg, Butt, and
Culp (2011) have suggested, “The interest in reaching one’s potential in sport from a mental perspective has more recently spurred research” (p. 156).

Mental toughness is part of the mental perspective of reaching one’s potential; this research project seeks to establish whether coaches believe that mental toughness can be coached in rowing. Furthermore, this study will investigate how coaches create opportunities for the development of mental toughness, or those characteristics associated with mental toughness.

“Regardless of the level of training and competition over a few years, most athletes and crews are making a similar physical investment.” The question that then arises from this statement is what determines which crew will get to the finish line first. As Secher and Volianitis (2007) suggested one important factor could be ‘mental toughness’. This characteristic was seen key to Eric Lamontagne of Plant High Rowing Association stated in an internet article that “Rowing is 80% mental” “If you think you can do it, in rowing you can”.

Rowing is both anaerobic and an aerobic event, The Olympic final was a 2000m race Saporito (2012) describes it as the opening 250m is a flat-out sprint (anaerobic), the middle 1500m is aerobic, as the athletes nears the finish line, the acid levels will peak at about 20 millimoles per 100 ml of blood. Saporito (2012) states this is when the painfest begins “When you get to 20, you are in never-never land,” “You wish you were dead, and you are afraid you won’t be.”

Goldberg (2012) asked the question ‘What does it take for you to reach your potential as an athlete and as rower?’ His answer to this question supports the concept that elements of success in rowing can be down the mental capability to endure pain. “The true challenge in rowing and other endurance sports is the competition between you and the race course, you and the clock, but primarily between you and your mind. Success in rowing is all about your mental ability to handle the pain and fatigue of oxygen debt, about your ability to master the limits that you think you have”. This study will attempt to the answer whether this mental capability to endure pain (mental toughness) can be coached.
Furthermore previous research into mental toughness suggests it can be developed, Crust and Clough (2011) indicate that mental toughness is seen as an essential psychological characteristic to be successful within sport, they also indicate that it can be developed. If mental toughness can be developed then the purposes of this study is to conduct research into whether mental toughness can be coached in rowing, therefore a sample of elite rowing coaches were asked to participate.
LITERATURE REVIEW
2.0 Literature Review

2.1 Definitions of mental toughness

Within the mental toughness literature there is a general lack of conceptual clarity and consensus as to its definition. There have also been several articles published on the development of mental toughness in performers (e.g., Weinberg, Butt, Culp, 2011; Gordon, 2005; Crust & Clough, 2011; Connaughton, Wadey, & Hanton, Jones, 2008). However, there is no clear consensus definition and many articles have broadly drawn different conclusions. In fact, the in-depth research has created more confusion than a common understanding (Weinberg, Butt, & Culp, 2011). As Hanton and Connaughton (2012) explained, “It is probably one of the most used but least understood terms in sport psychology” (pp. 243-244).

Jones, Hanton and Connaughton’s (2002) previous explanation of mental toughness can relate to this by previous work by Gould, Hodge, Peterson, Petlichkoff (1987) although dated which stated the uncertainty within mental toughness in the sport of wrestling, they stated that 82% of coaches rated mental toughness as the most important psychological attribute in determining wrestling success. However, only 9% of coaches felt that they were successful in developing or changing mental toughness in the performers with which they had worked with.

However Jones, Hanton and Connaughton (2002) provided a review of previous definitions of mental toughness from early insights, such as: “The ability of an athlete to withstand strong criticism and to avoid becoming upset when loosing or performing badly” (Tutko and Richards, 1971); “Mental toughness is a learned skill, and concerns freedom from stress ad pressure in high-level championship matches” (Jones, 1982); “You may have the determination to stay at something to keep trying to never give up but mental toughness means you also have the self-control and focus to limit your efforts to only the ones that are effective” (Tuney 1987); “An ability to overcome or rebound from failures (Gould, Hodge, Peterson, & Petlichkoff, 1987); “Mental toughness is really another name for desire. It is the outward manifestation of an inner commitment and a refusal to quit or dream no matter what” (Goldberg1998); “An ability to cope with or handle pressure, stress, and adversity”
Goldberg (1998); and “Mental toughness is the ability to sustain high levels of motivation activity ad confidence in the face of anything life throws at you” (Teitelbaum 1998). Although dated, these definitions do give a brief understanding of what mental toughness is. However these definitions lack any great depth and as Jones et al. (2002) suggested ‘any scientific rigor’ (p. 206) and due to this lack of scientific rigor it resulted in many psychological characteristics being incorrectly labelled as mental toughness.

Mallet (2011) defined mental toughness as something that is:

Associated with the pursuit of goals in achievement contexts, and in that quest, particular values, attitudes, emotions, cognitions, and behaviours seem to influence the way in which an individual approaches, responds to, and appraises both negatively and positively construed pressures, challenges, and adversities (p. 182).

This definition doesn’t completely relate mental toughness to its characteristics described, it also doesn’t explain within the definition how mental toughness is developed. The definition describes mental toughness in a very broad way; the words used are vague and are used with no great depth into the specific attitudes, emotions, and behaviours that are related to a mentally tough athlete.

Middleton, Marsh, Martin, Richards and Perry (2005) defined mental toughness in a simpler form as ‘an unshakeable perseverance and conviction towards some goal despite pressure or adversity.’ (p.92) Middleton et al. (2005) as well as Mallet (2011) didn’t go into great depth within their definitions, however both described attributes that Jones, Hanton, Connaughton (2002) suggested that composed a mentally tough athlete. Understanding these definitions from a coach’s perspective would suggest that by creating a training environment that strives on pressure would support the performer in developing this attribute of mental toughness.

Jones, Hanton, and Connaughton (2002) initiated a research programme into mental toughness in elite performers. They concluded that mental toughness should be defined as, “Having a natural or developed psychological edge that enables mentally tough performers to cope better in general than their opponents with the demands
and related pressures that occur at the highest level in sport” (p. 83). Connaughton, Wadey, and Hanton (2008) stated that this definition has become accepted in a recent increase in research attempting to conceptualise mental toughness. Although others have suggested it emphasizes what mental toughness allows athletes to do, rather than what mental toughness actually is (Crust and Clough, 2011). As Jones et al., (2002) definition is the most accepted within literature of mental toughness this study will refer to this during this study.

2.2 Characteristics/attributes of mental toughness

Jones et al. (2002) identified 12 characteristics of mental toughness that related to the makeup of the concept. These are presented below in table one.

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<td>1</td>
<td>Having an unshakable self-belief in your ability to achieve your competition goals</td>
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<td>2</td>
<td>Having an unshakable self-belief that you possess unique qualities and abilities that make you better than your opponents</td>
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<tr>
<td>3</td>
<td>Having an insatiable desire and internalized motives to succeed</td>
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<td>5</td>
<td>Thriving on the pressure of competition</td>
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<td>6</td>
<td>Accepting that competition anxiety is inevitable and knowing that you can cope with it</td>
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<tr>
<td>7</td>
<td>Not being adversely affected by others’ good and bad performances</td>
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<tr>
<td>8</td>
<td>Remaining fully-focused in the face of personal life distractions</td>
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<tr>
<td>9</td>
<td>Switching a sport focus on and off as required</td>
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<tr>
<td>10</td>
<td>Remaining fully-focused on the task at hand in the face of competition-specific distractions</td>
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<tr>
<td>11</td>
<td>Pushing back the boundaries of physical and emotional pain, while still maintaining technique and effort under distress (in training and competition</td>
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<tr>
<td>12</td>
<td>Regaining psychological control following unexpected, uncontrollable events</td>
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Self-belief, according to Jones et al. (2002), has two parts, belief in one’s ability to perform under different scenarios and secondly believing that you the performer are different to, and therefore better than, your opposition. The attributes also consisted of a burning desire and motivation to succeed coming from deep within was perceived as an important attribute by Jones et al. (2007), ‘especially when bouncing back from performance setbacks and alongside finely tuned focusing skills’ (p. 83). Three of the attributes presented related to remaining fully focused with competition disregarding any competition-specific distractions, also two other attributes allowed the mentally tough performer to continue being focused and again disregarding distractions in their personal life’s, and still being able to switch their sport focus mentality on and off when required to do so. Other attributes related to the performer thriving on the external pressure of competition, and coping internally with anxiety. Concluding the last attribute presented by Jones et al. (2002) was the ability of the performer to maintain technique and effort while undergoing physical pain such as fatigue. This last attribute, when relating mental toughness to rowing, would seem to be the most essential. As Goldberg (1998) suggested that success in rowing is about your mental ability to handle pain, the pain of fatigue and oxygen debt. Jones et al. (2007) stated that these attributes when in frameworks are, ‘divided into precise areas so coaches, psychologists and performers can better understand what is required to achieve a state of mental toughness in each dimension’ (p. 262).

### 2.3 Characteristics/attributes of mental toughness in specific sports

Research that has focused on specific sports is seen within: cricket (e.g., Bull, Shambrook, James, & Brooks, 2005; Gucciardi & Gordon, 2009), soccer (e.g., Thelwell, Weston, & Greenlees, 2005), and Australian football (e.g., Gucciardi, Gordon, & Dimmock, 2008). These studies identified characteristics unique to their respective sports supporting the idea that mental toughness can be expressed in many different ways (Bull et al., 2005).

However since these attributes were presented by Jones et al. (2002), Bull, Shambrook, James, and Brooks (2005) suggested that they have recently been substantiated in a sample of elite English cricketers, as well as in professional football players (e.g., Thelwell, Weston, & Greenlees, 2005). Examining the characteristic make-up of
mental toughness in other sports could be beneficial in examining the value of Jones et al.’s (2002) research in different contexts. Indeed, Jones et al. (2007) stated that further research should look into the coaching perceptions to gain a clearer understanding of mental toughness in sport, and how these perceptions may change different sports, especially when looking at the exploration of coaching mental toughness.

Bull et al. (2005) focused their study specifically on cricket. The study underlined 20 global themes which help with the development of mental toughness. The study also concluded characteristics of a mentally tough cricketer. The 20 global themes were divided into 5 general dimensions, these were ‘developmental factors’, ‘personal responsibility’, ‘dedication commitment’, ‘belief’ and ‘coping with pressure’. The global themes were then organised by Bull et al. (2005) into a pyramid shape that then included four sub-category specific locations these were, ‘environmental influence’, ‘tough character’, ‘tough attitudes’, ‘tough thinking’. (Figure 1 shows Bull et al.’s developmental pyramid.)
Thelwell, Greenlees, Such, and Weston (2005) researched mental toughness within the specific sport of soccer. Participants were asked to give a definition of mental toughness, which was then compared to that of Jones et al. (2002), and according to Thelwell et al. (2005) there was a strong correlation between the definitions, the subtle difference was that Thelwell et. (2005) defined mental toughness as ‘always being able to cope with your opponent’ where as Jones et al., (2002) states ‘athletes generally being able to cope with opponents’. Thelwell et al. (2005) concluded to gain a greater understanding of mental toughness, greater research needs to be conducted into the development of mental toughness to gain conceptual clarity.

Such studies have resulted in the development of fundamental frameworks of mental toughness so that athletes and coaches alike could view and grasp an understanding of how mental toughness could be developed. Research has developed several global mental toughness characteristics; however such studies have been seen to be too broad, and missed important valuable information, such as participants were not specifically selected for being mentally tough, due to the fact
there was no measure of mental toughness. Nevertheless these studies provided and understanding of what mental toughness is but also what it is not.

Gucciardi, Gordon, and Dimmock (2008) investigated mental toughness in the team sport of Aussie rules-football. They uncovered 32 characteristics of mental toughness which were then categorised under 11 key subcomponents: self-belief, motivation, tough attitude, concentration and focus, resilience, handling pressure, personal values, emotional intelligence, sport intelligence, physical toughness, and work-ethic. The majority of the characteristics presented linked in with previous research (e.g., Jones et al., 2002), which showed some consistency within characteristics of mental toughness. However, Gucciardi et al. (2008) suggested that to gauge a greater understanding of developing mental toughness, researchers should look into what individual benefits each characteristic has towards successful performance.

2.4 Development of mental toughness

In follow-up to their earlier work, Jones, Hanton, and Connaughton (2007) discussed the development of mental toughness in the early, middle, later years of one’s life. Within the early years they state that certain life experiences can have a positive effect in the development of specific attributes of mental toughness. For example, participants suggested that critical incidents such as disruptions at school, loss of a peer and parental divorce were felt to have a crucial role in cultivating mental toughness. It also stated that within the early years that these certain situations outside of sport could have a profound effect on the athletes. They presented that when those athletes who overcome difficult situations, it assisted them in the development of mental toughness. It assisted them within sport because sport itself gave the athletes a way of escaping the difficult situations they personally faced, achievement was believed to be a way of improving their life experiences which then gave the athletes more motivation to succeed, also any negative experiences within sport could be related back to the personal difficult situations they faced and the attitude of ‘nothing was as bad as that’ was used to come difficult sporting situations. Gibson’s (1998) study relates to this as it outlined that harsh experiences toughen one’s spirit to endure. Relating back to Jones et al. (2007), these harsh experiences
could be difficult personal experiences, however coaches cannot ethically create
difficult personal experiences, but these harsh experiences could be created through
putting the athletes under pressure physically and mentally or in a tough competitive
environment. Through greater research, this project will try to determine if these
harsh experiences can be developed through coaching.

With relation to the middle years and the development of mental toughness, Jones et
al. (2007) stated that this period was seen to nurture attributes developed in the early
years and develop additional attributes. Their findings stated that social support and
reassurance from people that were highly respected by the performers helped them
cope with bad performances and develop a rational to thought processing within
sports performance, attributes such copying with pressure and uncontrollable events
were seen to be developed by these experiences. These highly respected people
could be the athlete’s coach, so therefore a coach would play a fundamental part in
developing mental toughness within the athlete within the middle years as Crust and
Clough (2011) suggested those who provide support include coaches parents and
senior athletes, these who provide supports do so by sharing experiences, ‘alleviate
concerns, and foster reappraisal of the meaning and relevance of experiences’
(p.28). Finally, in the later stages of developing mental toughness Jones et al. (2007)
explained that mental skills such as self-talk and reflection as well as other attributes
developed at earlier stages were believed to give athletes the ability to bounce back
after bad experiences. Techniques such as goal setting and imagery were seen to
enhance the attribute of an unshakable self-belief in one’s ability to achieve
competition goals.

Such research findings suggest that certain attributes of mental toughness can be
developed. However, early studies by Werner (1960), Werner and Gottheil (1966),
and Kroll (1967) explained that mental toughness is a personality trait and a state of
mind, which would suggest that it cannot be taught, especially within coaching.
Nevertheless, in support of Jones et al. (2007), Gordon (2005) stated some aspects
can be taught, which implies that some attributes of mental toughness could be
coached. However, when using Jones et al.’s (2007) work to justify this, we have to
consider that their study was based upon perceptions of elite performers and not
coaching perceptions, and therefore examining the perceptions of coaches in terms
of the role that they play in helping athletes to develop such characteristics would appear to be a valuable avenue for future research.

2.5 Rationale for Research Question and Aims of Project

As a result of this preceding discussion, the present study aims to place attention on coaching perceptions of mental toughness and its development to examine whether coaches think mental toughness can be coached. The importance that the coaches play in the psychological development of athletes has been debated over a number of years, but only recently been consolidated in coaching research literature. As Weinberg, Butt and Culp (2011) suggest although not specific to the development of mental toughness, it has been concluded that coaches appear to be critical to mentoring young athletes and assisting them in developing mental skills both on and off the field, therefore, it seems a logical extension that coaches would also be central to athletes in developing mental toughness.

Furthermore, Thelwell et al. (2005) pointed out reasoning as to why the coach’s role in the development of mental toughness is essential. They suggested that mental toughness is not just an innate characteristic but a characteristic that can be developed. They suggest that mental toughness can be developed over time and the characteristics are influenced by a variety of environmental factors and significant others, such as coaches, parents and teammates at earlier times in the athletes’ careers. Cote (1999) supported this by suggesting significant others such as coaches, parents, teammates, friends and other family members do play and important role in the development of mental toughness.

Building on such notions, Gucciardi, Gordon, and Dimmock (2009) implied that the relationship that exists between a coach and his or her players is an influential source in the mental toughness development process. Specifically, their research noted that if players don’t trust or respect their coach, then they won’t be as willing to take on board what they say or do. It was also highlighted that after interviewing several coaches that there are several important strategies and mechanisms by which to establish and maintain positive and supportive coach–athlete relationships that were perceived to facilitate the development of several key mental toughness
characteristics. For example self-belief, personal values, work ethic, self-motivation, emotional pain and sport intelligence lastly physical toughness in several important ways.

Adding to this, Crust and Clough (2011) concluded that certain situations within the coaching environment itself can develop certain characteristics of mental toughness. For example, athletes should be exposed to challenging situations in training and competitions, these situations allow personal resources such as coping skills to be used, these situations will also involve through self-referenced standards and rivalries between other athletes in turn creating a mentally tough environment.

As a result, it has been suggested that future research should attempt to further conceptual clarity regarding the concept and its development Jones et al. (2002). Also in the previous research conducted into mental toughness when a definition is given or information on the development is presented, it is referring to mental toughness in all sports. Yet as Bull, Shambrook, James, Brooks (2005) suggested and backed up by Gucciardi and Dimmock (2008) there is a need to acknowledge the likelihood of sport-specific components of mental toughness, which gives more reasoning behind conducting this research project to a specific sport (e.g., rowing).

To conclude, the lack of conceptual clarity in the literature of mental toughness could be because the meaning maybe interpreted diversely in different sports such as individual or team based. This may propose that a different fixed definition is needed for several sports. Also, the characteristics or mechanisms used to develop mental toughness may similarly differ depending upon the type of sport (i.e. continuous or invasion; Weinberg, Butt, and Culp, 2011).

Through prior research it has come clear that coaches can have an essential part to play in the development of mental toughness, it has also become clear that there is a need for specific sport research into mental toughness. This study will specifically examine the role of the coach in developing mental toughness characteristics in the sport of rowing. Within prior research on mental toughness, there is no previous work done on the specific sport of rowing. As stated earlier mental toughness is key aspect to rowing, so these study hopes to answer the questions can it be coached
within rowing, The study hopes to research whether the characteristics of mental toughness are different in rowing to other sports, and if harsh experiences develop mental toughness, finally can these be coached in rowing.
METHOD
3.0 Method: Introduction

This research project intends to examine the mechanisms by which mental toughness can be developed through coaching specifically in the sport of rowing. This examination will be conducted through a qualitative approach utilising a semi-structured interview process. As the research project will follow methods established by recent research into mental toughness to ensure both a valid and reliable approach is adopted (e.g., Jones et al., 2007; Weinberg, Butt, & Culp, 2011).

Qualitative research is a specific scientific style of research. As Lincoln and Denzin (1998) describe it is, “Multi-method in focus, involving an interpretive, naturalistic approach to its subject matter” (p. 3). Qualitative research enhances the ability to gain values, behaviours, relationships, emotions and social contexts from a specific population to inform an understanding of a research question through complex textual description (Mack & Woodsong, 2005). The benefit of qualitative research over other paradigms is that it has the ability to examine the human side of a research question. However, qualitative research still shares the same central feature of quantitative research methods which is the process of systematically categorizing textual data in order to make sense of it (Miles & Huberman, 1994). Given the aims of this research, examining the personal experience of mental toughness and its development lends itself to interpretivist approaches under the qualitative paradigm, as Miles and Huberman (1994) state qualitative research tend to use small number of people who are within a specific environment, and therefore this is the approach this study will adopt as it is a study concentrating on a small number of people within a specific environment.

3.1 Participants

This research project used purposive sampling procedures to select information-rich participants (Patton, 2002). First, the participants were selected based on their status as international standard rowing coaches. This was because at this level, the coaches would have been interacting with their performers on a day-to-day basis within a professional environment and thus it was thought that they would be in a better position to discuss the information pertinent to this study (Jones et al., 2007). Indeed, professional coaches that would have been interacting with their performers
on a day to day basis should allow the possibility of developing/coaching psychological attributes like mental toughness. Second, in relation to Ericsson, Krampe, Tesch-Romer's (1993) work on expertise, all coaches were selected based on the fact that they had been coaching for more than 10 years in total, and specifically more than five years at international standard. Finally, the coaches had to be coaching at the time of the study so that they could relate to both past and recent experiences helping to gain a more complete picture of current practice. Consequently, four international coaches agreed to be interviewed all with World Championship experience and some with Olympic gold medal experience. Participants aged from 28-54 (M = 41.25 years, SD = 14.17), with a combined coaching experience of 77 years, 3 males and 1 female. Coaches were only interviewed if they believed that elements of mental toughness could be developed or coached.

3.2 Interview Guide

A semi-structured interview guide was developed, which was made up of open-ended questions. The semi-structured interview guide was based on the participants thoughts on certain characteristics they felt made up mental toughness and how these characteristics could be developed. The guide was used by the researcher to follow and use as a guideline, if the researcher felt the need to probe the participants with more questions off the interview guide to enable a more in-depth answer relating to the overall aim, then this was encouraged and accepted (Patton, 2002). The interview guide was flexible to allow flow and to make the participant feel comfortable describing their feelings towards the relative subject questions.

Before the actual interviewing commenced, a pilot interview was conducted to check structure and that the right questions were being asked to prompt the right answers that the project was seeking. In the pilot study a number of results came out that would improve the actual interviewing of the participants. Firstly the interviewing technique, the pilot study made the researcher realise the effort needed to go into probing the participants for answers, the second was the sending of Jones, Hanton,
Connaughton (2002) 12 attributes of mental toughness prior to the interview. It was felt that if these attributes were sent prior to the interview it gives the participant ideas of what characteristics make up a mentally tough athlete, but the researcher wanted the participants personal views of what characteristics make up a mentally tough rower, not what Jones et al. (2002) has already produced. So the sending of these attributes of mental toughness was withdrawn prior to the interview. Within the interview guide there was a total of 13 questions, 7 within the main section on mental toughness, such as: Describe what you believe makes up (characteristics) a mental toughness athlete? Do you believe harsh experiences develop mental toughness, why, how, ask for example? Can harsh experiences be coached? How? Describe to me how you would do so, examples?

3.3 Procedure

At first the participants were contacted and asked to participate in the research project. Following the agreement that they would and an interview could be conducted, the participants were asked to provide written informed consent and then the aims and objectives of the research project were sent to them to allow them to grasp an understanding (cf. Jones et al., 2002). Prior to the interview the participant was instructed to make notes of any thoughts they had towards mental toughness. The participants were not sent any further documents about the interview; this was to stop the participants pre-planning answers prior to the interview (Miles & Huberman, 1994). All interviews were conducted in a neutral setting to aid the flow of the conversation (Patton, 2002). All interviews were recorded via a Dictaphone then transcripts of all the interviews were created The interviews lasted between 30-45 minutes long with the transcriptions being 28 pages long. The athletes were interviewed by the same interviewer with the same interview guide to make sure all were treated fairly, and to enhance validity.

3.4 Data Analysis

Transcripts were initially created to allow an easier process of content analysis of the interviews. Content analysis is a flexible method of analysing text data (Cavanagh,
Although content analysis is flexible there is a lack of a clear definition and procedure, as Tech (1990) suggested this has in possibly limited the application. There are three approaches to content analysis, conventional, directed, and summative, all three approaches to content analysis are used when trying to understand text data in this research project.

Each interview was independently analysed by the researcher. When analysing the interviews the researcher was looking for similar answers from the different participants, this is called preliminary coding. Preliminary coding is when the research reads through the text, picking out any parts that are relevant to the research question (inductive analysis). For example, any clear themes, patters and categories from the interviews (Patton, 2002). Specifically, the researcher was looking for any similar answers in the way the coaches were describing how they personally develop mental toughness and the characteristics involved. The text was also analysed to see whether it mirrored any of the pre-existing research (e.g., Jones et al., 2002), this is known as deductive coding as Hsieh and Shannon (2005) suggest as validating existing theory. Also vice versa, when any of the participants disagreed within certain topics when questioned, then this was analysed further to try and understand why this occurred and if it is something that could have any rationale behind it, or it is opening up new areas to be discussed, as (Hsieh, Shannon (2005) state to allow new insights to emerge. Direct quotes were extracted to justify key themes, or patterns with then data.

**Trustworthiness**

Lincoln and Guba (1984) designed a model that would assess the trustworthiness of qualitative data. Lincoln and Guba’s (1984) model is based on four aspects of trustworthiness that can be identified within qualitative research; truth value, applicability, consistency and neutrality. Truth value (credibility) is when the researcher has established confidence in the truth of the findings for the subjects or informants and the context in which the study is under taken (Lincoln & Guba, 1984). With regards to qualitative research, truth value is gained from the findings of human experiences as they are lived and perceived by the participants being interviewed. Within this study, the credibility was established because of the experience of the
coaches, all coaching at international standard for over 5 years. The next aspect is applicability (transferability); this refers to the amount the results can be used to other contexts and groups, as Lincoln, Guba (1984) define it as the ‘ability to generalize to a larger population’. However Sandelowski (1986) stated that, generalization can be seen as an illusion, this was because every research situation has a different researcher, and each researcher has a particular interaction with certain participants, so therefore as Krefting (1991) suggests applicability is not seen as relevant to qualitative research because its purpose is to describe a particular phenomenon or experience, not to generalize to others. Guba (1981) referred to fittingness or transferability within applicability when relating to qualitative research, but when using transferability it is more the responsibility of the person wanting to transfer the research project to another situation or population than that of the researcher of the original study. The study expressed the coaches’ perceptions as a general theme throughout the study, to improve a greater amount of participants could be interviewed.

The third aspect of trustworthiness is consistency (Dependability). Consistency with regards to quantitative research can be controlled; however variability within qualitative research is expected due to the complicated unexpected variables that can occur in the uniqueness of the human situation. But consistency is recognised from (Guba, Lincoln 1984) in dependability, dependability entails trackable variability. Trackable variability as suggested by Krefting (1991) ‘might include increasing insight on the part of the researcher, informant fatigue, or changes in the informant’s life situation’ (p.216). The last aspect of trustworthiness is neutrality, (Guba, Lincoln 1984) refer to neutrality ‘as the degree to which the findings are a function of solely for the informants and conditions of the research and not of other biases, motivations and perspectives’. They also suggested that emphasis should be put on the data collected rather than the researcher conducting the interview, so that conformability is the criterion of neutrality. The study incorporating neutrality by the researcher having no prior opinions within mental toughness, the research was considered as having a mutual perspective on the study.
RESULTS
4.0 Results

4.1 Introduction to the findings

The findings are presented in six main themes according to the aims of this study. The aims are: (a) exploring key characteristics of mental toughness specifically in rowing from the coaches’ perspective; (b) establishing whether harsh experiences develop mental toughness; and (c) examining whether mental toughness can be coached. There were also four themes that emanated from the data analysis: (a) the diversity of definitions; (b) the importance of mental toughness within rowing; and (c) the coach-athlete relationship within the development of mental toughness. (d) From the transcripts there were a total number of forty three individual quotes that had importance to the aims of and the objectives of the research.

4.2 Harsh Experiences: Environments

Throughout the current literature it suggests that mental toughness can be developed through harsh experiences. When analysing the data, sub-components of harsh experiences in relation to the development of mental toughness emanated. These were disability, upbringing, competition, tough training the environment and finally how the harsh experiences could be coached.
4.21 Upbringing

A key theme emanating from the data analysis relating to harsh experiences was the athlete’s upbringing. Coaches gave examples from their experiences of athletes who were perceived to be mentally tough that had experienced a tough upbringing. This could have been the area in which they grew up in, as one coached explained:

When you look at where they live, one of them lives in a street where there are drug addicts in the road, it’s not a nice place to live and so therefore he has become driven, really driven to go “I want something now” (Participant 2).

Sport, or specifically rowing, in this athlete’s case, can be used as an escape from the current situation they are in, to better themselves. Another element that the participant stated that can be seen to have a major impact on an athlete is their significant others (i.e. parents), “Their parents whether they have pushed them to do well, or whether they have just pushed them the opposite way and told them for example there not doing so well, rather than encouraging” (Participant 1). This participant suggested that the significant other can have a profound effect on the young athlete, especially when encouraging. If the significant other were to adopt a tougher approach they the young athlete could become despondent and not want to participate in the sport anymore.

4.22 Competition

From interviewing the participants, competition emerged as a harsh experience that can be used to develop mental toughness. This experience of competition is different to the other harsh experiences because the coaches specifically choose certain competitions in which the athletes compete in. There are reasons for coaches taking athletes to specific competitions as one participant suggested, “You could take them to certain events where you know it’s going to be tough.” Another participant described why a coach might take an athlete to a tough competition:
Makes the athletes tougher, because if you lose a race, you have a choice of only two things. You either quit, you say ‘that’s it, I’ve been beaten, I’ll go away and I’ll take up cookery or something like that’ or you turn around and say ‘I’ll learn from that and I’m prepared to go and face the same challenge again.’ So I think loosing is more harsh experience, it’s very much part of improving and pushing on and that can be a harsh experience through loosing races, or injury (Participant 3).

4.23 Tough Training

Coaches also described tough training, or a tough training environments assisting in the development of mental toughness. One coach described creating an environment as tough as a race itself, so when the athletes are competing within the race it’s something they are used to experiencing, “There nothing harsher than the race itself. If you want to win the race you must introduce some pretty harsh training to get there.” Participant 3 also described tough training as a way of discovering more about your athletes and there psychological attributes, “I think sometimes coaches create harsh experiences exactly in order to toughen people up and make them deal with it, it’s a way of seeing how people cope under pressure.”

However, coaches also commented on how tough training can also have a negative effect on the athlete, “Make sure it’s not going to push them away, be careful not just making them depressed about it and it’s too tough. You need to find challenging events so that something is challenging but realistic” (Participant 1). Coaches also highlighted the need to take a different approach when coaching younger athletes, “You’ve got to be careful with the younger age groups, if you’re talking about youngsters and developing rowers, if you have too many harsh experiences, they can learn become a serial loser and eventually lose all your self-confidence” (Participant 3).
When giving the athletes harsh experiences in order to develop key attributes of mental toughness, one of the coaches interviewed suggested it is not always something the coach wants to do. When an athlete follows a training programme set by the coach, and the coach takes the athlete out of the training programme for a tough session, or a harsh experience it is sprung upon the athlete often for the elements of surprise in order to prepare the athlete for anything, “Harsh experiences are probably not something every coach would do or not very often, because athletes will start to mistrust you when you say ‘this is what we’re doing next week’ and the coach changes their mind” (Participant 3).

4.24 Environment

Throughout interviewing the coaches, they described creating the right environment can develop mental toughness. Specifically, one coach described that his most successful athletes had come from difficult or tough environments; they also suggested it may not be the best environment but they may try to replicate a tough environments to develop key elements of mental toughness. For example:

Your environment helps with mental toughness, with my experience the people that do get to the top, it’s something in their environment, My two best rowers come from environments which, if I’m honest, most of us probably wouldn’t feel comfortable living in. So I think that sort of toughness comes from an environment, we try to create an environment which will help develop your mental skills as well as your physical skills (Participant 2).

From this coach’s perspective a tough environment can help develop mental and physical skills, and within the environment created these harsh experiences occur which in turn help create a mental tough athlete. The coach also put a lot of emphasis on the environment in which the athletes are in, suggesting that this where
mental toughness is developed and the key characteristics of mental toughness can be created:

I don’t think people are born tough or soft, I think it’s their environment count for an awful lot, in terms of how they develop and in terms of their mental approach to stuff I think harsh experiences do develop mental toughness If it didn’t develop some characteristic I wouldn’t do it (Participant 2).

Adding to this, a coach explained how just one harsh experience or tough training session isn’t enough to develop mental toughness, “I wouldn’t say a tough session would initially give mental toughness to people who weren't very tough before that experience” (Participant 4).

One of the participants described mental toughness to be in everybody, and the challenge isn’t how we develop it, it’s how to bring mental toughness out of the athlete.

“I think people often don’t realise how tough they are. Unless something comes along to challenge you toughness isn’t attribute you necessarily have to display every day. Its only exceptional circumstances where you have to display toughness, so I think it is trainable and when in ordinary people who go through horrible experiences like war, often find fantastic toughness which would never emerged in other circumstances, One of them simple examples I sometimes give to the guys is when a women goes through childbirth, and billions of them do, that is massively tough thing, but its not done by 1% of the population. Virtually all women will go through childbirth, so I think it is something think is in there” (Participant 3)

The question that arises from this point made by the participant is how a coach would create such a situation where mental toughness can be brought out of the participant.
4.25 Disability

One of the participants interviewed within the study had a great amount of coaching experience within adaptive rowing (disability), indicating that critical life events can help to develop tough attitudes. For example, the participant suggested, “The way he was brought up, he is just very tough, despite injuries he has just kept going” (Participant 1). The participant suggested that this experience an athlete goes through of coping with a disability whatever it may be is a harsh one, and could help develop mental toughness. When going through a tough scenario within sport, they would be able to relate back to their harsh experience of coping with the disability and carry on because nothing was as bad as coping with their disability.

4.3 Developing mental toughness through training programmes

One coach described how they might instil mental toughness through specific training programmes. By gradually increasing the work load per week, when it gets to a significant amount, the coach could look back and show the athlete the developments that they have made. By increasing the work load, and the athletes dealing with it, mental attributes will be developed as well. For example:

Starting off with a crew in year 1 let’s say you’re doing 100km a week, and then a year or two later it might be double. But if in year 1, you’d said to them ‘We’re going to have you training 20 hours a week doing 200km, with ergos and weights’, they’d probably run away, So I think the training programme basically builds you physically and with that you
build the physical robustness and also the mental toughness to cope with that, so I think the training programme is the main tool (Participant 3).

Additionally, a coach explained how they might create this environment that is crucial in developing mental toughness:

Now on a day to day basis, if you were to talk to some of the guys, I think you would find that there are some sessions we do where they’re verbally beasted for 30 minutes in a training session and we just verbally beast them. Now, we’re not abusive to them, so we don’t swear at them, we don’t curse them and insult them, but they are beasted. They are verbally and physically beasted for the whole session (Participant 2).

4.4 Coach-Athlete Relationship

Coaches try to create tough environments or harsh experiences to develop mental toughness. However, what emanated from the data analysis was the importance of the athletes putting trust into the coaches to allow them to place the athletes into a tough environment or a harsh experience to benefit them, and gaining that trust was essential. This coach-athlete relationship was also seen to develop other characteristics of mental toughness as one coach suggested, “Understanding what the training is for and why there are doing it because that self-motivates them to get on with it” (Participant 1). Another coach suggested characteristics such as self-belief can be developed when the athletes trust the coach and then follow the training plan:

Self-belief comes from, from what you do on the training ground. Obviously you race and you have some warm-up races, but I think self-belief comes from what you’re doing on a day-to-day basis, so if you’ve done the work and there’s a trust thing here, because they’ve obviously
got to trust the coach and trust the system and trust the program, but if you sit there on a day-to-day basis and tell them “If you do this to this particular level, you will be able to put yourself in a position to be able to achieve x or Y.” And they do it and you do some testing along the way, I think that’s where they get there self-belief. (Participant 3).

Furthermore, a coach explained how if an athlete has had previous bad experiences in sport, they can become harder to work with or develop. The athlete due to the bad experiences may find it hard to trust in a coach or in a training programme because they have previously failed. However, he explained his most successful athletes that were mentally tough, even though they had previous bad experiences within sport they still trusted the coach:

They were very trusting, and that’s important. Some athletes have had good experiences in their careers and some have had bad experiences in their careers and if they’ve had a bad experience the tendency is that the next time they tend to rely on themselves and they don’t put their trust in other people; they put their trust in themselves, which makes it harder then, to work with them because they can be resistant to change (Participant 3).

This theme has emanated from the data analysis, that for a coach to develop mental toughness within an athlete they first have to develop trust between themselves and the athlete. Another example of this from the interviews was as one coached explained one of his athletes had 2km ergo test for Great Britain trial, which in rowing is a challenging test. The coach explained how he had a different relationship with his athlete compared to other coaches and their athletes, other coaches while their athletes were conducting their tests stood back and watched. He explained that, “In front of everybody I verbally sat there and went ‘we’re doing this together’” (Participant 2). The coach concluded at this relationship in the environment is where characteristics if mental toughness can be developed.
4.5 Diversity of Definitions

With no prior research being done into mental toughness and rowing, as well as the need for a sport specific definition all participants were asked could they personally define mental toughness in relation to rowing and themselves as coaches. Participant’s definitions can be seen below,

(Participant 1) "Mental toughness is just knowing now to not to give up, and just to keep going with it even when it is hard"

(Participant 2) "Almost what is the worst experience us as human beings have probably been through? I would argue that it would be in the First World War trenches, when there’s muck and shit and there you see 20,000 people killed in front of you and then you go, “We're going over the top!” It’s the guys who go “Actually do you know what, I’m coming with you.” Now, the difficulty is how do you measure, how do you see that? That's the difficult bit, to pinpoint that, but that's how I look at it in my mind. “Would you come over the trenches with me?” That's how I think about it"

(Participant 3) "Someone who, you’d throw a lot at them and they’d carry on whatever the situation, they’d just carry on doing it. Someone who’s not afraid to get stuck in and get on with it, whether it’s difficult things or whether they think it’s a little bit risky, but just someone who’d really get their head down and get on with Is"

(Participant 4) “The ability to win under all circumstances, not just when things are going well for you. It’s the ability to deliver everything you put down in training, and some more”

However within the coaches definitions, there was one common theme that related mental toughness to someone having the ability to give everything no matter what the situation, this attitude being described is common throughout the participants definitions however in different descriptions, and is the only common theme linking the participants definitions together. This attitude being described can be related to Bull et al., (2005) mental toughness framework.
4.6 Characteristics and Importance of mental toughness within rowing

The participants were asked their opinions on the relevance of mental toughness within rowing. One participant described how important mental toughness was to them. The coach.

It’s the final ingredient in the recipe; the training is all theoretical unless you can actually do it, and the technique is theoretical in training, unless you can actually deliver it when you’re under intense pressure, so I think the mental toughness is absolutely what marks out the champion from the also-rans. It’s true of all winning crews. Crews win despite maybe not being the biggest or the most physical, but they have that mental toughness, they stay at it and stay at it, it’s the final ingredient, I don’t think you can win races without it to be honest (Participant 3).

Another participant described mental toughness as the difference in successful athletes and non-successful athletes.

To perform at the top level sports you need to be mentally tough, some very talented rowers when it comes down to the crunch, do they put their bodies on the line? Are they prepared to really hurt when the going gets tough? No. The art is trying to find the guy who’s got the talent, got the fitness, the guy who’s got the strength, and go ‘Right! Let’s make you mentally tough enough to do it, and if we do, we haven’t got somebody good on our hands, we’ve got a world champion (Participant 2).

The participants were also asked what characteristics they believed a mentally tough rower consisted of. Participants stated such characteristics as determination.
“Just really determined, the amount of training we do, you need to be able to stick it out on your own” (Participant 4) “Very determined, he would just keep working even when he was told not” (Participant 1), also the ability to battle through pain, “no matter the pain, if anything hurt it didn’t matter he kept going” (Participant 1) and also self-belief “there has to be a lot of self-belief involved in mental toughness and rowing2 (Participant 3).
DISSCUSION
5.0 Discussion

The main aims of the study's research whether mental toughness could be coached in rowing. The findings are discussed in relation to the participant’s perceptions of key characteristics in mental toughness and harsh experiences developing mental toughness. Adding to this, the practical implications and future directions will also be discussed.

5.1 Defining mental toughness within Rowing

Throughout current literature of mental toughness, it is understood that there is not a clear concise definition. However Jones, Hanton, Connaughton (2002) concluded from their research, a definition that has become accepted in most recent research into mental toughness. Nevertheless this definition cannot relate to all sports, because mental toughness is called upon in different ways in different sports as Bull, Shambrook, James, Brooks (2005) suggested mental toughness can be expressed in many different ways and supporting this Weinberg, Butt, Culp (2011) states mental toughness requirements differ by sport, with different sports expressing mental toughness in different ways, surely this may imply the need for sports specific definition.

All four participants defined mental toughness in many converse ways which would support Hanton and Connaughton (2012) “It is probably one of the most used terms but least understood terms in sports psychology” (p243-244) Which reinforces the need for sport specific research into mental toughness gain clarity in mental toughness itself.
5.2 Characteristics and Importance of mental toughness within rowing

As described earlier within the research of mental toughness Sheard (2010) suggested mental toughness can be thought of and recognised as the mind-set behind sporting achievement. All participants supported Sheard (2010).

One participant described mental toughness as putting their bodies on the line, for an athlete to put their bodies on the line it requires mental toughness to do so. This is especially related to athletes at the Elite end of sport, and especially in rowing as one participant said “Olympic rowers talk about taking their body to a place they don’t want to go” Secher and Volianitis (2007) stated “Regardless of the level of training and competition over a few years, most athletes and crews are making a similar physical investment, so what makes the difference (mental toughness)” (74), participant 4 supported this statement with “All the people have the same physiology, they’re all going to have the same scored across etc., it’s literally about who can just dig in and tough it out”.

These statements are what can separate rowing from other sports, not all sports require athletes to ‘take their body to a place they do not want to go’, and not all sports can say athletes are of similar physiology its psychological factors such as mental toughness that can determine who crosses the line first, which supports the need for sports specific definition.

If mental toughness can be interpreted differently in different sports, then this implies that the characteristics may differ within the athletes from sport to sport. As Jones et al., (2002) suggests it is necessary to conduct research into specific sports to identify the variations of attributes in mental toughness.
Participants described characteristics such as determination, pain tolerance and self-belief within what they believed a mental tough athlete. As Secher, Volianitis (2007) suggested a mentally tough rower consist of having a confident mind set, controlled attitude when in competition, positive thinking and focused, these characteristics can be related to the characteristics the participants presented. However these characteristics can be found critical to mental toughness in all sports, as Jones and Moorehouse (2007) have identified four main characteristics of mental toughness, coping with pressure, strong self-belief, focused concentration, and sustained motivation. A positive that can be seen from this is, there is great deal of consistency with main characteristics of mental toughness across all sports, yet this study has failed to identify specific characteristics of a mental toughness within rowing, just characteristics that are drawn out more, such as the ability to push back physical and mental pain.

5.3 Harsh experiences

Throughout the interviews with the participants, they implied that their most mentally tough athletes had come from a tough upbringing or environment; this was seen as the fuel in a mental tough performance in Bull., et al (2005) framework. Some of the participants explained that rowing itself is a way for athletes to better themselves. This would then suggest that a tough upbringing develops mental toughness, this can be related to Jones., et al (2007) where achievement was believed to be a way for athletes improving their life experiences which in turn gave the athletes more motivation to succeed. If these tough upbringings or environments that were seen to produce a mental tough athlete (harsh experiences), then the participants described trying to replicate a tough environment in which they believed mental toughness could then be developed.

The participants identified ways in which they would try and create this environment such as tough training, and competition. Participants admitted to taking their athletes to competitions where they knew it was going to be tough and they may lose, they
suggested it can make the athlete tougher, if the athletes lost then they were giving them a choice.

So from the participant's perspective loosing was seen as a harsh experience, it was part of improving. This can be linked to Hanton, Cropley, Neil, Mellalieu, Miles (2007) which suggests experiencing critical incidents can have a powerful influence in cultivating mental toughness. Coulter, Mallett, Gucciardi (2010) identified critical incidents that occur in and outside of sport can facilitate mental toughness, these critical incidents as suggested by Crust and Clough (2011) could be challenging life events outside of sport, an example they presented was parental divorce, These challenging life events or critical incidents can develop coping strategies.

However, looking at this from a coaching perspective, it would suggest creating these critical incidents inside of the training environment could develop mental toughness, though as Tripp (1993) stated a critical incidents can be seen different from athlete to athlete. Tripp (1993) determined a critical incident, as an experience that can have a significant meaning, whether it held the potential for learning or development. This would imply that if coaches were to try and create critical incidents to help develop mental toughness within the training environment then different athletes may interpret it the incident conversely, and gaining no development.

Keeping on this subject, the participants suggested they would create tough training environments for the purpose of their athletes to face harsh experiences. Rowing depends on the mental toughness of an athlete as Secher, Volianitis (2007) mental toughness is what determines who gets to the finish line first, and as the participants stated “There is nothing harsher than the race itself, if you want to win the race you must introduce some pretty harsh training to get there” so in turn Coaches agreed they “create harsh experiences exactly in order to toughen people up and make them deal with it”. Again Crust and Clough (2011) confirm this by stating “Athletes must be exposed to (rather than sheltered from) challenging situations in training and
competition that allow personal resources such as coping skills to be developed” (p30)

However, as suggested earlier when dealing with younger athletes too many harsh experiences can be seen as a negative, the athletes can become serial losers as one of the participants suggested, “they can lack self-belief”. As we know from studies such as Jones et al., (2002) self-confidence and self-belief can be seen as a major part of a mentally tough athlete. Jones et al., (2002) suggested significant others such as parents can have major influence; they stated that characteristics such as self-belief can be developed when parents provide support such as encouragement this is something the participants confirmed when asked about participant development within their upbringing. this in their experiences by Nevertheless as Curst and Clough (2011) suggested parents must consider the fact that however important their role is in the development of mental toughness they also have to be aware that by the time their child has become a teenager, their parental support is decreasing. Regardless of this parents and coaches alike are crucial in providing an environment where installing a hard work ethic and a competitive attitude can take place.

One of the participants described mental toughness to be in everybody, and the challenge isn’t how we develop it, it’s how to bring mental toughness out of the athlete.

One of the participants described mental toughness as something that is in everybody and the challenging element within development was how to bring it out of the athletes, it can be related to Gucciardi et al., (2008) who states that mental toughness research should look into the conditions in which it is required in to then develop frameworks on how to develop mental toughness. Which would imply that to understand mental toughness we need to gain a greater understand the situation in which it is required in, for example mental toughness may be required differently in a cricket match to boxing, the situation also being the personal characteristics of the
athlete you are working with, for example you may have to use different development frameworks for an athlete that is reserved to an athlete that’s is outgoing.

5.4 Possible Negative Side to mental toughness

Conversely, Mallet (2011) proposed the question, ‘is there a dark side of mental toughness?’ when initially conducting this research project this a negative side of mental toughness was not something that had been taken in to consideration; however it is something that has to be taken into account. Mallet (2001) stated there could be potential for ‘dysfunctional outcomes for performance and general wellbeing’; examples such as athletes pushing their bodies beyond physical limit this could be especially relevant within in rehab. The athlete could be at a greater risk of overtraining, they could consider serious injuries as minor in turn making those worse and finally he suggested the athlete may silence their emotions.

When processing this view of mental toughness, some participants comments can be related to this such as, “He would just keep working even when he was told not” (Participant 1) “If I say ‘I want you to do 10 roll-ups’ they’ll do 20 roll-ups. If I say ‘I want you to do 10 starts’, they’ll do 20 starts” (Participant 2) “He’s one who’s in the gym for an hour after everyone else. You actually have to tell him to go home” (Participant 4) “He was very focused, almost to the point of being anal. All the best performers I’ve come across and I’ve ever dealt with are almost bordering on anal about stuff” (Participant 2). These sorts of attitudes could be seen as obsessive behaviour connected to mental toughness, there has been little research into this topic within mental toughness and is something future research define.
5.5 Practical Implications and Future Research

This study has identified a number of practical implications which may be used by coaches to help coach mental toughness in rowing. The study has identified from coaches’ perspectives that harsh experiences and tough environments can develop mental toughness, and how harsh experiences and tough environments can be coached or created through a training programme and competition. However, in order for this to happen, a positive coach-athlete relationship has to be created in which trust can be clearly identified, the coach must also be identity to take a different approach when dealing with younger athletes as too many harsh experiences can be seen as a negative. This study also found that when interviewing, participants with a greater coaching experience and generally the older participants had a greater depth of knowledge with mental toughness, which may imply when coaching or having the ability to develop mental toughness is something that comes with experience.

Future research should not only look at how mental toughness may have different characteristics in different sports, but how different personalities may attain a change in mental toughness characteristics. Also how different situations within sports may require a different type of mental toughness. Previous research has identified frameworks to develop mental toughness; future research should re-assess these due to the ever changing environment in which this study has identified mental toughness can be required, or do these frameworks apply to all environments, personalities and situations. If this research was conducted there could become clarity within the development of mental toughness, with coaches having greater clarity the ability to develop mental toughness their performers will grow, leading to athletes becoming mental tough and more successful.
5.6 Strengths and Limitations of this Study

The strengths within this research study included supporting characteristics of mental toughness previously identified by Jones et al. (2002) and Jones and Moorehouse (2007). The study also supported Bull et al., (2005) framework that’s stated the environment is the fuel to mental toughness success. Furthermore the study supported the relationship between the importance of mental toughness and success, especially emphasising this within rowing, and finally the need for a conceptual clarity within mental toughness and a sports specific definition. Overall there were only four participants interviewed for this study, a strength of this was the amount of data that was produced within this number of participants. Also the nature sample has to be seen as a strength due to the fact all coaches were at the elite standard.

However to improve on the study, an increased number of participants could be interviewed, also all the participants were involved within the Great Britain rowing association, so to expand on the study coaches in other international organisations could be interviewed. One of the aims of the study was to discover specific mental toughness characteristics within rowing, the study was only able to support prior characteristics of mental toughness and emphasise the use of some characteristics over others. However to achieve this aim the study could of placed a greater amount emphasis on this within the semi structured interview process. As mentioned earlier within the practical implications, the participants with greater experience were able to engage with study over those with less experience, for future research the sample coaching experience age should be increased higher to 20+ to maximise those with participants with greater coaching experience.
CONCLUSION
6.0 Conclusion

To conclude, this research study has provided evidence to show how important mental toughness is to success in sport. The study conducted semi structured interviews with four elite level rowing coaches to give their personal perspectives on whether mental toughness can be coached within rowing. The semi structured interview guide was based on previous mental toughness coaching studies such as Weinberg et al., (2011). The interviews were recorded and transcripts were produced, these transcripts were analysed to provide supporting quotes from the participants with relation to prior research and the studies aims. The results from this study support current literature within mental toughness, such as the need for conceptual clarity, and sports specific definitions. The study also supported generic characteristics within a mentally tough performer from Jones et al., (2002) within rowing, however the study failed to discover unique characteristics associated within rowing, the participants just emphasized some characteristics that were called upon more than others. The participants also highlighted how harsh experiences can develop mental toughness and these harsh experiences can be critical incidents, and how they could create a harsh environment to try and develop mental toughness through a training programme. Despite previous research into frameworks to develop mental toughness, future research should look into specific frameworks to develop mental toughness i.e. environment, situation, personalities.
REFERENCE LIST
Reference list


APPENDIX A-INTERVIEW GUIDE
Date:

Can Mental Toughness be coached in Rowing?

Interview Guide

Participant information

Name: Number of years coaching:
Age: Interview:
Start time: Finish time:

So as you know I am currently undergoing an undergraduate dissertation into ‘can mental toughness be coached in rowing?’ Through research and semi structured interviews I am trying to answer this question.

In front of me is a Dictaphone which I will be using to record the interview, after the interview a transcript will be processed to ensure that all information is collected. If requested a copy of the transcript will be sent to you, to review and ensure all information is an accurate representation of your views of whether mental toughness can be coached. All information you share with me today will be confidential. However, selected quotes from the interview may be used within the dissertation, though we will keep your name and email address completely separate from the other forms.

Within the interview, when I am asking you questions if there is anything you are unsure of or you would like me to clarifying then please let me know. If there is a question that you do not have an answer to, please say rather than formulating a false answer, we are concentrating on your personal opinion on ‘can mental toughness be coached in rowing’?
Introductory Questions

1# How are you today?

2# I hear you recently went to Spain on a training camp? How was this?

3# Do you have any questions before we start?

Main body

1# The coaches specific sporting background and experiences

PROBE (Q1: Tell me about your motivation for getting into coaching, How many years coaching? all those years coaching rowing? could you name your greatest achievements?)

2# Characterises of athletes within greatest achievements

PROBE (Q2: Could you give common characteristics the athletes had within your greatest achievements? mentally tough? Did you the coach personally develop these attributes or did the athletes already have these characteristics?

3# The coaches views on mental toughness

PROBE (Q3: What is mental toughness to you the coach? could you give a definition? Do you believe mental toughness in rowing is different to other sports, why? How?

4# The coaches opinions on the makeup of mental toughness within rowing

PROBE(Q4: Describe what you believe makes up (characteristics) a mental toughness athlete? Specific to rowing, do you believe it to be an important part to success? How? Why?)

5# Life experiences relationship with mental toughness

PROBE (Q5: Do you believe harsh experiences develop mental toughness, why, how, ask for example? Can harsh experiences be coached? How? Describe to me how you would do so, examples?
6# Coaching mental toughness

PROBE (Q5: Do you believe mental toughness can be coached? Why? How?)

7# How is mental toughness coached

PROBE (8: if you believe mental toughness can be coached, Tell me about the strategies you used to coach mental toughness? Examples of these?)

The interview is now over. The final section will be a conclusion and questions based on the participant’s opinion of the interview process.

Concluding

1# How did you think the interview went?

2# How satisfied were you with your answers?

3# Do you feel I led your answers or influence your responses in any way?

4# Do you think there is any other important aspects to, can mental toughness be coached in rowing that I failed to ask you?

5# Do you have any further questions, comments or suggestions about the interview itself or anything else?

I would Just like to say Thank you for your time in participating in the interview and this study
APPENDIX-B

PARTICIPANTS INTERVIEWS TRANCRIBED
Interview with Participant 1

**Interviewer:** Some of the questions I ask may be a bit tedious, but it’s an interview guide I have to follow. I’m currently preparing an undergraduate dissertation into whether mental toughness can be coached in rowing. Through research and semi-structured interviews I am trying to answer this question. I will be using this Dictaphone to record this interview and after the interview I will process a transcription to ensure that all information is correct. If requested, a copy of the transcript will be sent to you to ensure that all the information is an accurate representation of your views on whether mental toughness can be coached. All the information you give me today will be confidential, although selected quotations from the interview may be used in my dissertation, though your name will be kept completely separate from the forms. During the interview, when I am asking you a question, if there is anything you are unsure about or need to have clarified, please let me know. If there are any questions to which you do not have an answer, please say so, rather than formulating an answer. We are concentrating on your personal opinion on whether mental toughness can be coached in rowing.

**Q:** Could you explain your role within welsh rowing?

**A:** My role is the coach development officer organizing coaching courses stuff like that, and coaching along side that. I’ve also been the national adaptive coach, coaching people with disability.

**Q:** Could you tell me about your motivation for getting into rowing?
A: My motivation, I started rowing when I was 16 at Loughborough I fancied it, it was a different change to rugby, got hooked on it, and ended up going to a university where rowing wasn’t at its best. And ended up just having to coach from the start, I really enjoyed it so carried.

Q: How many years would you say you have been coaching for now?

A: I’ve been coaching for the last 7 years now,

Q: And within coaching rowing could you give me you greatest achievements?

A: I was a finalist last year, in sports wales coach of the year award, which is great achievement. But also just part of the team in wales that has had a lot of success at international stage and being able to take athletes to GB trials has been really good.

Q: So would you say then that taking these athletes to the GB trials, was your greatest achievement within coaching rowing?

A: Yeah I’d say that as far as I have got with athletes getting to a GB trial competing at the international stage.

Q: So if we say that Is your greatest achievements within coaching rowing could you give me common characteristics the athletes had in those greatest achievements?
A: It was the determination to keep going, even when it hurts, being able to get out of bed every single day and still be able to train, and understanding what the training is for and why there are doing it because that self-motivates them to get on with it.

Q: When these athletes came into you as a coach, would you say that you personally developed those characteristics, or did the athletes come into you with those characteristics?

A: I would say that they came in with elements of it, however you can give them more motivation by making them realize what they are doing it for. I can give them more motivation but there self-determination is their own.

Q: So would you give them more motivation?

A: I think it by understanding what there doing, so not just jumping in a training program but explaining why the training is like that, and how it is going to make them better So that they actually want to do it.

Q: So you have given me some characteristics, would you say the athletes were mentally tough?

A: Yeah one in particular, and he would keep working even when he was told not to, to avoid injuries, but the way he was brought up was within the army rugby team and the combined services he is just very very tough, and despite injuries that have prevented him being in the army he has just kept going.
Q: *Could you give me characteristics that this particular person had?*

A: He was very determined, if thing hurt it didn’t matter, he had would get it, he would unhappy if it wasn’t going his way because he wanted to go his way all the time.

Q: *Would you say self-belief, was he confident?*

A: Yes. Very confident.

Q: *So could you as a coach give me your personal definition of what mental toughness is to you?*

A: Mental toughness is just knowing not to give up, and to just keep pushing through, and to keep going with it even when it is hard.

Q: *Do you believe mental toughness is different in rowing compared to other sports?*

A: I think mental toughness the attitude and mindset of an athlete, is applicable in any sport if you haven’t got the right attitude in one sport the chances are your not going to in any other sport, expect if people don’t like working as a team or individually maybe they thrive on a different situation but just being able to work through the pain applies to any sport.
Q: *Is there any characteristics of mental toughness that may differ to other sports?*

A: I think it's if you work in a team or individually which can apply within rowing itself, with different boat classes, but some people just like to challenge themselves, some people need that slight social aspect despite they are there to train.

Q: *Do you as a coach feel harsh experiences develop mental toughness?*

A: I've seen it both ways where some people have been harsh on individuals, cause I used to coach with disabilities where people have not got on well with the disability because people haven't been nice with it, but they get on, there not able to get on with it as well sometimes. But then there are others despite missing a limb they don't consider themselves disable and they just get on with it. So I think it really depends on the individual and how they cope, whether its fight or flight.

Q: *Could you give examples of these harsh experiences where athletes did or didn't respond?*

A: Not that I can think of the athletes I have coached.

Q: *Would you agree then that when harsh experiences are effective with the athlete, past experiences can develop mental toughness?*
A: I think it does, it all depends if you’ve got the right athletes to start with. If there not able to work through that, and fight against it, rather than clear away. I think if there not going to fight there never going to be a top end athlete so they might not be as tough but there not going to make it, those who are tough are probably going to make it.

Q: So through your personal experiences would you then say, that the people that can deal with these tough experiences are the ones that are most successful?

A: Ye, with the athletes I’ve coached definitely.

Q: Could you give me an example of the harsh experience they have gone through?

A: Because of the athletes I coach having a disability and have had to cope with their disability.

Q: Even though you have just given me an example of harsh experience some of your athletes have gone through, would you say harsh experiences could be coached?

A: You could take them to certain events where you know its going to be tough, however you need to make sure its not going to push them away from rowing so for instance some may be tough wanting to go through it however you have to make sure the level of competition is appropriate so your not just making them depressed
about it and it is too tough. You need to find challenging events so that something is challenging but realistic.

Q: So then are you saying these harsh experiences can happen within competition?

A: Definitely in completion and in training depending on who your training group are who your partner is or what you training your setting for them to be deliberately tough, to make it hurt a bit.

Q: So do you personally believe mental toughness can be coached?

A: I think providing they have got the right attitude, you make tougher and make them work through, however if they have not got the attitude from the start its going to be very hard, and you never going to get enough out of them.

Q: So this attitude, that your saying athletes need to get through these tough experiences or training session could you give me characteristics the athletes had

A: I think it’s just if people shy away from a challenge or actually want to go and beat the challenge. It’s like a doubt, if they don’t think they’re going to they’re not going to do it.

Q: Could you give me any reason that you feel separates those athletes from other athletes?
A: I would just say it’s the way they have been brought up, possibly to do with their parents whether they have pushed them to do well, or whether they have just pushed them the opposite way and told them for example there not doing so well, rather than encouraging them to do better.

Q: So your saying that if athletes are pushed and encouraged when there brought up can develop mental toughness?

A: Yes
Interviewer: As you know, I'm currently preparing an undergraduate dissertation into whether mental toughness can be coached in rowing. Through research and semi-structured interviews I am trying to answer this question. I will be using this Dictaphone to record this interview and after the interview I will process a transcription to ensure that all information is correct. If requested, a copy of the transcript will be sent to you to ensure that all the information is an accurate representation of your views on whether mental toughness can be coached. All the information you give me today will be confidential, although selected quotations from the interview may be used in my dissertation, though your name will be kept completely separate from the forms. During the interview, when I am asking you a question, if there is anything you are unsure about or need to have clarified, please let me know. If there are any questions to which you do not have an answer, please say so, rather than formulating an answer. We are concentrating on your personal opinion on whether mental toughness can be coached in rowing.

To start with, can you tell me about your own motivation in coaching? How many years have you personally been coaching?

A: I've been coaching for, approximately, just a tad under 30 years. (1 min 30 secs)

Q: Were all those years coaching specifically in rowing or did you coach any other sports?
A: To turn the clock back, I was a policeman and in the police force I was a Self Defence and Physical Training instructor, but I was a rower myself. So, I was an active rower and what happened was that I had a back injury and in a way it was a bit of a coincidence, because the police force had given me the skills to be able to instruct and some physiology knowledge as well as first aid and all that sort of stuff you need, basically for coaching. And at the club I attended there were two girls who were looking for a coach. So, basically, they said “Will you coach us?” and I said “Yes, but I have a back injury. When my injury’s OK, I’m rowing again.” But I did start to coach them and, to cut a long story short, they ended up winning a silver medal in the U23 World Championships two years on the trot! So I thought, well, my rowing career’s almost over anyway, I’m coaching these two girls who’ve gone to the U23 World Championship, I’m coaching, so, in hindsight, I got into it a bit by accident. So that’s how it started. (2.56)

Q: Those U23 World Cup medals, are they your greatest achievement as a rowing coach? What would be your greatest achievement?

A: I get asked this question a lot. I think that what happens is, when you’re coaching, no matter whatever level you’re coaching at, generally you know how people are going to perform, because of the bench-marking you and the testing you do, so you do get a pretty good idea about where they should be. So, irrespective of the level, whether it be at World Championship level or local level, the reality is that as a coach, in many ways there aren’t that many surprises. But in terms of my greatest achievements, in my mind those are things that people have never done before for that particular club, things that are going to be difficult for other people to achievement. For instance, before I came here I was Chief Coach of Oxford University Women for 8 years and whilst we were at Oxford University Women, they won the Women’s Eights Head of the River outright, which is 450 Eights, from all across Europe, the first time a university club has ever won it outright. We’ve broken the course record twice for University Women but to actually win it outright, it’s probably one of those things a university is never, ever going to achieve again. Well they might do, but it’s normally won by international crews and it was in the 2008
Olympic year. Before that I’d been Chief Coach at Thames, and again at Henley Women’s Regatta, in one year we won something like six events; which again, is unlikely to be achieved by anybody else. Since I’ve been here one of the guys who is currently in our squad, within a year and 9 months of his starting to row, he went to the U23 World Championships, which is the shortest period of time from anybody starting to row to actually being an U23 Male international. So, those sorts of things, to say they’re my greatest achievements, but when they’re the ones, when anybody asks the question – Bang! That was really good. At that moment, you sat there and said “You know what?! At that moment you’re at the pinnacle. So those types of things, such as for instance Wales won the Home Internationals last year and there’s a Home Internationals event between the four home nations and there’s a Men’s event, a Women’s event, a Junior Men’s event and a Junior Women’s event and the Men’s event had been won by England every single year since 2000. Wales in the 50-year history of the event had never won a senior event and we won the Men’s event last year. So those types of things are the ones which are actually remarkable. (6.00)

Q: So, in these greatest achievements, could you give a common personality trait or a characteristic which these performers had?

A: I think that’s quite interesting. I do think some of the words that people use in situations like these are easy words, just to use, but I think with all those people, they knew what the endgame was. So we had a real focus and purpose to what we were doing; so there was clarity in what they were trying to achieve and I think the problem with lots of people when they perform at sport and they go on performing at whatever level they’re performing at, they haven’t really got any clarity as to what they’re trying to get out of it; what’s the clarity of what they’re trying to do? So they all knew what they were trying to achieve. (7.00)

Q: They were focused?
A: Yes, but it’s not just focus, it was in terms of their race preparation, in terms of their warm-ups, in terms of how they were going to row the race, in terms of their race plans, in terms of everything - that had been drilled down to the (I don’t know if I can say to the finest detail) but for example, when we won the Women’s Eights Head we had an identical boat on the bank, rigged identically with the same size shoes in the footplates, everything, so that if anything went wrong with the race boat, they could just take it off the water and get in the other boat. So when you go into that sort of level of detail, the people you’re coaching are focused, they know you’re serious! So I think what happens is you get a combination of leadership about what we’re doing, but also, because I think one of the things which is interesting about rowing as opposed to team sports like rugby or football – when you’re picking a rugby or a football team, although you’re all playing as a team, the position of fly-half, for instance, is hugely different in terms of the characteristics of play, from a hooker; or a second row is hugely different from a full-back. But they all play on the same team and they could all be doing different things for the same end goal. Whereas in many ways rowing is all about trying to get everybody to do the same thing at the same time, thinking the same way, which in a bizarre sort of way, I think, is harder than having a rugby team going “Your job is this; your job is that, you do such and such…” So I think that with all those people in the all the really people have achieved (1) they’re very, very, very focused, almost to the point of being anal. All the best performers I’ve come across and I’ve ever dealt with are almost bordering on anal about stuff and it is really, really difficult to actually explain until you see it. But for instance, I’ve never seen it but they used to reckon that Jonny Wilkinson used to go and practice his kicking for longer than anybody else, when everybody else had finished training; or David Beckham used to go and practice free kicks. I’ve got guys who just go and practice more than anybody else. There’s a training programme; they just do more of it. They just go and, if I say “I want you to do 10 roll-ups” they’ll do 20 roll-ups. If I say “I want you to do 10 starts”, they’ll do 20 starts, because they’ve worked out that if I do more than you, I will eventually be better than you. So interestingly, they’re obviously very driven, they’re very focused, they’re very … those are the real big personality traits they have. (10.10)
**Q:** Self-belief; would you say that they believe in themselves through being so focused?

**A:** I think self-belief comes from what you do on the training ground. Obviously you race and you have some warm-up races, but I think that self-belief comes from what you’re doing on a day-to-day basis, so if you’ve done the work and there’s a trust thing here, because they obviously have to trust the coach and trust the system and trust the programme, but if you sit there on a day-to-day basis and tell them “If you do this on a day to day basis and you do this to this particular level, you will be able to put yourself in a position to be able to achieve X or Y.” And they do it and you do some testing along the way, I think that’s where they get their self-belief. I’m not sure you get self-belief just because they’re focused. They’re focused to do the work, but they get their self-belief because they’ve done the work. (11.10)

**Q:** If we were to say “Mental Toughness” now, what is mental toughness to you, the coach? Could you give me a definition of mental toughness?

**A:** Do you want a scientific answer or my gut feeling?

**Q:** I want your personal opinion on what mental toughness is to you as a coach.

**A:** I’m an officer in the World War I trenches and I’m going to go “Do you know what guys; we’re going over the top. Are you coming with me?” And those guys you know would come with you and back you up, no matter what happens they’re the ones. And the problem is it’s really difficult to actually .... But that’s how I think about it in my mind. Almost what’s the worst experience that we, as human beings, have probably been through? I would argue that it’s probably being in the First World War trenches, where there’s muck and shit and you see 20,000 people killed in front of you and then you go “We’re going over the top!” It’s the guys who go “Actually, do
you know what? I’m coming over with you.” Now, the difficulty is how do you measure that, how do you see that? That’s the difficult bit, to pinpoint that, but that’s how I look at it in my mind. “Would you come over the top in the trenches with me?” That’s how I think about it, very, very simply and bluntly, if I’m honest. (12.28)

Q: If you were to say “mental toughness” in a sporting perspective, would you say it’s different in rowing from any other sport?

A: if I’m honest I’m not sure if I can answer the question completely, because I haven’t worked in top level other sports, enough to be able to answer the question. Having said that, one of the things I do know from stuff that I have seen, a lot of the Olympic rowers talk about taking their bodies to a place they don’t want to go. And I think lots of times I’ve seen other sports and other sportsmen and I’m not convinced they’ve put their bodies into a place they don’t want to go. I think they think they’ve put their bodies into a place they don’t want to go, but they haven’t really. Whereas you can see, and this is just from my experience: I’ll give you an example with Sport Wales here, I sat down in a meeting with Sport Wales, who said “Right, is there anything else we can give you in terms of training aids?” I said “Yes; buckets.” They said “Pardon?” I said “We want buckets.” “What do you want buckets for?” I said “To be sick in because there’s nowhere for the guys to be sick.” They said to me “Do you know what Ian, we have lots and lots of sports come through this door, we have all sorts of sports, we have Commonwealth sports, we have Olympic, but we’ve never been asked for sick buckets before, because nobody’s ever put their body on the line that much when they’re training on a day to day basis.” And I said “If they don’t put their body on the line on a day to day basis, how are they going to do it when it comes to competing? Because if you don’t do it when you train, you aren’t going to do it when you compete.” So I’m not saying that rowers are innately harder than anybody else, I’m just saying that’s what the Sports Council told me when I asked for sick buckets, for instance. (14.48)
Q: Do you believe then that harsh experiences develop mental toughness? You just went back to the First World War to give me an example, so these harsh experiences may develop mental toughness, or if you have mental toughness that’s what you described it as, but do you think that harsh experiences develop mental toughness and if so can those harsh experiences be taught or coached?

A: I think harsh experiences do develop mental toughness, and I think the answer is one of these nature or nurture types of things, I think your environment helps with mental toughness. I’m not sure whether it’s actually taught. I think, from my experience, the people who really do get to the top, it’s something in their environment; if you actually look at them. So, for instance, the best guys, arguably the two best guys we’ve had come through in the last 5 years I’ve been here, when you look at where they live, one of them lives in a street where there drug addicts in the road, where there are … it’s not a nice place to live. It’s his way out of the environment he lives in and so therefore he has become driven, really driven to go “I want something now!” He might have done the same if he’d been a soccer player, a rugby players, a swimmer – whatever, but my two best rowers come from environments which, if I’m honest, most of us probably wouldn’t feel comfortable living in. So I think that sort of toughness comes from an environment, so therefore it is true, (and this is a balancing act) we try to create an environment which will help develop your mental skills as well as your physical skills. Whether we can teach it or not, I don’t honestly know. (17.30)

Q: Could you describe to me that environment? Are we talking here about day in day tough training sessions or training in all weathers?

A: I think toughness isn’t actually just about proving that you can train in conditions like this. For instance we use the cold weather at the moment; the women had a session at 6 o’clock this morning and I said “Do you know what? The air temperature’s minus 3.9, the water temperature’s 4.7 and it’s snowing. When you go out tonight you’re going to get soaking wet and when you get soaking wet you’re
also going to be in a really cold environment and, to be frank with you, I could be tough and make you go out, but I know that by putting you in that environment, I could make you ill, and you could be ill for quite a long period of time.” So to an extent I could be tough, or I could actually go “Let’s be a bit sensible and conserve you.” But that does not mean to say that you’re being soft. What you’re doing is what I call taking a calculated risk, or taking the marginal and looking at it; taking the aggregated risk. So you take an aggregated risk and make a decision. Now on a day to day basis, if you were to talk to some of the guys, I think you would find that there are some sessions we do where they’re verbally beasted for 30 minutes in a training session and we just verbally beast them. Now, we’re not abusive to them, so we don’t swear at them, we don’t curse them and insult them, but they are beasted. They are verbally and physically beasted for the whole session. (19.18)

Q   Do you think that gives someone the characteristics, focus, as you mentioned earlier?

A:  Well if it didn’t I wouldn’t do it! And I’ll answer the question by giving an example. We went up to National Squad Trials in October 2011 and one of my guys was doing an erg there and he was going a 2,000 metre erg test and he was on for a good score and I stood right next to him, I stood about as close as we are now, and for the last 500 metres I was verbally beasting him. I was giving it all this. Now, when we finished, all the other coaches there were going “Bloody ‘ell Ian. We should have videoed you and put you on You Tube.” And the other coaches took the piss out of me. But the next day, the amount of coaches who came up to me, a lot of coaches went “Ian, our athletes have given us a hard time because of you.” I said “Why’s that?” (Now bear in mind this is not an exaggeration, there were a 120 people doing an Erg there. There were hundreds of people in this sprint) They said “All of our athletes have come up to us and gone “Ian does that. Why don’t you get stuck in to us like that? Why do you leave us alone to do it by ourselves when we go into a mental dark place? Why the fuck don’t you…” And they were going “Our athletes are giving us a hard time because you laid into your rower and you were obviously, in front of everybody, you verbally sat there and went ‘We’re doing it
together.’ And I don’t know whether I’m right or wrong, all I can say is that the feedback is that more coaches go “In actual fact we wish we could do that, but we don’t.” (21.21)

Q: So going off-topic a little bit here, you’re saying that your athletes when they know you’re prepared to go there with them, so we’re going to say that’s a coach/athlete relationship, would you say that’s mutual respect, or not mutual respect, that they know you’re going to go there with them? And would you say that’s internal then creating that environment helps develop it?

A: Yes. Oh yes. Undoubtedly, yes. (21.57)

Q: So, in turn, with you creating those right environments …

A: Bear in mind that I’m not saying they’re the right environments, but I’m trying to create what I believe is the right environment. (22.08)

Q: What you believe is the right environment, respect, mental toughness could be coached?

A: I think they can be developed. I want to be a bit careful because I think to perform at top level sport you need to be mentally tough. There is no doubt about it, you need to be mentally tough. There is no doubt about it whatsoever. But the elixir is, how do you actually get there? I know lots and lots and lots of guys who are very talented sportsmen, who are actually quite fit sportsmen, but when it comes down to the crunch, do they put their bodies on the line? Are they prepared to take the risk? Are they prepared to really hurt when the going gets tough? No. And those people who are prepared to actually put their bodies on the line, even though they might be...
slightly lesser athletes, do it. And the art is trying to find the guy who’s got, as you alluded to, the guy who’s got the talent, got the fitness, the guy who’s got the strength, and go “Right! Let’s make you mentally tough enough to do it. And if we make you mentally tough enough to do it, we haven’t just got somebody good on our hands, we’ve got a world champion on our hands.” (23.23)

Q: So do you think then, that mental toughness can be developed but it’s also something which is innate, a trait?

A: We’re getting off the nature and nurture type conversation here. I think it is something in somebody’s background but I think it can be developed. But I don’t think people are born tough or born soft. I think their environment counts for an awful lot, in terms of how they develop and in terms of their mental approach to stuff. And I think that’s a lot about how you evolve as opposed to whether somebody just teaches you. I think there’s an interesting conversation, I think it’s an interesting argument; I don’t know the answer. I know what I try to achieve but I can’t honestly answer it perfectly. (24.47)

Q: That’s the end of the interview, that’s fine. Thank you so much for your participation. Do you have any other questions?

A: Oh no, no. If I’m honest you end up doing quite a lot of this and some of the stuff we get asked to do is trivial, just ....  (25.05)
JOE TOMLINSON
INTERVIEW WITH
PARTICIPANT 3

Interviewer: Some of the questions I ask may be a bit tedious, but it’s an interview guide I have to follow. I’m currently preparing an undergraduate dissertation into whether mental toughness can be coached in rowing. Through research and semi-structured interviews I am trying to answer this question. I will be using this Dictaphone to record this interview and after the interview I will process a transcription to ensure that all information is correct. If requested, a copy of the transcript will be sent to you to ensure that all the information is an accurate representation of your views on whether mental toughness can be coached. All the information you give me today will be confidential, although selected quotations from the interview may be used in my dissertation, though your name will be kept completely separate from the forms. During the interview, when I am asking you a question, if there is anything you are unsure about or need to have clarified, please let me know. If there are any questions to which you do not have an answer, please say so, rather than formulating an answer. We are concentrating on your personal opinion on whether mental toughness can be coached in rowing.

To start with, can you tell me about your own motivation for getting into coaching? How many years have you personally been coaching and have all those years been specifically in rowing?

A: They’ve all been rowing-specific and I’ve been coaching for 22 years. My motivation was partly financial, because at the time I was still seeking a way to fund my own participation in the sport, and partly because I was getting to the age where I could see that I needed to be retiring as an athlete but I was interested in staying involved with the sport. At the time they were trying to promote the coaching awards scheme quite heavily and they were keen to attract ex-athletes, so I signed up for that on the Bronze Award course. (1.30)
Q: I know this may seem a silly question, based on your recent achievements, but there are a few other élite coaches I’ve asked and they all responded – could you tell me about your recent achievements in rowing? I know about the two athletes you just won Gold with, but some of the other coaches I asked said it’s not always the high-achieving things that they regard as their greatest achievements. Could you give me any of yours?

A: That’s a fair question. I think in that particular example, it is in my case because I haven’t coached women, out of 22 years of coaching, I spent 19 of them mostly coaching men, although occasionally I did work here and there with Junior Women and some Lightweights, but basically I was a Men’s Coach, so just the way that whole pair worked and came together, I think to my mind it was an example of how all the components of coaching come together in the way you had hoped they would. So you can say that the training went well; the technical development went well, the mental side of it and performing well and dealing with pressure, all that went well. So the Olympic Gold Medal is definitely going to come out on top, not just because it’s the kind of model that actually you’ll get the process, the story behind is what I think a coach would aspire for it to be like. In 2007, for example, in international coaching, I coached a Lightweight 4 and that was a highlight because they won the World Championships and it was the first time we’d got a medal out of the Olympic class Lightweight boat since they were brought into the Olympics. I don’t know if you’re familiar with that, in 1996 they introduced Lightweights and we’d never had anything to do with the programme and we’d taken a bit of a dip in our fortunes, so that was a turning point. Then I think actually the general principle, it’s always satisfying for a coach just to take a situation which doesn’t look too promising and you manage to turn it round. So if you have a crew or a club which isn’t performing and you manage to turn it round, then I think that can be a very strong high point for you. So when the girls’ pair, in a way because they were ranked fifth in 2010 in the Women’s pairs, that got them a bit further up the ladder that year, and everyone saw that at the World. I’ve got a bit of a turnaround thing going on with the Lightweight 4 and then at Cambridge as well, eleven years at Cambridge, Cambridge had in the 1970s and 1980s they had lost 16 out of 17 Boat Races, so being part of the Cambridge resurgence was also extremely satisfying. (5.12)
Q: So, if we use your most recent success as an example, could you give me common mental characteristics that the girls showed in that achievement?

A: They were relatively inexperienced, and I say “relatively” because they weren’t experienced in a literal sense, but in international terms, they were quite young, so I think the inexperience was actually an asset for them, because one of the key characteristics was that they were very trusting, and that’s important. Trust between the coach and the athlete, some athletes have had good experiences in their careers and some have had bad experiences and if they’ve had a bad experience the tendency is that the next time they tend to rely on themselves and they don’t put their trust in other people; they put their trust in themselves, which makes it harder then, to work with them because they can be resistant to change, so they were relatively inexperienced internationally speaking, a young crew, but very, very willing and very trusting and their attitude was very much “Can do!” They were very positive and cheerful and open-minded. They were very conscientious. They trained very hard, they were very consistent, they supported each other very well and they communicated well, so there were all sorts of elements to it, but a lot of really very positive things which I can say were such a good example. They took risks when they asked to take risks and they would listen and they were able technically to make changes quickly, because they were receptive and they were willing and I think people who are a bit more entrenched in their attitudes, you have to explain and persuade why they need to change something and it can take quite an effort before people are willing to really do that. But these two were basically willing every day to do whatever it took. (8.05)

Q: So, would you say that the girls were mentally tough? In any of your other big achievements you’ve had, would you say that the athletes you worked with were mentally tough?
A: Oh yes, definitely,

Q: Was this an attribute that you personally developed in their training programmes?

A: Yes, I think toughness and confidence go together because you can train hard and be tough in that sense, but not necessarily go out and perform if the confidence isn’t there and actually happen for you, then it might look as if you’re going out there and being beaten by people because you’re not tough enough, but often it’s just having the confidence to just display and I think during training, training is hard because you show yourself that you can physically sustain that amount of training and that’s one aspect of toughness; and also another aspect is racing like that as well and racing toughness, it’s not hard to deliver toughness physically and you could empty your body of energy in, probably, less than 500m if you really wanted to, which is sort of tough in a way, but it would also be a bit crass and a bit stupid, because that’s not what winning races is about. So I think mental toughness is the key thing. You obviously train to get the physical toughness, then when you race the mental toughness is about the management of your resources and abilities, isn’t it, so that you can execute, for instance, a good racing start, but you still might not be in front, so then you have to have the toughness and discipline to not panic. I always think toughness is the ability to rescue a situation which isn’t that promising and if you can turn around that the race when things are looking pretty grim, then that’s what people observe as being tough. Races where you’re winning comfortably don’t look that tough, but they are, just in a different way, because you’ve got the winning margin because you’ve been tough enough to come out and set the pace and set the standard. (11.20)

Q: While on the subject of mental toughness, could you give me your personal definition of mental toughness and what it is to you, as a coach?
A: It’s definitely displaying the ability to win under all circumstances, i.e. not just when things are going well for you. It’s the ability to deliver everything you put down in training, and some more. They do talk about people who are able to raise their game on the day, and Kathleen Grainger is definitely one of those. She won the race in 2009, when she raced in the Women’s Singles. She got a silver medal and for 1500 metres she led the field and I don’t think anybody that year thought she would have done well to make the final. But there she was, actually taking it on and leading it. So mental toughness – there’s a lot of self-belief involved. It’s difficult to put it into a concise definition, really. (13.08)

Q: No, no, that’s fine. I just wanted to get your thoughts, your grasp of it, it you get me. Do you believe then, that mental toughness in rowing is different from in other sports, like the characteristics that are involved?

A: It’s very interesting. I remember at Cambridge I coached one of the rowers there and he played quite a lot of rugby before he turned to rowing and he said that the toughness in rugby, he had to be tough in that it’s a really physical game, but he said you didn’t have a choice whether somebody thumped you to the ground and tackled you, so the pain is inflicted upon you. In rowing, you elect what level of pain and discomfort you suffer; it’s completely your choice, because it’s a non-contact sport. So I quite like that definition, it’s a very inner self-discipline, you have to decide what your threshold is, depending on toughness, whereas in other sports, if it’s a contact sport like boxing or rugby or anything like that, then I think it is a bit different. I suppose in contact sports it’s a little bit of a kill-or-be-killed mentality, isn’t it? You’re attacking and defending. In rowing I think personality-wise a lot of rowers are actually quite … if you talk to them out of the boat, they’re often quite softly spoken, they don’t strike you as being outwardly aggressive, compared to say if you talk to somebody who’s into martial arts and put them out there, they’re much more in your face. But rowers tend to be quiet on the outside but very tough and disciplined on the inside, in my experience. (15.12)
Q: Would you agree with the statement that one of the reasons you may have had so much success, was that one of the attributes that the girls had, was mental toughness?

A: Yes, definitely. I think it’s the final ingredient in the recipe, really, because the training is all theoretical unless you can actually do it, and the technique is theoretical in training, unless you can actually deliver it when you’re under intense pressure, so I think the mental discipline and mental toughness is absolutely what marks out the champions from the also-rans. So I think that’s true of all winning crews. Some crews win despite maybe not being the biggest or the most physical, but they have that mental toughness, they stay at it and stay at it and stay at it, so I do think it’s the final ingredient. I don’t think you can win races without it, to be honest. (16.28)

Q: Quite a lot of the research I’ve been going into, quite often talks about harsh experiences developing mental toughness. Would you say that harsh experiences, from your experience, do develop mental toughness?

A: Yes, definitely. If you think of the Boat Race, you spend 6 months training without racing each other and then you turn up on the day and the result goes one of two ways. If you win it’s a vindication of everything you do and everything’s brilliant and you’ve got that feeling for ever. But if you lose it’s absolutely … that’s academic really, so with losing Boat Race crews provided the people in the boat got back next year, I definitely think that makes them tougher, because if you lose a race, you have a choice of only two things. You either quit, you say “That’s it, I’ve been beaten, I’ll go away and I’ll take up cookery, or something …” or you turn around say “I’ll learn from that and I’m prepared to go and face the same challenge again.” So I think losing is, more harsh experience is very much a part of improving and pushing on and that can be a harsh experience through losing races, or it could be through injury or – with the pair, for instance, in 2011, they were winning all the way and then lost all on the last stroke by .08 second and that was a horrible experience but ultimately
it pushed them on in 2012. But that’s at international level. I think if you’re careful that the younger age groups, if you’re talking about youngsters and developing rowers, if you have too many harsh experiences, I think you can learn to become a serial loser and eventually lose all your self-confidence and I think like the mentality in those Cambridge crews when they lost 16 out of 17 races, I think there was probably an unspoken assumption every year that they were going to go out and lose. Then eventually they got a bunch of people who said “That’s not us. It might have been you, but not us.” So they took other people’s harsh experiences but they weren’t their own. Obviously 16 years, when you’re only at university for 3 years, so that was a historical fact but not relevant to them in their year, they decided “It doesn’t have to be the same story for us.” But they definitely used the harsh experience of the previous generations to turn around their own year. I don’t know if you’ve read “Bounce” by Matthew Syed? It’s really good. He talks about … the main theme of the book is where talent comes from, but failure and getting things wrong are very much one of the themes he writes about, Andre Agassi or Tiger Woods or whoever it is, they see it as fundamentally important that you get things wrong in order to highlight the difference from getting it right. You need to try – you have to push your limits and in so doing there is a risk of failure. You may fail a few times, but eventually you’ll find out how to execute that shot or how to jump over that high-jump bar. It might take you 10 goes or 1,000 goes, but if on the thousandth time you achieve it, then all the harsh experiences of failing before that have been part of the reason for your success. (21.14)

Q: While on the subject of harsh experiences, do you feel that harsh experiences can be coached? If you believe it can help mental toughness and mental toughness is a key attribute for success, do you feel that harsh experiences can be coached?

A: Yes, I think so. I think some coaches, their training is harsh, it may be hard but I know some coaches will actually create harsh experiences in order to stretch the athlete mentally. So, years and years ago, when Bobby Knight coached the Olympic 8 back in the late 1970s and they ended up with an Olympic silver medal, apparently one day they rowed out from the boathouse at Hammersmith in the
evening, and they’d all been at work and they turned up in the evening at 6 o’clock, got the boat of the rack, put it down by the pontoon in the water and were just about to go out rowing and he said “Right, put the boat away. You’re doing a 2k ergo test.” That was a bombshell and two or three of the guys were moaning and complaining and clearly were very upset by having that dropped in as an unpredictable change of plan, but four or five of them said “OK. If that’s what you say we’ll just get on and do it.” So it’s a way of seeing how people cope under pressure. It’s probably not something every coach would do or not very often, because the athletes will start to mistrust you, when you say “This is what we’re doing next week” and change your mind, but I think sometimes coaches create harsh experiences exactly in order to toughen people up and make them deal with it. Because there’s nothing harsher than the race itself. If you want to win the race you must introduce some pretty harsh training to get there. (23.30)

Q: If you feel that harsh experience can be coached and harsh experience is a big part of mental toughness, and as you said earlier, things like self-belief, trusting the coach and the willingness of the athlete, all in all do you feel that mental toughness as a whole can be coached?

A: I think so. I think people often don’t realise how tough they are, actually. Unless something comes along to challenge you toughness isn’t an attribute you necessarily have to display every day. It’s only in exceptional circumstances where you have to display toughness, so I think it is trainable and when in ordinary life people who go through horrible experiences like war, often find fantastic toughness which would never have emerged in other circumstances, so I think … in fact one of the simple examples I sometimes give to the guys is when a woman goes through childbirth, and billions of them do, that is a massively tough thing, but it’s not done by just 1% of the female population. Virtually all women will go through childbirth, so I think it is something which is in there. People are tough, they don’t have a call on it or necessarily know exactly what it is but I think it’s definitely trainable. (25.20)
Q: In yourself, can you give me any personal examples you've used or you would use, or strategies you'd use to develop mental toughness?

A: As I said I think the training programme is the main tool, because starting off with a crew in Year 1 and let's say you're doing 100km a week, or something like that, and then a year later or two years later it might be double. But if in year 1 you'd said to them “We're going to have you training 30 hours a week and doing 200km, with ergos and weights and stuff, they'd probably just run away! They'd be scared off. So I think the training programme basically builds you physically and with that you build the physical robustness and also the mental toughness to cope with that, so I think the training programme is the main tool. But also racing a course, because in life, if you try hard and you succeed at something, growing roses or studying for an exam or whatever, if you get the positive result then you think to yourself “Well, actually that wasn't all that tough. I could be tougher if I had to be. If the opposition had me under more pressure than they did, I could probably dig a bit deeper.” So I think racing definitely is probably the most powerful thing because the desire to win is very, very strong, so therefore the willingness to dig deep and push hard is there, I think more so than in training. Because it's what you're there to do. You've spent all that time preparing for it, so I think racing experience counts for a lot. I think also using Sport Psychology you can understand and talk about and define toughness with athletes and say, I think that at international level a lot of it is getting athletes to understand themselves, so you can point out “Here's your race profile. You got off to a good start but there's always a minute in the middle here where you come off the pace a little bit.” Well, you can train them and if you can identify a point then that's the first step towards addressing that properly. And certainly we used to watch psychologists quite a bit talk about, well toughness is one of the attributes you need and we'd certainly talk about that and a lot of people understand that you're not going to get very far without it and they can come to terms with what it means for them personally and how they can display it. (28.28)

Q: I'd just like to thank you very much for letting me have so much of your time from your busy schedule.
A: You’re doing your degree in Sport Psychology?

Q: Sports and Coaching Science is my degree and I’m doing my dissertation this year on “Can mental toughness be coached in rowing, specifically.” I’ve interviewed a few coaches and I’m most grateful to you.

A: If there’s anything else you need, just ask. You have my number.

Q: Thank you very much; it’s much appreciated. Thank you, goodbye.
Interviewer: As you know, I’m currently preparing an undergraduate dissertation into whether mental toughness can be coached in rowing. Through research and semi-structured interviews I am trying to answer this question. I will be using this Dictaphone to record this interview and after the interview I will process a transcription to ensure that all information is correct. If requested, a copy of the transcript will be sent to you to ensure that all the information is an accurate representation of your views on whether mental toughness can be coached. All the information you give me today will be confidential, although selected quotations from the interview may be used in my dissertation, though your name will be kept completely separate from the forms. During the interview, when I am asking you a question, if there is anything you are unsure about or need to have clarified, please let me know. If there are any questions to which you do not have an answer, please say so, rather than formulating an answer. We are concentrating on your personal opinion on whether mental toughness can be coached in rowing.

To start with, can you tell me about your own motivation for getting into coaching? How many years have you personally been coaching and have all those years been coached in rowing?

A: I’ve been rowing myself now for 15 years. I started coaching when I was at the end of school. Unfortunately I injured my back, so I had some time out from rowing, so I started coaching others, beginners in my school. I then carried on doing it when I was at university and then it started going into different stuff. I was taking as many opportunities as I could. Then when I finished university there was an opportunity in Cardiff to do what’s called The Henley Steward’s Scholarship where they paid for a part-time Masters and they pay you part-time to coach, and that was really the start of when I began professional coaching. (2.12)
Q: In your coaching experiences, could you name your greatest achievements as a coach?

A: Gosh, greatest achievements. It depends on who you’re talking to, really, and what kind of achievements they think are good and bad! When I’d been coaching at school, getting crews into the top ten in their age groups, all that kind of thing; that could be classed as a really good achievement. Or in my current job, at the moment, we have Talent ID sides, getting someone into the GB Squad for a year and 8 months, is probably classed as quite an achievement. It depends on what aspect you’re talking about, really. (2.58)

Q: When you have those greatest achievements, for example the one with a year and a half in the GB Squad, would you say there are any common characteristics shared by those people who’ve achieved with you, personally?

A: Oh God, yes! Actually I’ve just taken on someone now, new into the Academy and he’s got exactly the same characteristics, so I’m getting really excited about him! I knew straight away with Josh that he’d probably be one who would go far and even now he’s one who’s in the gym for an hour after everyone else. You actually have to tell him to go home. Sometimes that’s a good thing; sometimes it could be seen as a bad thing. Just the way he would stick at everything, even though some of the exercises we do were tough, he’d stick at it and keep going for hours until he got it right. (3.55)

Q: So he has self-determination?

A: Self-belief and self-determination, really good time management, with fitting everything in, compared with some of the others. Really determined and as I said,
with what I knew by now, he’s exactly the same. He gives me good vibes to stick with this new guy as well. (4.15)

Q: These personality skills, are they attributes they came into the team with or that you spotted them with, or were they developed as being in their system, so to speak?

A: I’d say they came in with them, personally. I’d say yes, they had them before and maybe we’ve just tapped into them and found the right triggers and the right things which will get them really motivated. Yes, I’d say Josh, for example, he was very determined when he came in, from the outset, and maybe we’ve just given him the right pathway and he’s probably become more and more determined as we’ve gone along. (5.05)

Q: What is “Mental Toughness” to you as a coach? Could you give me your personal definition of what mental toughness is?

A: I’d need about a month to think about this! I’d say someone who, you’d throw a lot at them and they’d carry on whatever the situation, they’d just carry on doing it. Someone who’s not afraid to get stuck in and get on with it, whether it’s difficult things or whether they think it’s a little bit risky, but just someone who’d really get their head down and get on with it. (5.44)

Q: Would you say there are any characteristics of mental toughness which you think are different in rowing compared with other sports?

A: One thing that we do is what’s called seat racing where they’re racing each other. ....If, say, there are two 4s and they’re racing each other and then you just
swap two people over. You time them over and over again and just keep swapping
people over and that, if say, all the people have the same physiology, they’re all
going to have the same scores etc, it’s literally about who can just dig in and tough it
out. That’s a really good example, I think of what it is. And Josh for example, last
year at the GB trials, he was doing that racing system and when my Head Coach
said he was doing seat racing, I knew straightaway he’d win, just because he had
that ability to just stick it out and he wouldn’t let anyone else beat him. (6.48)

Q: So almost like an example of toughing it through the pain barriers and just
self-belief?

A: Yes.

Q: We’ve already mentioned it, but are there any other characteristics that make
up a mentally tough rower?

A: I’m not very good with characteristics! I’m more that if I know someone, I’ll go
“Right! Some like that.” Mental toughness, just determined, especially in rowing the
amount of training we do, they do need to be able to stick it out on their own. It’s
quite a sport you have to know your abilities and you have to know where you’re at.
Quite a few people I would say aren’t very good at mental toughness are ones who
are almost kidding themselves over where they are and what they have to do.
Whereas the ones who are tough are those who know the path they’re on and they
know it’s going to be a hell of a journey, but they’re willing to really go for it. (8.00)

Q: Part of the research I’m doing says that experiences of hardship can develop
mental toughness. Do you feel that this is true? Experiences of one type or just
general harsh experiences?
A: Yes. From my experience with all the people who’ve come through in the last few years, quite a few of the ones I would consider as being quite good with mental toughness and self-determined, that kind of thing, I would say that, knowing them, some of them have come through some quite harsh experiences. But whether that’s spurred on things or whether it’s just added … I’m not sure. It’s just a bit of a coincidence that those people are the ones who are very self-determined. But I’d never really thought about, but I would say that mental toughness is definitely something that people either have or they don’t have, but I’d say experience will always help it, but I wouldn’t say if it would necessarily initially give mental toughness to people who weren’t very tough before that experience. (9.18)

Q: So you feel that some harsh experiences can help or that people who are better seem to have gone through some harsh experiences. Would you think those harsh experiences could be coached, whether it be in tough training sessions, or …?

A: Yes, probably it would help their toughness, but whether at the end of the day it would really help their toughness, I don’t know. Temporarily it might help their toughness in a really hard training session, but when it really came to say that seat racing experience, that one experience a few months ago, whether that would really help them later on … (10.10)

Q: That’s a good point. So you think that sometimes, even if they’ve had harsh experiences, for example through training, that’s just that training and even when it comes down to it that may not still have mental toughness afterwards. As you personally coach do you feel that mental toughness can be produced? For example, you said that self-determination and self-belief were part of it. Do you feel, personally, that these could be coached, those single characteristics?
A: I would say that we can build on what people have, but I wouldn’t know whether, if they aren’t very tough to start off with, we can really get them really tough at the end of the day. I have this feeling too, which I’ve developed as the years have gone by, that people either are tough, or they’re not, when they first come in. Quite a lot of those I thought weren’t very tough, haven’t stuck it out and they haven’t carried on doing 20 training sessions a week, so I have a bit of an inkling as the years have gone by about whether it really does help. You can do those hard training sessions and, as I said, it will toughen them for that session, but how that really affects them long-term, I don’t know. Quite often in rowing, if you have a really bad winter there’ll be bad weather or something and you’re inside all the time and you’re doing a lot of the same repetitive stuff and that can be a tough season. So something more like that could probably help their toughness because they’re more likely to just get on with it, where it’s compared to the one tough session. (12.10)

Q: So just as an example you mentioned if people have a tough season, if they’re inside doing a lot of repetitive stuff, have you found that sort of winter can help them to succeed?

A: Yes, they’ll just be a little bit more ready to go in the summer, but that could also be because they know they’ve put in a lot of training. It’s hard, I’ve never really thought about how much it affects them in that way. (12.48)

Q: Would you say that in this winter period, when they’re training and they do a lot of the same stuff, they get to know how good they actually are, for example if they’re doing an erg test they know that they are that good when it comes to competition, because they’ve done the work and they know that they can achieve, so they go out to actually race, that they have it and they know that they have it. Would you say that?
A: Yes, definitely. Especially coming out of the winter season, which is usually February/March/April time, if they’ve had a really good hard winter they will come out feeling really good and you do notice over the years that they will have a really good summer just because their confidence is high. Yes definitely. They know they’ve done the work, they know they’re hitting the targets from a year ago, which we know correlates with quick times on the water, so a really hard season does generally toughen them up a bit, I’d say. (13.48)

Q: So would you say they have produced a lot of mentally tough performers, with their self-confidence?

A: Yes, definitely.

Q: So, if I were to give you an example of someone coming in January and they were a good rower, but they lacked a little bit of self-confidence, and they had that hard winter season, so they came out at the other end with more confidence, would you say that had influenced that self-confidence in them, because of the hard winter training?

A: Yes, we’d hope through the training that, in a way the training that we set them would just bring that out in themselves, so we’d try to get them to be more confident with what they’ve done. Whether we have effected that is another matter. (14.34)

Q: Could you give me an example of what training you might use which you know gives self-confidence?
A: Over the winter there will be lots and lots, because the longer the winter goes, we really get on hard with the endurance side. So they really see the effects then, when they do the shorter sprinty stuff in the summer, it’s just a breeze. They just get on and do it. In the winter when they do get on the water we’re doing longer time-trial pieces, which are 3, 4, 5km pieces and the more of those they do, they know the endurance side is really coming up and come the summer, when some of them will do 1,000m or 2,000m pieces they’re just a bit of a breeze and they’re like “It’s over before it’s started!” So they’ll just be a lot more gee’d up in the summer because they know they’ve really put in the work over the winter. (15.33)

Q: So when you talk about endurance stuff, would you say that’s tough training?

A: Oh yes, definitely for a row, the amount will get them to stiffen their nerve, they’ll be doing 12, 18, 20 km, they’ll be sat on their boat for an hour or an hour and a half. They’ve got to be fairly tough to just stick it out, just staring at the screen, not even really looking around the room, for an hour, an hour and a half, they must be fairly tough to just stick that out, day in, day out. But still, we even see the difference between rowers who will do that every day, which is all of our guys, and then the rowers who will do the extra toughness as well. They must be fairly tough to start off with, I should think.

Q: You were saying then, when they’re doing this tough training, have those experiences of that tough training, when it comes to race time, they’re actually faster.

A: Oh yes, when we’re behind them in their pre-race chats and stuff, we will remind them about those cold mornings and long winter nights when we were in the room next door doing those hour/hour and a half over every day, we will remind them of that. (17.00)
Q: Would you say that those harsh experiences, or those tough experiences, help them?

A: Oh yes, yes. In that example of training, yes, I suppose it does. Yes. (17.15)

Q: That’s it, thank you for your participation.
APPENDIX-C PARTICIPATION SHEET
**Project Reference Number:**

**Title of Project: Can mental Toughness be coached in rowing**

This project was initiated to discover whether mental toughness can be coached in rowing. Mental toughness is acknowledged as a key element to a successful performer, when looking at mental toughness there are many questions that arise.

In this research project we hope to answer one of these questions ‘whether mental toughness can be coached’ specifically in rowing. The process in which the research will be conducted will occur through a semi structured interview. In this interview the participants, who will be coaches, will discuss their perceptions on mental toughness, and discuss previous research into mental toughness.

This is an invitation to you to join this study and to let you now what it will involve. The study is being organized by Joe Tomlinson an undergraduate student at Cardiff Metropolitan University (UWIC).

If you want to find out more about the project, or if you need more information to help you make a decision about joining this research project, please contact Joe Tomlinson on the telephone number given at the bottom of this sheet or via email.
Your Participation in the research Project

Why you have been asked

This study is asking for participants who are currently involved in coaching rowing at a high level i.e international. This study is asking for coaches at this standard because at this level, the coaches will be interacting with their performers on a day-to-day basis. The study feels if it were to ask for participants who coach at an amateur level, they may only interact with their performers on a weekly basis. Professional coaches that would be interacting with their performers on a day to day basis allow the possibility of developing/coaching psychological attributes like mental toughness whereas the amateur coaches may lack the time to develop/coach this, if mental toughness can be coached or developed. Also requiring the coaches to be at an international standard would propose that the research is being conducted with coaches with a high level of knowledge and experience.

What happens if you want to change your mind?

If you decide to join the study you can change your mind and stop at any time. We will completely respect your decision. If you want to stop it would help us if you could let us know (through email or telephone see bottom of sheet) and it will save us bothering you with unnecessary telephone calls, there are absolutely no penalties for stopping.
What would happen if you join the study?

If you agree to join the study, then we will ask you to complete a short consent form asking questions about your agreement of the terms and conditions. Prior to the interview a set of documents will be sent to you, part of the documents will be information on prior research into mental toughness, read through these. They will be sent to you via email, and we think this would take you about 10-15 minutes of your time. We would then communicate an appropriate time to conduct the interview process.

The interview would last about 15 minutes and we would be trying to discover in your coaching opinion do you believe mental toughness can be coached and if so how? Also discussing opinions on prior research.

Are there any risks?

There are no risks to participating in this study.

Your rights.

If you were to join the study, it does not mean you have to give up any legal rights.

What happens to the interview results?

The Person conducting this research project will be responsible for putting all the information from the study (except names and addresses, and personal identification information) into a computer programmer. Once all interviews have been conducted,
they will be examined and will be formulated into the results section of the research project. No personal identity will be given in this.

**Are there any benefits from taking part?**

There are no direct benefits to you for taking part; however this study may help the participant to increase their knowledge of mental toughness, Especially whether it can be coached. When the study is complete and we have published the results we will let you know what we have found.

**How we protect your privacy:**

All the information we get from you is strictly confidential, and everyone working on the study will respect your privacy. We keep your name and email address completely separate from the other forms.

When we have finished the study and analysed the information, all the forms we use to gather data will be completely destroyed. We will keep the form with your name and email address and we will keep a copy of the attached consent form for 10 years, because we are required to do so by the University.

**PLEASE NOTE: YOU WILL BE GIVEN A COPY OF THIS SHEET TO KEEP, TOGETHER WITH A COPY OF YOUR CONSENT FORM**

Contact Details:

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