

**MENTAL TOUGHNESS AND OVERTRAINING BEHAVIOURS**

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## ABSTRACT

The idea of mental toughness (MT) is bewitching. The construct is consistently associated with success and being able to overcome great difficulties while demonstrating dogged perseverance regardless of adversity (Gucciardi, Gordon, & Dimmock, 2008; Jones, Hanton, & Connaughton, 2002). It is no wonder sport psychology researchers strive to understand how to develop and display MT. The increase in published research in this topic attests to the popularity of becoming mentally tough. A clear understanding of MT, what it does and does not enable athletes to do, however, has not yet arrived. The purpose of this thesis was to gain an understanding of MT, with specific attention paid to the relationship with stress/recovery imbalance (SRI). Given that many risk factors associated with SRI are the same characteristics associated with being mentally tough, investigating the relationship between SRI and MT seemed an important first step in the research. In Study 1, I investigated how MT correlated with stress/recovery in 107 athletes. The athletes completed the Mental Toughness Inventory (MTI; Middleton, 2005) and the Recovery-Stress-Questionnaire for Athletes (RESTQ-Sport; Kellmann & Kallus, 2001) to determine if the attributes measured on the MTI have any associations with the scales of the RESTQ-Sport. Only three attributes on the MTI had adequate test-retest reliability: potential, mental self-concept, and task familiarity. Correlations were carried out only with the three MT attributes with acceptable reliability. The *potential* subscale displayed a moderate positive linear correlation with sport-specific recovery indicating that at the highest scores of *potential*, athletes reported more sport-specific recovery. The MT attributes of *mental self-concept* and *task familiarity* displayed moderate curvilinear correlations with sport-specific recovery scales of the RESTQ-Sport. The curvilinear correlations reflect decreasing

recovery at the highest levels of MT. The results suggest that some attributes of MT may relate to increased ability to recover whereas other attributes are associated with lower recovery. To understand the relationship between MT and SRI in more detail, I interviewed four junior and four senior footballers and three football coaches focusing, in particular, on athletes' stories of MT, SRI, situations where they felt they demonstrated their MT, and how attributes may have helped or hindered them in sport and in a wider sense, life outside sport. I used a narrative approach to analyse and present the data, which aggregated into two constructed fictional stories. The results from this study identified numerous risk factors in the *overtraining (OT) risks and outcomes model* (Richardson, Andersen, & Morris, 2008) that were viewed in the football culture as MT. To gain more information regarding the benefit or detriment of trying to be mentally tough in football, I used a case study approach to follow two footballers through a competitive season. I obtained a variety of data through a combination of quantitative and qualitative methodologies to uncover various sociocultural factors deemed mentally tough that led to SRI. In the general discussion, it is clear that MT is different things to different people, as a number of researchers have suggested (Bull, Shambrook, James, & Brooks, 2005; Crust, 2008; Fawcett, 2011). It also appears that MT is different for different sporting cultures and may be as much culturally determined as having something to do with individual differences. In the professional team I studied in depth, there were culturally transmitted MT ideals and expectations of "no pain no gain," "suck it up," "don't show vulnerability," silence your emotions," "play while injured," "give 110%," and many other attitudes and behaviours that seemed to increase the risk of SRI. In this research, which focussed on one sport, MT appears to be many conflicting ideas, attributes, and behaviours, some of which are

beneficial to athletes and their performances, but some that may be pathogenic for athletes who struggle to fit into the MT mould.

### DECLARATION

I, Stephanie Jane Tibbert, declare that the PhD thesis entitled *Mental Toughness and Overtraining Behaviours* is no more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references, and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Signature:..... Date:.....

## TABLE OF CONTENTS

<b>ABSTRACT .....</b>	<b>2</b>
<b>DECLARATION .....</b>	<b>5</b>
<b>TABLE OF CONTENTS .....</b>	<b>6</b>
<b>LIST OF TABLES.....</b>	<b>14</b>
<b>LIST OF FIGURES.....</b>	<b>15</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>16</b>
<b>CHAPTER 1: INTRODUCTION .....</b>	<b>18</b>
<b>CHAPTER 2: REVIEW OF LITERATURE.....</b>	<b>23</b>
<b>Mental Toughness.....</b>	<b>23</b>
<b>Mental Toughness Definition.....</b>	<b>24</b>
<b>Mental Toughness Characteristics.....</b>	<b>32</b>
<b>Self-Belief.....</b>	<b>34</b>
<b>Coping/Handling Pressure.....</b>	<b>35</b>
<b>Attentional Control (Concentration and Focus) .....</b>	<b>36</b>
<b>Motivation .....</b>	<b>38</b>
<b>Control .....</b>	<b>39</b>
<b>Sporting Intelligence/Knowledge .....</b>	<b>40</b>
<b>Tough/Resilient Attitude .....</b>	<b>41</b>
<b>Personal Values .....</b>	<b>41</b>
<b>Physical Toughness .....</b>	<b>42</b>
<b>The Dark Side of Mental Toughness .....</b>	<b>44</b>
<b>Measuring Mental Toughness .....</b>	<b>47</b>

<b>The Psychological Performance Inventory (PPI) .....</b>	<b>48</b>
<b>Psychological Performance Inventory-Alternative (PPI-A) .....</b>	<b>49</b>
<b>The Mental Toughness Questionnaire 48 (MTQ 48).....</b>	<b>50</b>
<b>Mental Toughness Inventory (MTI) .....</b>	<b>52</b>
<b>Sport Mental Toughness Questionnaire (SMTQ).....</b>	<b>53</b>
<b>Cricket Mental Toughness Inventory (CMTI).....</b>	<b>55</b>
<b>Australian Football Mental Toughness Inventory (AfMTI).....</b>	<b>56</b>
<b>Mental Toughness Development .....</b>	<b>58</b>
<b>Research Exploring Mental Toughness Measurement and Behaviours .....</b>	<b>67</b>
<b>Overtraining and Stress/Recovery Imbalance .....</b>	<b>71</b>
<b>Definitions .....</b>	<b>71</b>
<b>Overreaching, Overtraining, and Overtraining Syndrome .....</b>	<b>72</b>
<b>Burnout.....</b>	<b>73</b>
<b>Staleness.....</b>	<b>73</b>
<b>Underrecovery.....</b>	<b>73</b>
<b>Prevalence of Overtraining.....</b>	<b>74</b>
<b>Overtraining Syndrome and Illness .....</b>	<b>76</b>
<b>Overtraining Syndrome and Injury.....</b>	<b>76</b>
<b>Detection and Symptoms .....</b>	<b>78</b>
<b>Risk Factors .....</b>	<b>82</b>
<b>Athlete Interpersonal Factors.....</b>	<b>84</b>
<b>Intrapersonal Variables .....</b>	<b>86</b>
<b>Supermotivation .....</b>	<b>87</b>

Pushing through injury .....	87
Seeking love and approval for performance. ....	89
Situational Factors .....	89
Nonsport factors .....	89
Sport-specific events .....	91
Sport Sociocultural Context.....	92
Purpose of Thesis .....	94
<b>CHAPTER 3: STUDY 1: A QUANTITATIVE APPROACH TO UNDERSTANDING</b>	
<b>MENTAL TOUGHNESS AND STRESS/RECOVERY .....</b>	<b>96</b>
Method .....	99
Participants .....	99
Measures .....	100
Demographic information form. ....	100
Mental Toughness Inventory .....	100
Recovery-Stress Questionnaire for Athletes .....	100
Procedure.....	101
Data Analysis.....	102
Results.....	102
Patterns of Mental Toughness .....	103
Patterns of Stress and Recovery .....	106
Stress and recovery over two periods .....	107
Relationships between Mental Toughness Attributes and RESTQ-Sport	
Scales .....	108



Linear correlations .....	108
Curvilinear correlations .....	109
Discussion .....	113
Patterns of Mental Toughness .....	113
Patterns of Stress and Recovery .....	114
Relationships between Mental Toughness Attributes and RESTQ-Sport	
Scales .....	115
Methodological Issues .....	117
Future Research .....	119
<b>CHAPTER 4: STUDY 2: A QUALITATIVE APPROACH TO UNDERSTANDING</b>	
<b>MENTAL TOUGHNESS AND STRESS/RECOVERY IMBALANCE .....</b>	<b>122</b>
Method .....	123
Participants .....	123
Interviews .....	124
Procedure .....	125
Data Analysis .....	127
<b>CHAPTER 5: STUDY 2: THE STORY OF LEO: THE “GO HARD OR GO</b>	
<b>HOMERS” .....</b>	<b>130</b>
The Rookie List .....	133
The Professional Footballer Years .....	141
Discussion .....	157
Mental Toughness Definitions .....	158
Working Hard, Pushing through, and Playing Injured .....	160

Managing Distractions .....	161
Sacrifice .....	163
Mental Toughness Development .....	164
Coach-Athlete Relationship .....	164
<b>CHAPTER 6: STUDY 2: THE STORY OF SAM: THE DARK SIDE OF MENTAL TOUGHNESS .....</b>	<b>168</b>
Learning Lessons in Junior Football .....	169
The AFL Years.....	180
The Coaching Years .....	195
Discussion .....	208
Mental toughness Definitions .....	209
Junior football.....	210
Playing AFL .....	212
Coaching AFL .....	214
<b>CHAPTER 7: STUDY 3: INTRODUCTION AND METHODS FOR TWO CASE STUDIES IN MENTAL TOUGHNESS .....</b>	<b>217</b>
Method .....	218
Participants .....	218
Design.....	218
Interviews .....	219
Procedures .....	219
Data Analysis.....	221

## **CHAPTER 8: STUDY 3: JOE’S YEAR: THE ENCULTURATION OF A**

<b>ROOKIE.....</b>	<b>223</b>
<b>Preseason Interview.....</b>	<b>225</b>
<b>Interview 2.....</b>	<b>231</b>
<b>Interview 3.....</b>	<b>238</b>
<b>Interview 4.....</b>	<b>243</b>
<b>Interview 5.....</b>	<b>247</b>
<b>Discussion .....</b>	<b>252</b>
<b>Mental Toughness and Conformity .....</b>	<b>252</b>
<b>Mental Toughness Development .....</b>	<b>255</b>
<b>Mental Toughness Characteristics.....</b>	<b>258</b>

## **CHAPTER 9: STUDY 3: ETHAN’S YEAR: THE MENTALLY TOUGH**

<b>OVERTRAINER .....</b>	<b>261</b>
<b>Preseason Interview.....</b>	<b>262</b>
<b>Interview 2.....</b>	<b>269</b>
<b>Interview 3.....</b>	<b>275</b>
<b>Interview 4.....</b>	<b>283</b>
<b>Interview 5.....</b>	<b>290</b>
<b>Discussion .....</b>	<b>300</b>
<b>Mental Toughness Definitions .....</b>	<b>301</b>
<b>Overtraining.....</b>	<b>303</b>
<b>Mental Toughness Characteristics.....</b>	<b>303</b>
<b>Work Ethic .....</b>	<b>303</b>

Physical Toughness .....	304
Emotional Intelligence.....	305
Attention and Focus.....	306
<b>CHAPTER 10: GENERAL DISCUSSION .....</b>	<b>308</b>
Mental Toughness Definitions .....	308
Mental Toughness Characteristics.....	310
Mental Toughness and Sports Culture.....	312
Coach-athlete Relationships .....	312
Coach Influence on Mental Toughness.....	315
Club Culture.....	317
The Researcher in the Research Process.....	321
Methodological Considerations .....	324
Future Research.....	326
Applied Implications .....	328
Final Thoughts .....	329
<b>REFERENCES .....</b>	<b>330</b>
<b>APPENDIX A: DEMOGRAPHIC INFORMATION FORM .....</b>	<b>345</b>
<b>APPENDIX B: MENTAL TOUGHNESS INVENTORY (MTI).....</b>	<b>346</b>
<b>APPENDIX C: RECOVERY STRESS QUESTIONNAIRE (RESTQ-52 Sport) .....</b>	<b>349</b>
<b>APPENDIX D: INFORMATION STATEMENT AND INFORMED CONSENT ....</b>	<b>355</b>
<b>APPENDIX E: PARENTAL/GUARDIAN CONSENT .....</b>	<b>359</b>
<b>APPENDIX F: INTERVIEW GUIDE.....</b>	<b>361</b>
<b>APPENDIX G: INFORMATION STATEMENT AND INFORMED CONSENT ....</b>	<b>365</b>

**APPENDIX H: INFORMATION STATEMENT AND INFORMED CONSENT ....367**

## LIST OF TABLES

Table 3.1	<i>Means, Standard Deviations, Reliability Coefficients for MTI Attributes Measured During a Week with a Competitive Match, and the No Competition Week and Cronbach's alphas.....</i>	104
Table 3.2	<i>Means and Standard Deviations for RESTQ-Sport Scales during a Competition Week, and the No Competition Week.....</i>	107
Table 3.3	<i>Pearson's Product Moment Correlations of MTI Attributes and RESTQ-Sport Scales during Competition Week.....</i>	108
Table 3.4	<i>Quadratic Curve Estimations of MTI attributes and RESTQ-Sport scales.....</i>	110

**LIST OF FIGURES**

Figure 3.1	Scatterplot of potential and sport-specific recovery.....	111
Figure 3.2	Scatterplot of mental self-concept and sport-specific recovery.....	112

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## **CHAPTER 1**

### **INTRODUCTION**

Mental toughness (MT) is a term used to describe exceptional triumphs over adversity and great performances overcoming obstacles in one's path. Researchers (e.g., Bull, Shamrock, James, & Brooks, 2005; Gould, Dieffenbach, & Moffett, 2002; Golby & Sheard, 2004; Gould, Eklund, & Jackson, 1993; Gould, Hodge, Peterson, & Petlichkoff, 1987; Loehr, 1986; Middleton, Martin, & Marsh, 2011; Krane & Williams, 2006) have suggested that athletes need MT for successful performances, but although investigators acknowledged the significance of MT, conflict is apparent regarding defining and identifying characteristics of the construct. Gould et al. (2002) summarised the confusion, "While athletes and coaches often talk about mental toughness, seldom has it been precisely defined" (p. 199). Recently, there have been empirical attempts to understand what coaches and athletes mean when they talk about MT (e.g., Coulter, Mallett, & Gucciardi, 2010; Gucciardi, Gordon, & Dimmock, 2008; Jones, Hanton, & Connaughton, 2002, 2007). Currently, no universally agreed upon definition of MT exists; nevertheless, a number of definitions have been used in sport psychology practice and research. Connaughton, Thelwell, and Hanton (2011) suggested that two of the more auspicious definitions (i.e., Jones et al., 2002; Gucciardi et al., 2008) were similar because they identified that MT was, "a collection of interrelated protective and enabling factors that result in consistent superior performances" (p. 142). The definitions produced by Jones et al. (2002) and Gucciardi et al. (2008) identified that although overcoming adversity was an important part of MT being mentally tough encompassed thoughts, feelings, and behaviours that helped to achieve success in positive circumstances in sport and outside the sporting domain.

The Jones et al. (2002) and Gucciardi et al. (2008) definitions have received some support they have also attracted criticism for using absolute language, being based on ideals rather than reality (Andersen, 2011), and for explaining what a mentally tough performer can do rather than describing MT (Middleton, 2005). It appears that MT is a term that is used ubiquitously but without a generally agreed upon definition. Fawcett (2011) suggested that one reason for the issues with MT definitions was because “being mentally tough means different things to different people at different times of their life cycle; it possibly changes due to gender, age, level of maturity and cultural background, not to mention the sporting discipline being performed” (p. 28). MT is an elusive construct that athletes and coaches seem to want to have, or demonstrate, but currently is not definable.

Numerous researchers have produced lists of MT characteristics, and Gucciardi et al. (2008) suggested it was encouraging that many of the characteristics from previous studies of MT share similarities. Gucciardi et al. suggested seven major categories encompassed the consistently reported attributes and characteristics identified from the existing research: self-belief and confidence; attentional control (concentration and focus); motivation, commitment, and determination; positive and tough attitude; resilience; enjoying and handling pressure; and quality preparation. Additional characteristics have been identified in specific samples, for example, physical toughness, emotional intelligence (Gucciardi et al., 2008; Coulter et al., 2010), and task familiarity (Middleton, 2005). Jones et al. (2002) reported that virtually every positive psychological state or trait has been suggested to be a characteristic of MT at some point. Similarly, Andersen (2011) suggested from what has appeared in the literature so far, MT could be just about anything.

Despite the overwhelmingly positive perception of MT attributes identified in the literature, there appears to be a number of characteristics that could be potentially damaging for athlete wellbeing. Football coaches, in Gucciardi et al.'s (2008) MT study, identified a number of situations requiring MT that were similar to sources of stress (Noblett & Gifford, 2002) and burnout (Cresswell & Eklund, 2006) in athletes. Crust (2008) asked if being mentally tough might encourage athletes to continue to strive for their goals while ignoring injury and pain (potentially making an injury worse). Coulter et al. (2010) queried whether MT might be detrimental to performance and player wellbeing when they identified that some self-talk statements, relating to maintaining a positive body language while experiencing pain, may overemphasise players' capacities to overcome and drive through physical distress. It seems that aspects of MT, as much of the research suggests, may be positive for performance and wellbeing, but there appear to be some questions regarding a potential negative influence of MT.

Some MT characteristics identified in the literature look to be similar to risk factors identified in overtraining (OT) research. For example, super motivation, parent and coach pressures to win (Krane, Greenleaf, & Snow, 1997), guilt about not working hard enough (Botterill & Wilson, 2002), and the hypermasculine no-pain-no-gain cultural imperatives in sport (Gould, Tuffey, Udry, & Loehr, 1997) resemble MT characteristics of motivation and physical toughness. Athletes trying to demonstrate physical toughness by pushing through their pain may increase their susceptibility to OT by continuing to train while in pain. Similarly, possessing high levels of motivation may lead athletes to tip the delicate stress/recovery balance by persevering to achieve their goals, ignoring how their body feels,

and possibly neglecting much needed recovery, again leading towards OT. The relationship between MT and OT is uncertain at this point.

The purpose of this thesis is to identify if a relationships exist between MT (with its current definition and measurement) and OT behaviours. Given that OT behaviours can arise due to an inability to cope with adversity, and that MT appears to be a capacity to cope in the face of adversity, investigating a relationship between MT and SRI may help enhance our knowledge of why some athletes are susceptible to OT. Research investigating MT development in elite successful athletes is popular, but at the time of writing, no research has been produced examining MT attributes in athletes who may be at risk of OT.

By researching the characteristics of MT in athletes who do and do not display OT behaviours, I hope to further understanding on the influence MT may have on the balance between stress and recovery. Examining MT characteristics in conjunction with OT risk factors may enable sport psychologists, coaches, and athletes to gain a clearer picture of the type of sport culture that is conducive to developing MT and aids consistent successful athletic performance. Researching athletes' and coaches' attitudes towards MT, stress/recovery imbalance, OT behaviours, injury, and illness may result in developing a greater understanding of why some athletes overtrain and others flourish in the same environment.

In Study 1, I investigated the relationship between MT (as currently defined and measured) and OT behaviours. I gathered quantitative data to explore correlations between attributes of MT with stress and recovery levels. I have presented descriptive findings from Study 1 addressing these issues in tabular form. The results are discussed in Chapter 3 in relation to previous findings on MT and OT.

Study 2 built on the information gathered in Study 1 by investigating the effects MT may have on OT behaviours and development in elite athletes. I interviewed elite athletes and coaches to gain a rich in-depth picture of MT and OT development. The interview data were analysed using content analytic strategies to organise the information into recurrent themes and sub themes to produce two aggregate narrative tales. The narrative tales are presented in Chapters 5, and 6.

The information gathered from Studies 1 and 2 guided the direction of Study 3. I employed qualitative methods to investigate MT, SRI, and OT behaviours in elite athletes. The final investigation was a longitudinal case study design following three participants from preseason throughout a competitive season gathering data on stress, recovery, OT behaviours, and MT in terms of adaptive and maladaptive responses to training and competition. I present these results in Chapters 7, 8, and 9. The final chapter of the thesis is an overall discussion of the results of all three studies.

## **CHAPTER 2**

### **REVIEW OF LITERATURE**

This chapter is organised into four sections. The first section concerns MT with sub-sections addressing definitions, characteristics, development, measures, and potential issues. In the second section, I present information regarding OT and the concept of SRI, including sub-sections on definitions, prevalence, and risk factors. In the third section, I identify research addressing potential links between MT and SRI. The final section represents a statement on the purpose of this research.

#### **Mental Toughness**

MT is an increasingly popular term used by athletes, coaches, and the media, to explain heroic performances when athletes overcome adversity and achieve success, but scientific understanding of MT has been relatively foggy. Researchers have acknowledged that MT is important for, and often attributed as the cause of, successful performance (Bull et al., 2005; Gould et al., 2002; Gould, Eklund, & Jackson, 1993; Gould et al., 1987; Krane & Williams, 2006; Loehr, 1986, 1995). Loehr (1982) suggested that athletes' MT was responsible for 50% of success in competition, but how Loehr came to that conclusion is a mystery. Gould et al. (1987) reported that 82% of coaches rated MT as the most important psychological attribute for success and in 2002 Gould et al. studied 10 elite American athletes who identified MT as one of the most important psychological characteristics of Olympic champions. It appears that athletes and coaches attribute success to being mentally tough. Jones et al. (2002) suggested that, "Mental toughness is probably one of the most used but least understood terms used in applied sport psychology" (p. 205). Research by Clough, Earle, and Sewell (2002) demonstrated this point. Clough et al. found that "more

than 75 percent of our initial contacts with players and coaches . . . involved a request for procedures to develop mental toughness” (p. 33). When Clough et al. asked participants to explain what they meant by developing MT, they were unable to explain what they actually wanted to enhance. Jones et al. summarised stating, “The general lack of clarity and precision surrounding the term mental toughness is unfortunate since it is arguably one of the most important psychological attributes in achieving performance excellence” (p. 206). The absence of conceptual clarity surrounding the construct indicates that the ambiguity surrounding MT is still present.

### **Mental Toughness Definition**

From the first mention of MT to today’s research there have been many contributions aimed at defining the construct. Opinion, coaching knowledge, and anecdotal experiences lacking scientific rigour made up many of the early offerings. Researchers and practitioners such as Gibson (1998), Goldberg (1998), Kuehl, Kuehl, and Tefertiller (2005), Loehr (1982, 1986), and Tutko and Richards (1971) attempted to define MT, but the variety between the produced descriptions led to increased confusion.

Goldberg (1998) described MT as a “psychic resiliency that allows you to rebound from setbacks and failures time and time again . . . it’s a refusal to quit on a dream, no matter what” (p. 219). The use of words such as *psychic resilience* do little to explain MT. Kuehl et al. (2005) described MT as a “collection of values, attitudes, and emotions, a blend of flexibility to make adjustments with the stubborn perseverance to overcome obstacles” (p. 6). This description of MT evolved from years of experience in coaching, but without any scientific research. Loehr (1982) produced a definition that suggested mentally tough athletes had learned or developed two important skills: first, the ability to increase



their flow of positive energy when faced with adversity or a crisis; and second, to think in ways that promote the right attitudes to solve problems, or deal with pressure, mistakes, and competition. Loehr did not provide any scientific explanation for his definition. Crust (2008) described Loehr's interpretation as appearing to "lack precision, with the reference to positive energy hardly indicative of a scientific definition or conceptualisation" (p. 577).

Tutko and Richards (1971) described a mentally tough athlete as being:

Insensitive to the feelings and problems of others. He rarely gets upset when losing, playing badly, or being spoken to harshly. He is able to withstand strong criticism without being hurt, and he does not require too much encouragement from the coach to be effective (p. 46).

Again, the empirical evidence for this description of MT is lacking.

More recently, researchers have conducted a number of scientific studies aiming to clarify MT and describe the components that make up this construct. Fourie and Potgieter (2001) used open-ended questionnaires with 291 elite South African coaches and athletes from a variety of sports. Participants generated lists of characteristics of mentally tough athletes and ranked the three most important MT characteristics from their lists.

Participants then scored how much they thought a coach and a psychologist could strengthen these characteristics in an athlete. After reviewing the responses, Fourie and Potgieter identified 12 characteristics of MT, a number of which are similar to studies that followed, but no MT definition was offered. This study did have limitations, because Fourie and Potgieter used a postal questionnaire design they could not probe for further information regarding the informants' responses.

Jones et al. (2002) used a three-stage qualitative approach to define and identify attributes of MT. These researchers used small focus groups followed by in-depth interviews with 10 elite British athletes from a variety of sports, asking questions regarding what MT means, and what attributes make a performer mentally tough. Jones et al. produced the following definition:

Mental toughness is having the natural or developed psychological edge that enables you to: generally, cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer. Specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure (p. 209).

Previous MT definitions have focussed on coping with demands and performances in competition and sporting situations. This definition was the first to incorporate coping with lifestyle demands as MT.

Thelwell, Weston, and Greenlees (2005) examined MT using a two-stage process with six footballers and suggested a similar definition to Jones et al. (2002), but with one difference in that the six footballers described mentally tough athletes as being able to “always cope better” (p. 328) than their opponents rather than generally cope better. Irrespective of the difference, Thelwell et al. adopted the definition by Jones et al. for the second part of their study.

One limitation regarding the study by Jones et al. (2002) was the focus group size ( $n = 3$ ), with the remainder of the study being based on the content generated in the focus group. Researchers disagree regarding the appropriate number of participants for successful focus groups, but guidelines indicate that more than three participants are necessary.

Kitzinger and Barbour (1999) suggested groups ranging from 8-12; Lindlof (1995) suggested 6-12, and Green and Hart (1999) suggested 5-6 participants to have a balance between enough people for adequate discussion to evaluate, re-evaluate opinion, and challenge each other to gain a collective opinion. Jones et al. highlighted running a focus group with only three participants as a potential limitation, but they reported that the richness of data that emerged outweighed the shortcoming. Jones et al. concluded that their study was a starting point in the quest towards increased understanding of MT. Thelwell et al. (2005) also acknowledged the limitation of their small sample size ( $n = 6$ ) for the first part of their study, but they stated that “it was deemed by the research team that the data generated from the six participants was more than adequate in terms of richness and content” (p. 331).

Andersen (2011) highlighted a limitation with the language of the questions in the study by Jones et al. (2002). Participants were asked to “base the profile of the ideal mentally tough performer on themselves, any individual they believed to be mentally tough, or even a combination of several individuals who had certain qualities (but possibly not all) of being mentally tough” (p. 208). Including the term “ideal” may have encouraged participants to think in terms of perfect MT. Andersen (2011) proposed that an ideal mentally tough athlete will be an *ideal fantasy*, and not bound by the frailties of non-ideal real-life athletes.

Andersen (2011) identified a further limitation to the offering from Jones et al. (2002) in that the definition includes being dependent upon your opponents, which takes MT out of one’s control. Not being in control appears to be contradictory to the idea of MT. Additionally, Middleton, Marsh, Martin, Richards, and Perry (2004a) suggested that the

Jones et al. definition described what a mentally tough athlete could do, rather than defining MT. Although several concerns have been raised regarding the development and language of the Jones et al. definition, the researchers stated that their study was the beginning of the process to understand MT and not definitive. Currently, the definition proposed by Jones et al. appears to be the most widely accepted definition (Bull et al., 2005; Jones et al., 2007; Thelwell et al., 2005; Thelwell, Such, Weston, Such, & Greenlees, 2010).

Clough et al. (2002) investigated what MT meant to 12 sport psychologists, athletes, and coaches involved in a variety of sports at the elite level. Clough et al. conceptualised MT as a similar construct to hardiness (Kobasa, 1979), but with the addition of confidence to transpose the construct developed in health psychology into the sport arena. By integrating existing MT and related constructs, and with evidence from interviews, they produced the following definition:

Mentally tough individuals tend to be sociable and outgoing; as they are able to remain calm and relaxed, they are competitive in many situations and have lower anxiety levels than others. With a high sense of self-belief and an unshakeable faith that they control their own destiny, these individuals can remain relatively unaffected by competition or adversity (p. 38).

Although Crust (2008) suggested that Clough et al. were bridging the gap between theoretical research and applied practise, the definition, and scientific process of developing the definition, has come under criticism. Connaughton and Hanton (2009) criticised Clough et al.'s definition as lacking scientific rigour, because of an absence of information regarding data collection and analysis. Gucciardi, Hanton, and Mallett (2012) criticised the Clough et al. offering as an example of a definition that focuses specifically on the end state

of being mentally tough, rather than the holistic nature of MT. Andersen (2011) suggested that the inclusion of the extraversion trait in the Clough et al. definition is strange and unclear because the characteristics that highly extraverted individuals may possess (e.g., impulsivity, distractibility, high sensation seeking drives) may be contradictory to the presumed notion of MT. A number of research teams have adopted this definition for their research (Crust & Azadi, 2010; Crust & Clough, 2005; Levy, Polman, Clough, Marchant, & Earle, 2007; Nicholls, Polman, Levy, & Backhouse, 2008) regardless of the criticism directed at the Clough et al. definition.

Middleton et al. (2004a) used a grounded theory approach with 25 elite Australian athletes from a variety of sports, and eight elite sporting personnel ranging from sport scientists and psychologists to elite sports managers to attempt to define MT. From their interviews, Middleton et al. suggested the following definition, “Mental toughness is defined as an unshakeable perseverance and conviction towards some goals despite pressure or adversity” (p. 6). Middleton et al. suggested that at the core of MT adversity is required to gain success, and the capacity to endure and triumph over adversity defines MT. This definition indicates that MT is demonstrated only when athletes are under pressure and overcoming adversity therefore when athletes are not facing adversity, the above definition indicates that they cannot demonstrate MT (Andersen, 2011). It seems that athletes need to be mentally tough in all situations, not just against adversity. For example, a highly ranked tennis player performing in the first round of a tournament against a lowly ranked opponent. The highly ranked player may not be overcoming adversity to play, but will still need to find ways to be motivated to perform, attain the appropriate level of focus, and achieve performance goals, all of which sounds like being mentally tough. Gucciardi et al.

(2008) identified that MT definitions based around adversity, “may be just another term describing related constructs such as resilience and hardiness” (p. 277). Another potential issue with the Middleton et al. definition is the use of absolute language. As previously stated, Andersen argued against using absolute language for real-world terms. The definition by Middleton includes absolute language such as “unshakeable perseverance and conviction,” which may put MT in the world of fantasists, and not within the realms of human possibilities.

Gucciardi et al. (2008) interviewed 11 male Australian football league coaches who defined MT as a “collection of values, attitudes, behaviours, and emotions that enable you to persevere and overcome any obstacle, adversity, or pressure experienced, but also to maintain concentration and motivation when things are going well to consistently achieve your goals” (p. 278). Gucciardi et al. explained that:

While it seems that mental toughness encompasses aspects of resilience and hardiness, where one has to deal with and overcome situations with negative effects, unlike resilience and hardiness it also enables one to thrive in situations where there are positive effects and perceived “positive pressure” (p. 277).

Gucciardi et al. suggested that their definition encapsulated more than one category of MT (e.g., values, attitudes, emotions, and behaviours), whereas previous definitions included only one category with others omitted. Connaughton et al. (2011) suggested that the definitions offered by Jones et al. (2002) and Gucciardi et al. have similarities in that both definitions include a multidimensional view of MT being a protective and enabling construct that results in superior performances. The definition Gucciardi et al. presented addresses one of the issues of previous definitions that a person must face adversity to

demonstrate MT. Andersen (2011) again highlighted the use of absolute language in the definition. He suggested that although the definition by Gucciardi et al. was one of the best, “only a superman or superwoman could overcome *any* obstacle” (2011, p. 74).

Fawcett (2011) suggested that the limited conceptual consistency in defining MT might relate to an individual’s understanding of the construct. Based on interviews with elite athletes, coaches, and adventurer/explorers, Fawcett reported that definitions of MT were idiosyncratic. Fawcett presented a case study of an adventurer/explorer who suggested that MT might be about accepting failure and backing down, not persevering as other definitions suggest. In his research, Fawcett quoted an interviewee, “Sometimes the right decision is to turn back . . . to have the mental toughness that says ‘I am going to go on under whatever circumstance,’ can lead so easily to disaster” (p. 16). MT appears as a broader construct than has been previously described, which changes for different people at different times of their lives. Fawcett cautioned researchers that trying to find a consensus definition for MT without investigating idiographic issues will, “continue to confound academics and practitioners in years to come” (p. 28). Andersen (2011) summarised the definition research stating that, “given the problems with other-dependent definitions, fantasies, absolute language and overly general and vague conceptualisations, it seems that any broad consensus on what mental toughness is remains elusive” (p. 75).

Many research groups have tried to understand the broad term MT, but methodological problems have hampered results. Research defining the complex construct of MT is evolving from the initial empirical offering from Jones et al. (2002). Currently, there is some support for definitions such as the ones offered by Jones et al. and Gucciardi

et al. that numerous researchers accept, but there is no definition that everybody or almost everybody accepts.

### **Mental Toughness Characteristics**

As was previously stated, the research on MT has produced an overabundance of terms to describe characteristics of mentally tough athletes. Jones et al. (2002) reviewed the previous research stating, “that virtually any desirable positive psychological characteristic associated with sporting success has been labelled as mental toughness at one time or another” (p. 206). Andersen (2011) produced a seemingly unending list of variables from the published research, which demonstrated the quantity of characteristics suggested. To reduce the vast array of terms characterised as MT for this thesis, I will review only the empirical research.

Fourie and Potgieter (2001) investigated characteristics of MT, and suggested 12 attributes, including motivation, coping skills, and psychological hardiness, but there is some confusion with the wording and meanings of the components identified by athletes and coaches in this study (Connaughton & Hanton, 2009). A number of the descriptions of the 12 components of MT do not match established and accepted definitions (e.g., defining cognitive skill as the ability to concentrate, focus, think, make decisions, and analyse). Connaughton and Hanton (2009) suggested that performers might demonstrate some of the suggested cognitive skills, and not be regarded as mentally tough. Additionally Connaughton and Hanton questioned the elite level of the sample because less than a quarter of participants performed at international level.

Clough et al. (2002) identified the four Cs model of MT by combining *hardiness* (Kobasa, 1979), developed from stress-illness research, with *confidence*. The resulting



model included control, commitment, challenge, and confidence as characteristics of MT. Middleton (2005) proposed that a model of MT could not be a simple combination of hardiness plus confidence.

Jones et al. (2002) identified 12 attributes of the ideal mentally tough athlete in their qualitative study. Following interviews with 33 elite athletes and coaches, Middleton et al. (2004a) reported 12 attributes of MT. A number of studies followed (Bull et al., 2005, Coulter et al., 2010, Gucciardi et al., 2008; Thelwell et al., 2005, 2010) and numerous lists of MT characteristics and attributes were produced. Many of the identified variables covered common ground. Gucciardi et al. (2008) included nine articles from previous research (Bull et al., 2005; Fawcett, 2005; Fourie & Potgieter, 2001; Gordon & Sridhar, 2005; Gould et al., 2002; Jones et al., 2002; Loehr, 1986; Middleton et al., 2004a; Thelwell et al., 2005) when they stated that:

There are several attributes and characteristics that were consistently identified in the majority of these studies, all of which can be broadly classified under the following seven major categories: self-belief and confidence; attentional control (concentration and focus); motivation, commitment, and determination; positive and tough attitude; resilience; enjoying and handling pressure; and quality preparation” (p. 268–274; punctuation altered from the original to make the categories clear).

Connaughton et al. (2011) identified six qualitative studies (Bull et al., 2005; Coulter et al., 2010; Gucciardi et al., 2008; Jones et al., 2002, 2007; Thelwell et al., 2005) that investigated the definition and make-up of MT in both sport-specific and general sport populations and categorised the 118 identified characteristics from the six studies into nine major themes of MT: belief, coping/handling pressure, focus/commitment, motivation,

control, sporting intelligence/knowledge, tough/resilient attitude, personal values, and physical toughness. There appear to be more similarities than differences in the lists produced by Gucciardi et al. (2008) and Connaughton et al. indicating that a degree of consistency is evident in the core concepts of MT in the research.

It is important to acknowledge that idiosyncratic characteristics have also been identified in MT research (e.g., team unity, religious convictions, Fourie & Potgieter, 2001; task familiarity, Middleton, 2005; safety and survival, knowing oneself, Fawcett, 2011). To attempt to reduce confusion regarding MT characteristics, I will discuss the commonly identified core characteristics of MT: self-belief, coping/handling pressure, attentional control (focus and concentration), motivation, control, sporting intelligence/knowledge, tough/resilient attitude, personal values, and physical toughness.

### **Self-Belief**

Gucciardi et al. (2008), Jones et al. (2002), and Thelwell et al. (2005) identified a hierarchy of MT characteristics with the most important characteristic reported as self-belief in each study. Gucciardi et al. stated:

This trend is not surprising given that high self-confidence and belief in one's ability to achieve success is commonly associated with many other positive psychological states and optimal experiences such as flow (Jackson &

Csikszentmihalyi, 1999) and peak performance (Krane & Williams, 2006) (p. 275).

The description of the self-belief characteristic is comparable across many studies.

Gucciardi et al. reported that Australian football coaches described the characteristic as having “self-belief in your mental and physical ability under pressure, and in your ability to persevere and overcome any obstacle and/or challenge that you may face during your

football career” (p. 269). Soccer players described self-belief in a similar manner, “possessing self-belief in the physical and mental ability under pressure to overcome all challenging situations (Coulter et al., 2010, p. 705). Jones et al. identified two attributes related to athletes’ self-belief: “Having an unshakeable self-belief in your ability to achieve your competition goals” (p. 211), and “having an unshakeable self-belief that you possess unique qualities and abilities that make you better than your opponents” (p. 211). Clough et al. (2002) described interpersonal confidence and confidence in one’s own abilities as having a high sense of self-belief and unshakable faith concerning one’s ability to achieve success. Jones et al. stated that numerous aspects of belief are important to MT, and described four characteristics in the attitude/mindset dimension, and two belief characteristics in the competition dimension.

There appears to be agreement in the published research that self-belief is an important characteristic of MT. In the studies cited, similarities exist within the descriptions given by athletes and coaches. Self-belief seems to be important in overcoming adversity and helping athletes perform well and reach their goals.

### **Coping/Handling Pressure**

Lazarus and Folkman (1984) defined coping as a “process of constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands or conflicts appraised as taxing or exceeding the resources of the person” (p. 141). Fourie and Potgieter (2001) proposed an attribute of MT simply called *coping skills*, and defined it as “the ability of the athlete to reveal his/her coping ability, demonstrate composure, acceptance, activation control, and adaptability” (p. 67). Jones et al. (2002) suggested one coping attribute of “accepting that competition anxiety is inevitable and knowing that you

can cope with it” (p. 211). Middleton et al. (2004a) separated coping into two distinct coping styles as identified by Lazarus and Folkman (1984). Emotion-focused coping reduces the emotional discomfort that arises in stressful situations, for example, by avoiding the situation or accepting that the situation is going to produce emotional difficulties. Problem-focused coping is characterised by attempts to change the actual problem (e.g., going directly to the source of the stressful situation to confront the problem). Middleton et al. identified three MT attributes of emotion focussed coping (stress minimization, positivity, and positive comparisons), and two MT attributes of problem-focused coping (perseverance and personal bests). Gucciardi et al. (2008) described another coping skill of *handling pressure* as, “being able to execute skills and procedures under pressure and stress, and accepting these pressures as challenges to test yourself against” (p. 272). In a study by Jones et al. (2007), athletes, coaches, and sport psychologists described being able to cope and manage anxiety when facing pressure situations. Gucciardi et al. included overriding negative thoughts as a part of the handling-pressure characteristic. Nicholls (2011) suggested that, given the existing research, mentally tough athletes cope with the stress they encounter during sport, and he stated that “it would appear that the most mentally tough individuals are likely to use coping strategies such as effort expenditure and thought control, but deploy less avoidance coping strategies” (p. 39). Participants interviewed in MT research consistently describe coping with the pressure associated with sport and life in general as a characteristic of MT.

### **Attentional Control (Concentration and Focus)**

Most attribute studies have identified at least one aspect of attentional control. The participants Middleton et al. (2004a) interviewed identified task-specific attention as an

attribute of MT. The athletes in the study by Jones et al. (2002) suggested a number of aspects of attention were important to mentally tough athletes, which included remaining fully-focused on the task despite competition-specific and personal-life distractions, and “switching a sport focus on and off as required” (p. 211). Middleton et al. suggested that an “important issue in identifying mentally tough athletes is their level of attentional control at the height of adversity” (p. 4). Fourie and Potgieter (2001) grouped ability to concentrate, focus, think, make decisions, and analyse under the attribute heading of cognitive skills. Coaches in this study rated concentration, described as the ability to focus attention on the task or what is vital in a situation, as the most important attribute of MT.

Characteristics described as *focus* and *concentration* reflect the importance of attention, avoiding distractions, and the ability to switch focus according to the situation. Nideffer (1989) suggested that athletes’ performance is a function of the compatibility between the athletes’ attentional style and the attentional demands of the task. Middleton et al. (2004a) suggested attentional flexibility as a key factor in MT. Soccer players, coaches, and athletes’ parents described the MT characteristic of concentration and focus as, “Having a single-mindedness to focus on the job at hand in the face of internal or external pressures, obstacles or adversity” (Coulter et al., 2010, p. 705).

Reviewing the research, there appears to be a consensus that concentration, focus, and attention are important to mentally tough athletes. It seems the research is saying that mentally tough athletes can avoid distractions on and off the field, switch focus on and off as desired, and maintain a relevant focussing style regardless of the circumstances or those abilities are what an ideal mentally tough athlete should be able to do, but it seems like a tall order for the rest of us imperfect human beings.

## Motivation

The attribute studies consistently include motivation as part of MT. Fourie and Potgieter (2001) suggested that motivation in MT is “the ability of the athlete to show perseverance, determination, desire, responsibility and commitment” (p. 67). Jones et al. (2002) suggested motivation emerged in having an insatiable desire and internalized motives to succeed. Middleton (2005) suggested, “An internal motivation or drive to pursue personal best performances” (p. 87). The participants in the Middleton and Jones et al. studies specified that internalised motivation was a part of MT. Ryan and Deci (2000) described intrinsic motivation as being moved to do an activity for the inherent joy and satisfaction. Mentally tough athletes are motivated by their own desires to be involved in the sport rather than for any external rewards for continued participation. Gucciardi et al. (2008) identified that being self-motivated was important to MT and used the following description, “An internal motivation and desire for competitive challenges and team success, and also having the desire to put the necessary things into practice to achieve your vision of success” (p. 270). The participants’ descriptions in the Gucciardi et al. study included both internal motivation and the processes that athletes may use to maintain motivation to reach their goals. Jones et al. (2007) identified that the use of long-term goals as a source of motivation was an important characteristic in their MT framework. Roberts and Kristiansen (2010) suggested that, “one of the most powerful strategies for managing motivation and performance is the use of goal setting” (p. 490).

Motivation consistently appears to be an important characteristic of MT. In the published research, it seems that being intrinsically motivated, and able to persevere regardless of what obstacles one face to reach one’s goals, is being mentally tough. Again,

the language used in the research (e.g., “regardless”) seems to come from fantasies about ideal athletes, not real people with human flaws and frailties.

## **Control**

The research concerning this characteristic identified different facets of the importance of control for mentally tough athletes. Jones et al. (2007) suggested that control refers to controlling the environment and controlling thoughts and feelings, described as “being acutely aware of any inappropriate thoughts and feelings and changing them to help perform optimally” (p. 251). Thelwell et al. (2005) suggested two aspects of control as important characteristics of MT: control over emotions and control over the performance environment. Gucciardi et al. (2008) reported as part of the emotional intelligence characteristic, “an honest and accurate self-awareness and understanding of your emotions when under pressure or facing an obstacle, and the ability to manage your emotions to enhance performance across all situations” (p. 272). Although Gucciardi et al. did not use the term control in their description; they clearly identify similar aspects of control to those previously described in the research. Coulter et al. (2010) grouped emotional intelligence and control together and described them as “possessing self-awareness when facing challenges to control and manage your emotions” (p. 706). It seems that Gucciardi et al., Thelwell et al., Jones et al., and Coulter et al. reported similar concepts related to controlling and managing emotions, but used different terms. Clough et al. (2002) suggested that control split into two aspects: control of emotions and control in life. Clough et al. (2007) described individuals who were high on control (emotional) as being “able to keep anxieties in check and are less likely to reveal their emotional state to other people” (p. 4). “Individuals ... are more likely to believe that they control their lives. They feel that

their plans will not be thwarted and that they can make a difference” (p. 4) described control (life control).

Control appears to encapsulate two main areas: the ability to control one’s emotions, thoughts, and feelings, and to be able to feel in control of the environment.

### **Sporting Intelligence/Knowledge**

Gucciardi et al. (2008) reported two characteristics: *team role responsibility* and *understanding the game* as being a part of the sport intelligence characteristic. Gucciardi et al. described sports intelligence, as “having the ability to perceive and understand both the training and competitive environment, and having the self-awareness to identify and understand your role within the team and any potential adversities that you may face” (p. 272). Coulter et al. (2010) identified sport intelligence as part of MT and described the characteristic as, “having an ability to read the game, having a strong tactical awareness, and understanding your role on the pitch to execute decisions at critical moments” (p. 706).

Connaughton et al. (2011) identified three themes from Bull et al. (2005) and suggested that they could be included in the sporting intelligence/knowledge category of MT: self-reflection, ability to exploit learning opportunities, and good decision-making. These three identified attributes of sporting intelligence/knowledge span a number of MT development categories such as tough thinking, environmental influence, and tough character, indicating that this characteristic may be important across a range of cognitions, feelings, behaviours, and situations.

It appears that sporting intelligence has received some attention in terms of MT characteristics, but neither of the studies carried out by Jones et al. (2002, 2007) identified a characteristic that could be associated with sporting intelligence/knowledge. Although there



is some support for this characteristic, participants have not consistently identified sporting intelligence in many of the characteristic studies.

### **Tough/Resilient Attitude**

Connaughton et al. (2011) indicated in the six studies they reviewed, that having a tough/resilient attitude was a consistent characteristic of MT. Connaughton et al. (2011) identified in Jones et al. (2002, 2007) that dealing with hardship, physical and emotional pain, and handling failures and successes were part of having a tough/resilient attitude. Gucciardi et al. (2008) produced the following description, “the ability to overcome adversities with an exceptional work ethic and persevering determination to showcase your mental and physical ability” (p. 272) to explain the term *resilience* in Australian football. Gucciardi et al. indicated that coaches identified discipline, commitment, positivity, professionalism, and sacrifice as part of having a tough attitude. The participants in the Coulter et al. study described, “Having an incessant mind-set focussed on being the best you can be” (p. 706) as part of having a tough attitude. Although this characteristic seems to alter marginally in the different studies, a consistently identified facet of MT appears to include overcoming hardship, dealing with pain, and rebounding after setbacks.

### **Personal Values**

Gucciardi et al. (2008) identified a category of *personal values* that included honesty, pride in performance, and accountability. They described the personal-values category as “placing great importance and significance on personal values relevant to becoming a better person and athlete” (p. 270). Connaughton et al. (2011) identified *work ethic* (from Gucciardi et al., 2008) as fitting into the theme of personal values. Work ethic was characterised by having the ability to work hard and push oneself in competition,

training, and in preparation to achieve goals. Work ethic encompassed determination, perseverance, goals, meticulous preparation, time management, and being inspirational. Coulter et al. (2010) described personal values as, “placing meaning on personal values and living by personal standards to being a better person and player,” (p. 705). Again, Connaughton et al. identified work ethic (from Coulter et al., 2010) as part of personal values. Work ethic was described by Coulter et al. as “hard work and pushing yourself (physically and mentally) to achieve your goals in all areas of the game (e.g., preparation, training, matches)” (p. 705).

There seem to be a few different aspects of MT described within this characteristic. Work ethic appears to encapsulate the ability to push hard physically and mentally in training, and competition, while personal values seems to be an umbrella term to encapsulate many principles of mentally tough athletes. Connaughton et al. (2011) suggested work ethic was part of the personal values characteristic, whereas Gucciardi et al. (2008) and Coulter et al. (2010) separate personal value and work ethic into two characteristics of MT.

### **Physical Toughness**

Connaughton et al. (2011) identified *regulating performance* and *pushing yourself to the limit* (from Jones et al., 2007) as part of the physical toughness characteristic. “Having a killer instinct to capitalize on the moment when you know you can win” and “raising your performance “up a gear” when it matters most” (p. 251) described the MT characteristic of regulating performance (Jones et al., 2007). Pushing yourself to the limit included “loving the bits of training that hurt” and “thriving on opportunities to beat other people in training” (p. 250). Gucciardi et al. (2008) described physical toughness as

“playing to the best of your ability whilst carrying an injury, consciously making the decision to attack the ball in a physically threatening situation and pushing your body through extreme fatigue experienced during competition and training” (p. 273). Coulter et al. (2010) identified physical toughness as, “pushing through the pain barrier to remain focused on the game, and maintaining a high level of performance while carrying an injury, fatigued or hurting” (p. 705). Pushing through pain and fatigue, playing injured, and thriving on beating others appear to encapsulate the idea of what physical toughness means based on the MT literature.

From the characteristics studies, only three studies reported physical toughness as a characteristic of MT. Perhaps the inclusion of physical toughness as an attribute of MT is dependent on the type of sport researched. Gucciardi et al. (2008) investigated Australian football coaches; Coulter et al.’s (2010) participants were involved in Australian soccer, and Jones et al. (2007) interviewed participants from a broad mix of sports including boxing, swimming, athletics, judo, triathlon, rowing, pentathlon, squash, cricket, and rugby union. Further research on this characteristic will provide additional clarification regarding the inclusion of physical toughness as a MT characteristic.

The core characteristics described as MT represent a collection of variables that may help athletes achieve success; nevertheless, it appears to be an unenviable task to attempt to be mentally tough because the attributes represent a seemingly unrealistic set of abilities for one person to achieve (e.g., playing while injured, pushing through pain, persevering through adversity, having an incessant mind-set focussed on being the best you can be, having the ability to overcome adversities with an exceptional work ethic, putting team success before individual success, and pushing your body through extreme fatigue). It

looks likely that no one could possess each characteristics of MT and manage to survive. Middleton (2005) suggested that athletes do not have every attribute of MT; instead, they may possess whatever characteristics are effective for them at any given time. Fawcett (2011) discussed the possibility that MT could be different things to different people at different times. Andersen (2011) suggested that a preferable method of viewing MT was as a “variety of transient, fluctuating and mercurial states of being.” (p. 71). Athletes may feel a great deal of pressure trying to achieve many of these attributes of MT, but if the general view of MT was of a changeable pattern that could be altered to enhance performance and wellbeing, the pressure on elite athletes might be lessened. Andersen indicated that it may be useful to, “seek ways to increase the probability of those (MT) states occurring rather than trying to define or encompass them with words and constructs” (p. 71).

A number of these characteristics appear to share similarities with risk factors of OT, as identified in the OT risks and outcomes model (Richardson, Andersen, & Morris, 2008; e.g., pushing through injury is an intrapersonal risk factor of stress/recovery imbalance and is part of the physical toughness characteristic). Later in this chapter, the links between MT and OT behaviours will be explored.

### **The Dark Side of Mental Toughness**

Although MT has generally been associated with success in sport, a number of researchers have indicated that MT may potentially have a dark side (Andersen, 2011; Coulter et al., 2010; Crust, 2008, Gucciardi et al., 2008; Gucciardi & Mallett, 2010; Levy et al., 2006, Richardson et al., 2008).

Levy et al. (2006) investigated rehabilitation behaviours of injured recreational and competitive athletes and reported that individuals with higher levels of MT had higher pain

tolerance, more positive threat appraisals, lower perception of injury severity, and felt less susceptible to further injury than individuals with lower levels of MT. Participants who displayed low levels of MT displayed more constructive rehabilitation behaviours than individuals who scored higher. Physiotherapists regarded constructive rehabilitation behaviours as working at the appropriate intensity for prescribed exercises, generally following instructions, and being receptive to changes towards that day's appointment. Levy et al. reported that athletes who were in the high MT group appraised their injury as less severe and viewed themselves as less susceptible to injury reoccurrence than the lower MT participants. Levy et al. suggested that compliance to clinic and home based programs for more mentally tough participants did not appear to be as important as it was for individuals with lower MT. Levy et al. suggested that because low mentally tough individuals typically display lower scores of confidence and control than individuals with higher scores of MT it was possible that the low MT group received greater support from the physiotherapists. Levy et al. cautioned that, "before physiotherapists and sport psychologists apply interventions to improve mental toughness in dealing with injured athletes, they may need to be aware of the consequences of being mentally tough and its effects upon rehabilitation behavior" (p. 253).

In a review of MT research Crust (2008) identified an area that may pose potential problems for athletes trying to be mentally tough:

Is mental toughness about playing on while injured, risking long-term damage, and potentially reducing team efficiency; or is it taking the difficult decision to stop training and competing, seeking medical support, focusing on adhering to a program of rehabilitation, and returning to action as soon as possible? (p. 582).

Crust highlighted a situation where mentally tough athletes may put themselves in positions where they are vulnerable to serious injury.

The Australian football coaches Gucciardi et al. (2008) interviewed identified a number of general and competition-specific situations that required MT. Gucciardi et al. suggested that “some of those situations identified here have previously been associated with athlete attributions about the causes of burnout (Cresswell & Eklund, 2006) and sources of stress for Australian Footballers (Noblet & Gifford, 2002)” (p. 277). Gucciardi and Mallett (2010) proposed that there may be potential dysfunctional outcomes of MT, and suggested that athletes who display internalised desires for success with a never accept mediocrity attitude and an insatiable work ethic might be vulnerable to OT.

Coulter et al. (2010) asked if MT could be detrimental for athletes, both in terms of performance and wellbeing and discussed a number of characteristics, identified in their qualitative study and replicated in the literature, associated with MT that may tap into a player’s capacity to ignore physical distress that can be common in sport. Coulter et al. suggested that soccer players with high self-belief and a winning mentality and desire might become overconfident and so motivated to achieving success that they become vulnerable to injuries because they do not listen to appropriate medical advice. Andersen (2011) identified that some athletes who might attempt to be mentally tough may end up feeling psychological distress. He asked:

What might be the psychological costs to an athlete who tries to put on the mentally tough face, who keeps vulnerability in the closet, who does not seek help because that is a sign of weakness, who cries alone and whose ‘insatiable’ desire to make it to the pros compromises his or her loving relationships? (p. 82).

Athletes who do not naturally possess or have learned these traits may try to pretend that they have these traits, but it seems that there may be a cost. People are unique, but in trying to be mentally tough, athletes may forego their idiosyncrasies and try to behave in ways in which they perceive they are mentally tough.

Richardson et al. (2008) also identified that there may be damaging aspects to trying to be mentally tough. One interviewee suggested that MT can become defined as, “never complaining, tolerating high levels of pain, tolerating high levels of stress, and never showing any emotional response, and basically putting up with things,” (p. 92). Richardson et al. identified one participant who suggested that, in an attempt to fit into the sports environment, athletes might try to prove their MT by tolerating pain in training or competition and disregarding any potential injury. So far, the research has focussed on the potential benefits of being mentally tough, but it seems that perhaps there may be a limit to being mentally tough. MT is associated with success, but perhaps we need to investigate if one could become too mentally tough potentially leading to a loss of performance and wellbeing.

### **Measuring Mental Toughness**

The recent work carried out on MT has produced some significant developments in the research, but the scientific endeavour to clarify MT is still in its infancy. Recent contributions have expanded thinking among sport psychologists regarding MT development, the multidimensional quality of MT, and initiating MT training programs, but the little research there is leaves our understanding limited. Although Sheard (2010) suggested that, “insufficient effort has been devoted to the development of a reliable and valid measure of MT in sport” (p. 62), several research teams have industriously been

working on developing ways to measure MT. In the following sections, I will highlight the research on the available MT measurement tools.

### **The Psychological Performance Inventory (PPI)**

Loehr (1986) constructed the initial MT measurement tool, the PPI. Loehr's definition of MT, developed from athletes describing their experiences leading up to and during peak performances, formed the foundation for this questionnaire. Loehr suggested that the PPI assessed athletes' mental strengths and weaknesses. The PPI is a 42-item self-description inventory with seven Likert-scored subscales of MT: *self-confidence*, *negative energy*, *attention control*, *visual and imagery control*, *motivation level*, *positive energy*, and *attitude control*. A number of studies investigating MT have used the PPI (e.g., Golby, Sheard, & Lavalley, 2003; Golby & Sheard, 2004; Kuan & Roy, 2007; Lee, Shin, Han, & Lee, 1994).

Golby, Sheard, and van Wersch (2007) and Middleton et al. (2004) tested the construct validity of the PPI. Middleton et al. administered the PPI to 263 student athletes and reported inadequate psychometric properties for the PPI. Middleton et al. suggested that the PPI was not a psychometrically sound measure of MT. Some criticism has been levelled at Middleton et al. for using a somewhat small sample size ( $N = 263$ ) for testing construct validity and the limited age range of the sample (12 – 17 years old). Golby et al. used a larger sample ( $N = 408$ ) with a wider age range (12 – 63 years old) to evaluate the psychometric properties of the PPI, and they reported a similar lack of support as Middleton et al. for the factorial structure of the PPI. Gucciardi and Gordon (2011) concluded that the psychometric evidence for the hypothesized measurement model of the PPI is not encouraging for its future use.



### **Psychological Performance Inventory-Alternative (PPI-A)**

Golby et al. (2007) subsequently developed the PPI-A, which represents four factors of MT, namely *determination*, *self-belief*, *positive cognition*, and *visualisation*. Golby et al. used the responses ( $N = 408$ ) from their original PPI study to generate the PPI-A. After using principal component analysis to find structure in their data, they used confirmatory factor analysis to assess the psychometric structure of the model. Gucciardi and Gordon (2011) cited Thompson (2004) when they suggested that this practice is “dicey business.” Nevertheless, Sheard (2009) used the PPI-A to investigate national differences in MT between rugby league players in the United Kingdom and Australia. The results from this study indicated that significant differences in MT were apparent between national teams. An additional aim of this study was to explore the divergent validity of the PPI-A with the hardiness Personal Views Survey III–R (PVS III–R; Maddi & Khoshaba, 2001), because of the conceptual relatedness to and the hypothesized distinction from MT. Sheard inferred that the weak to moderate correlations between the PPI-A and the PVS III-R, demonstrated using university rugby league players, provided evidence for the divergent validity of the PPI-A, but the small sample size ( $N = 49$ ) reduces the significance of Sheard’s statement.

Gucciardi (2012) investigated the psychometric properties of the PPI and the PPI-A using confirmatory factor analysis to examine the extent to which data from 333 Australian footballers fitted the a priori measurement models of both inventories. Gucciardi’s results did not support the psychometric soundness of the PPI in terms of both model fit and internal consistency. With reference to the analysis of the PPI-A, Gucciardi stated that the, “internal reliability estimates of the PPI-A were less than impressive indicating that further work is required to address this concern” (p. 23). Given the lack of conceptual support for

the PPI and the PPI-A, there remains concern regarding whether either inventory is adequate to measure the broad multidimensional construct of MT. Additionally there is concern with the usage of the PPI and the PPI-A in terms of what these questionnaires are suggested to measure. Even if the analysis of these instruments had provided psychometric support, all the results would mean is that the PPI or the PPI-A measures something in a consistent way. Without evidence of criterion and construct validity, it is not established that what either instrument measures is MT. Gucciardi indicated that although there were strengths in the PPI-A in terms of practical use, concerns regarding the conceptual underpinnings of the PPI-A were apparent.

### **The Mental Toughness Questionnaire 48 (MTQ 48)**

Clough et al. (2002) developed the MTQ 48 based on their four Cs model of MT: challenge, commitment, confidence, and control. This questionnaire has been widely used in research (e.g., Clough et al., 2002; Crust & Azadi, 2010; Crust & Clough, 2005; Horsburgh et al., 2009; Nicholls et al., 2008). The MTQ 48 assesses total MT and six subcomponents: challenge, commitment, interpersonal confidence, confidence in own abilities, emotional control, and life control. The scale contains 48 items scored on a 5-point Likert scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). Clough et al. (2002) have received criticism for not supplying psychometric data regarding the statistical procedures they used to develop the MTQ 48 in their original work. Clough et al. have since created an online manual (2007) that includes information on the construction of the MTQ 48.

The participants in the original work of Clough et al. (2002) were 963 participants from a variety of backgrounds: students, athletes, administrators/managers, and engineers.

Clough et al. performed a principal components analysis with varimax rotation using a minimum component-loading criterion of .30. The principal components analysis revealed six components, which now represent the six subscales on the MTQ 48 (all with eigenvalues greater than 1.0). These six components explained 62.7% of the overall variance. These findings provided preliminary evidence for the factorial (or rather “component”) validity of the MTQ 48. Nicholls et al. (2008) used 677 athletes and reported an overall coefficient alpha of .87 for the scale, with internal consistency of the subscales ranging from .58 to .71. Connaughton, Hanton, et al. (2008), however, advised that the MTQ 48 findings Clough et al. reported should be interpreted with caution because the rationale for the conceptualisation of MT is essentially based on hardiness and confidence constructs and there was no demonstration of validity even if a sound conceptualisation was apparent. Validity is evidence that a scale measures what it says it measures, and so there is a need for criterion and construct validity to demonstrate that. Gucciardi et al. (2012) used 1,325 participants who were either athletes ( $N = 686$ ) with an age range between 17-47 years old, or full time employees ( $N = 639$ ) with an age range of between 20-65 years, from a range of careers (i.e., information technology and communications, education, business or finance, academia or research, and consumer or retail industries) to examine the factorial validity in two broad achievement contexts. Gucciardi et al. (2012) stated that:

Both CFA [confirmatory factor analysis] and ESEM [exploratory structural equation modelling] failed to support the hypothesized correlated four factor model (i.e., Control, Commitment, Challenge, and Confidence) of mental toughness in two independent samples, thereby revealing incongruence between the MTQ 48 and its measurement of the underlying theoretical model. (p. 209)

The psychometric and conceptual concerns Connaughton, Hanton et al. highlighted and the lack of support for the four-factor model of MTQ 48 that Gucciardi et al. found suggests that the use of the MTQ 48 should be reconsidered. These results would indicate, as Gucciardi et al. suggested, that previous research conclusions reached using the MTQ 48 are questionable.

### **Mental Toughness Inventory (MTI)**

Middleton, Marsh, Martin, Richards, and Perry (2004b) constructed this 36-item inventory based on a model of MT developed from themes that emerged from their qualitative study. The MTI was designed to measure the 12 characteristics Middleton et al. (2004a) proposed, namely: *self-efficacy, future potential, mental self-concept, task familiarity, value, personal best motivation, goal commitment, task specific attention, perseverance, positivity, positive comparisons, and stress minimisation*, which are summed to produce a global MT score. The self-report MTI is an 8-point response scale where respondents rate statements from 1 (*not like me*) to 8 (*like me*) (See Appendix B).

Middleton et al. (2004b) developed a large pool of items to assess the 12 characteristics of MT using their model as a foundation. Middleton used q-sort methodology and talk-aloud responses to refine the qualitatively derived items. The pilot MTI with 108 items was administered to athletes ( $N = 479$ ), with an age range of 12 – 19 years from an elite sport high school to refine the large pool of items. Following the pilot study, the MTI was reduced to a 60-item inventory, which was administered to a wider sample of sport institute (age range of 11 to 38 years,  $n = 392$ ) and high school-based athletes (age range of 12 – 38 years,  $n = 438$ ) to test the internal consistency of the inventory. Results from both groups of participants indicated acceptable Cronbach's alpha

coefficients ranging from .83 to .93. Confirmatory factor analysis tested the a priori model with the institute-based and school-based athletes. The results reported suggested that the a priori model fit the data for both samples suggesting strong support for the MTI structure. Middleton et al. (2011) reported that the MTI is strong on conceptual grounds with strong psychometric properties and high reliability. Sheard (2010) suggested that the development of the inventory used a sound theoretical base, but that the MTI required independent testing. Although the MTI appears to have strong theoretical base, using elite high school athletes with a mean age of 14 years to validate the instrument may mean its use with other populations could be questionable. In addition, the MTI has received little attention from independent researchers (Crust & Swann, 2011; Sheard, 2010).

#### **Sport Mental Toughness Questionnaire (SMTQ).**

Sheard, Golby, and van Wersch (2009) developed the SMTQ, a scale that Sheard (2010) proposed was, “the first psychometrically acceptable mental toughness . . . that includes a control subscale” (p. 73/74). The SMTQ is a 14-item multidimensional measure developed from previous published qualitative MT studies. The SMTQ measures global MT and three subscales: confidence, constancy, and control. Sheard suggested that the six items in the confidence subscale, “stress the importance of athletes having belief in their ability to achieve their goals and believing that they are different to and, crucially, better than their opponents” (p. 76). Constancy reflects how determined athletes are to “meet the demands of training and competition, willingness to take responsibility for setting training and competition goals, possession of an unyielding attitude, and an ability to concentrate” (Sheard, 2010; p. 77). Finally, control appears to measure the perception that one is

influential in bringing about a desired outcome with particular reference to controlling emotions and remaining calm in pressure situations.

Sheard et al. (2009) developed the SMTQ by using “raw data themes and quotes from previous qualitative studies (e.g., Bull et al., 2005; Clough et al., 2002; Fourie & Potgieter, 2001; Gould et al., 2002; Jones et al., 2002; Loehr, 1986; Thelwell et al., 2005)” (p. 74) to develop a pool of items. Sheard et al. (2009) administered the pool of 53 items to 10 athletes and 10 coaches to assess the comprehensibility and applicability of each item, which led to the rewriting of a number of items to improve clarity and suitability across a range of sports. Additional experts involved in MT research, but not named in this study, reviewed the data and came to consensus on 18 of the 53 items. Athletes competing in various sports, from international to regional levels, with a mean age of 22 ( $N = 633$ ) completed the 18-item questionnaire. Principal axis factor analysis yielded a 3-factor 14-item model explaining 40.7% of the variance. In the final stage Sheard et al. administered the 14-item scale to 509 athletes with a mean age of 20 years, again from international to regional competing levels. The questionnaire’s three subscales had alpha levels between .72 and .79 suggesting good internal consistency.

Although the SMTQ appears to have adequate psychometric properties, some researchers have criticised it (e.g., Crust & Swann, 2011; Gucciardi, Mallett, Hanrahan, & Gordon, 2011). Crust and Swann (2011) suggested that Sheard et al. (2009) have combined independent characteristics of MT into single scales, which is not consistent with the multidimensional quality of MT that appears in the literature. Additionally some characteristics of MT, identified by some research groups, appear to be absent in the SMTQ (e.g., attention and focus, physical toughness). Gucciardi et al. (2011) suggested that

because the descriptions of the scales are not clear, the meanings of the scales are open to interpretation. A number of the item statements supposedly measuring one characteristic of MT appear to fit within another factor. For example, one item suggested to measure *confidence* (*I can regain my composure if I have momentarily lost it*) seems more logically connected with *control* than confidence. Gucciardi et al. (2012) considered the SMTQ strong in terms of the statistical procedures used to support the psychometric properties, but argued that the questionnaire lacks an explicit conceptual model underpinning its factor structure.

In a comparison study, Lee, Morris, and Andersen (2011) assessed the power of the MTI and the SMTQ to predict performance. The comparison between the two MT measurement tools revealed that the MTI accounted for 31% of the variance in performance, whereas the SMTQ accounted for only 6.4% of the variance in performance. Results from this study indicate that the SMTQ may not be an accurate predictor of real life variables of interest in MT research (e.g., performance).

### **Cricket Mental Toughness Inventory (CMTI)**

Gucciardi and Gordon (2009) interviewed 16 cricketers from two countries to develop a model of MT in cricket. A six-factor model emerged from the interviews, and two independent focus groups with nine Australian cricketers resulted in minor modifications to the wording and the addition of eight items. Gucciardi and Gordon administered the six-factor inventory to a general sample of cricketers from international leagues ( $n = 570$ ) and a sample of Australian cricketers ( $n = 433$ ). There was an equal split of the total sample for either a calibration or cross-validation analysis. One factor (i.e.,

*cricket smarts*) was removed following a series of confirmatory factor analyses with the calibration sample, which provided support for the 15-item, five-factor model.

Gucciardi (2011) found support for the validity of the CMTI measurement model by confirmatory factor analysis and internal reliability analysis. Gucciardi (2011) and Gucciardi and Gordon (2009) provided preliminary support for the factor structure, internal reliability, and construct validity of the CMTI. Gucciardi (2011) stated that the use of a male sample created some practical issues in the generalizability of the measurement tool across gender and suggested that further conceptual and statistical work would be beneficial before using the CMTI in MT research.

### **Australian Football Mental Toughness Inventory (AfMTI)**

Gucciardi, Gordon, and Dimmock (2009b) used the wealth of information from their previous study (Gucciardi et al., 2008) to develop a pool of 60 items for their 11-factor model. Gucciardi et al. (2009b) carried out a confirmatory factor analysis with 418 footballers and found the 11-factor model did not fit the data well. A 24-item, four-factor model (*thrive through challenge, sport awareness, tough attitude, desire success*) emerged from a principal components analysis, using both varimax and promax rotations. Gucciardi et al. (2009b) found that the 24-item AfMTI did not fit the data with a sample of 350 youth Australian footballers. Additionally, the data from the original investigation, reported in 2008, identified 11 characteristics of MT in Australian football from interviews with 11 elite coaches. Reducing the data to a four-factor model raised concerns regarding the breadth of the construct, and Gucciardi et al. (2011) concluded that further work is required to address these concerns.



Although a sound conceptual framework was the basis of both sport-specific measures, there are concerns about each measurement tool's practical usage. It may be that MT is idiosyncratic, so sport-specific measures, although narrower than general MT measurement tools, only measure MT reliably and validly for that specific population. For example, the development of the AfMTI was based on qualitative research from 11 coaches who had all previously been players, but were not current players. The perception of MT may be different for coaches than it is for most players, regardless of whether the individual started out as a player. It is possible that individuals change their perceptions and conceptualisations when they become coaches, or that players who become coaches have a different view than players who do not become elite level coaches. The sport-specific MT measurement tools may provide information regarding the specific MT demands of that sport for the individuals interviewed at the beginning of the research process, but the idiosyncrasies of MT may mean the inventories are only applicable to that specific population. Andersen (2011) stated, "If mental toughness is a robust construct, then one would expect to find some commonality or core characteristics that cross most sports. In looking at the many tests, that commonality, at present, seems tenuous" (p. 76). It is apparent that different research groups are developing instruments that measure somewhat different components of MT (e.g., Clough et al. (2002) emphasized emotional and life control, whereas Gucciardi and Gordon (2009) proposed a narrower focus on attentional control). Crust and Swann (2011) indicated that conceptual clarification of MT and its characteristics would aid the development of related scales. The problems with MT measurement tools may arise from the limited conceptual clarity surrounding the core

constructs of MT. The limited conceptual and statistical clarity suggests that currently there does not appear to be a widely accepted method to measure MT.

Regardless of the advances many research teams have made, there remains confusion surrounding nearly all aspects of MT. There is no generally accepted definition of MT, with variety in terms of the proposed characteristics of MT, and the development of MT appears to have diverse pathways. Research methodologies have included phenomenology (Fawcett, 2011), personal construct theory (Gucciardi, Gordon, & Dimmock, 2009a), MT training programs (Gucciardi et al., 2009c, 2009d), generic MT inventories (Clough et al., 2002), and sport-specific inventories (Gucciardi & Gordon, 2009; Gucciardi et al., 2009b), but despite this research we still don't know what this thing called MT is. Crust and Keegan (2010) suggested that although the MT qualitative work has led to a greater understanding of what MT is, "the primary focus on qualitative research has led to insufficient attention being given to the development of reliable and valid measures of mental toughness" (p. 164). From the inconsistency that is evident between the MT measures, it seems that one needs to have a clearer understanding of MT, and specifically how MT can affect real life behaviours, before moving on to the measurement phase. As previous researchers have suggested, perhaps MT is idiosyncratic, and to understand how MT affects athletes we need to spend time with individuals in sport to determine how MT can influence them in different aspects of their lives. If MT is unique to each person, then developing generic measures will not prove fruitful.

### **Mental Toughness Development**

Many MT researchers have focussed their attention on MT development. As with most aspects of MT, there is little clarity regarding how, or if, MT is developable or innate.

The descriptions of MT include being a state of mind (Gibson, 1998; Loehr, 1982), an innate personality trait (Cattell, 1957; Clough et al., 2002; Dennis, 1978; Tutko & Richards, 1971), and a skill that can be learned through experience (Gordon & Sridhar, 2005; Middleton, 2005). Clough et al. (2002) described mentally tough athletes as having a *predisposition* to remain unaffected by competition or adversity. Middleton et al. (2004a) suggested that MT can be developed, and indicated that familiarity or experience may lead to increased MT. Jones et al. (2002) acknowledged that athletes might possess *inherited* characteristics that relate to a “natural” MT, and that learning new skills can *develop* MT. Harmison (2011) suggested that, “the scant literature (e.g. Connaughton and Hanton, 2009; Horsburgh et al., 2009) that has addressed the development of mental toughness suggests that it is both an inherited and a learned aspect of an athlete’s personality” (p. 65).

Horsburgh, Schermer, Veselka, and Vernon (2009) investigated the contribution of genetic and environmental factors to individual differences in MT. The researchers used the MT-48 (Clough et al., 2002) and the Neo-Pi-R (Costa & McCrae, 1992) with 152 pairs of monozygotic and 67 pairs of dizygotic adult twins. Horsburgh et al. suggested that both genetic and nonshared environmental factors contributed to the development of individual differences in MT. Horsburgh et al. proposed that MT behaved “in the same manner as virtually every personality trait that has ever been investigated in a behavioural genetic study” (p. 104). Based on the results from this study, Horsburgh et al. stated that environmentally determined traits might be less rigid than traits influenced by heritability. In the Horsburgh study, commitment and control displayed the lowest scores for heritability and were deemed easier to develop than other components of MT that were higher on heritability scores. There are some potential limitations in this study: the questionnaires

were completed at home with only an instruction sheet to accompany them, and although the instructions were clear that each twin completed the questionnaires separately, there is no way of knowing if that instruction was adhered to. Additionally, the questionnaires were self-report measures, which Horsburgh et al. suggested might produce a degree of inaccuracy. Horsburgh et al. concluded that although there were weaknesses in the study, the limitations were not unique to studies on twins and would not significantly influence the results. The results suggest that MT consists of some characteristics that are stable traits and other characteristics that may be developed.

A consideration from the study by Horsburgh et al. (2009) is that specific MT characteristics may be developed. Harmison (2011) suggested, “Viewing mental toughness in sport as a social-cognitive personality construct also allows for the possibility that its development can be influenced by environmental factors and acquired by athletes based on their learning experiences” (p. 53). Crust (2007) suggested that inherited and acquired factors are important in MT research. Middleton et al. (2004a) supported the idea that MT has some stable characteristics and other characteristics that are more malleable by separating attributes in their study into actions (e.g., focussing of attention) and personal characteristics (self-belief). From the existing research, it appears that some attributes of MT may be stable and less changeable and other attributes are developable (Connaughton, Wadey, et al., 2008, Connaughton, Hanton, & Jones, 2010; Coulter et al., 2010; Gucciardi, Gordon, Dimmock, & Mallett, 2009; Thelwell et al., 2010). Viewing MT in this way is in keeping with psychological talent research (Gould et al., 2002). Weinberg, Butt, and Culp (2011) suggested that the literature on talent development and the development of expertise offers some clues on how MT is developed. Gould et al. (2002) investigated the

development of psychological characteristics in elite athletes and found that the mental skills of elite athletes developed over long periods and were influenced by a wide range of individuals, including teachers, parents, and coaches. These themes of development appear to be consistent with recent research on MT (Bull et al., 2005; Connaughton, Wadey, et al., 2008; Connaughton et al., 2010; Gucciardi et al., 2009; Thelwell et al., 2005).

Bull et al. (2005) carried out the initial study investigating how successful athletes developed MT by interviewing 12 of the top 15 English cricket players rated by their peers as mentally tough. Four structural categories emerged from the data creating a pyramid of MT development, environmental influence at the base, moving through tough characteristics, tough attitudes, and then tough thinking at the top. Themes of environmental influence included parents, childhood background, exposure to foreign cricket, opportunities to survive early setbacks, and the need to earn success. Central to MT development was having a support system in place to help young athletes survive the early setbacks. Bull et al. suggested that sports environments had the potential to affect MT throughout a player's career. During athletes' formative years, of particular importance were childhood background and parental influence, whereas the other three global themes of environment were important in the early part of a junior playing career. MT characteristics encompassed the development of athletes' enduring personality characteristics. The themes of tough attitudes included: exploiting learning opportunities, belief in quality preparation, self-set challenging targets, never say die mindset, going-the-extra-mile mindset, determination to make the most of ability, thriving on competition, belief in making a difference, and being willing to take risks.

Tough thinking relates to the thought patterns athletes would want to have when training, competing, or performing. This area reflects where most applied sport psychologists work, described as the “match-winning” thinking category. Bull et al. (2005) suggested that athletes cycled through these categories in their own patterns indicating that there was not one specific pathway to attaining MT. Connaughton and Hanton (2009) identified a number of issues from the Bull et al. study,

The subjective meaning for each of the themes may not necessarily be the same for every player; it is unclear which specific global themes related to the development of mental toughness; and no supportive data or explanation is forwarded as to how mental toughness actually develops (p. 338).

Although the Bull et al. study revealed many sources that were integral to the development of MT, the study did not produce explanations regarding how these sources influenced the developmental process.

Connaughton, Wadey et al. (2008) investigated MT development using the career phases Bloom (1985) identified to guide their interview study with elite athletes. They re-interviewed seven elite athletes who had been involved in previous research identifying 12 MT attributes (Jones et al., 2002) and asked how MT had developed in their careers. Results from this study suggested that certain MT attributes developed during specific phases of their careers. Athletes reported the development of three attributes in the early years: an unshakeable self-belief to achieve goals, an unshakeable belief that they possess unique qualities and abilities that make them better than opponents, and an insatiable desire to succeed. In the middle years, another five attributes developed: recovering from performance setbacks, overcoming physical and emotional pain, accepting competitive

anxiety to be present and using it in a facilitative manner, thriving on competition pressure, and regaining control following unexpected events. These attributes developed in tandem with the continuing development of the attributes from the early years. In the later years, four attributes developed: switching task focus for sport on and off as required, remaining fully focussed on the task despite competitive distractions, not being affected by others' performance levels, and remaining fully focussed despite personal distractions. Participants in this study suggested that throughout the later years the eight attributes developed in the early and middle years would continue to develop.

An additional finding from this study highlighted the need for athletes to maintain MT. Athletes indicated that MT could fluctuate and required maintenance throughout the remainder of their careers. Connaughton, Wadey, et al. (2008) produced a list of perceived underlying mechanisms that helped develop and maintain MT throughout the athletes' careers and suggested that MT development was a long-term process. Factors that supported MT development included the motivational climate (e.g., enjoyment, mastery), key individuals within an athlete's socialisation network (e.g., coaches, peers, grandparents, siblings, senior athletes, sport psychologists, teammates), and sport-specific and life experiences. Throughout the three-career phases, participants highlighted the importance of critical incidents, positive and negative, to the development of MT.

Connaughton et al. (2010) re-interviewed individuals they deemed to be super-elite to investigate MT development using an updated framework of MT (Jones et al., 2007) with the suggestion that participants would provide a more holistic view of MT. The 11 participants, who had been a part of the updated MT framework study, were asked to explain how super-elite athletes developed MT. Connaughton et al. developed an interview

guide based on the Jones et al. (2007) framework and previous research with talented athletes (Durand-Bush & Salmela, 2002; Gould et al., 2002). They adapted Bloom's three career phases of talent and expertise development, and the developmental framework for the acquisition of expertise that Côté, Baker, and Abernethy (2003) created, to divide athletes' careers into the following stages: initial involvement to intermediate, intermediate to elite, elite to world championship/Olympic champion status, and maintenance.

Connaughton et al. revealed 30 underlying experiences, strategies, and mechanisms perceived to drive MT development throughout four phases. Connaughton et al. reported that during the initial phase being competitive in training, engaging in activities for enjoyment, socialisation, and skill mastery developed MT. During the second phase, MT developed by having discipline and structure in training, learning from role models, and doing what was necessary to achieve success in training. International competition experiences, an intense desire to win and upstage world-class performers, a wide ranging social support network, the use of mental skills, attainment of balance in life, gaining knowledge from respected individuals, and reflective practice were suggested to be underlying factors in developing MT during the third stage. Similar to Connaughton, Wadey et al. (2008), Connaughton et al. identified that critical life incidents, positive and negative, were important developmental factors throughout the three stages of development. Negative critical incidents may influence athletes in one of two ways:

- (a) sport was viewed as "an escape" from such negative experiences and resulted in increased focus and prioritization of training and competition goals, or (b) they were perceived to increase control and focus on long-term goals, by enabling the



performer to develop the necessary perspective with life and sport (Botterill, Patrick, & Sawatzky, 1996; Durand-Bush & Salmela, 2002; Orlick, 2000) (p. 190).

A variety of factors from Connaughton, Wadey, et al. (2008), and Connaughton et al. (2010) appear similar: social support, coach leadership, motivational climate, and the use of psychological skills. Consistent with research in talent development, coaches appear to hold important roles in the development of MT. Weinberg et al. (2011) interviewed 10 sports coaches to understand the role the coach had in developing MT. The interviewees identified a number of strategies coaches used to build MT. The coaches in this study suggested that creating a positive mental environment developed the MT attributes of confidence and persistence; creating a tough physical practice environment built resilience, and providing awareness/learning opportunities through visualisation, modelling, and teaching, with coaches highlighting MT qualities, built self-confidence and self-belief. Weinberg et al. focussed only on the tactics the coaches used to facilitate MT development.

Gucciardi et al. (2009) investigated facilitative strategies that Australian football coaches used. In this study, coaches also discussed tactics that might impede development of MT. The results provided support for previous research that identified parents and coaches as being important to MT development. Participants indicated that parental influence was more important during the early years of childhood in developing generalized MT, but when footballers began youth football, the coaches became the major influence in developing MT. The coaches in this study indicated that football experiences were integral to transform generalised MT to more sport-specific MT. Coach-athlete relationship, coaching philosophy, training environment, and specific tactics were the four areas within the football experience that participants suggested developed sport-specific forms of MT. A

variety of tactics and mechanisms were used to maintain a positive and supportive coach-athlete relationship, including having an open line of communication in a performance and a socio-emotional context along with showing interest in developing a long-term relationship with the athlete.

Gucciardi et al. (2009) reported the pivotal role coaching philosophy had in developing self-belief, personal values, work ethic, self-motivation, emotional and sport intelligence, and physical toughness. Coaches discussed prioritising athletes and their development over coaching success by emphasising a holistic development perspective, incorporating teaching skills for performance, and social and personal growth as integral to facilitating MT development. Coaches suggested that teaching footballers about all aspects of the game, the stress, pressure, obstacles, and challenges that they were likely to encounter, fostered the development of self-belief, and sports intelligence.

Gucciardi et al. (2009) reported a number of methods that impeded MT development; these included when coaches put success before a player's development, and if a coach created easy training environments players would not learn to do more than the required training. The coaches suggested that, "accepting excuses from players; . . . and failing to push players through physical and emotional pain boundaries" (p. 1492), produced an unchallenging environment that could be detrimental to MT development. Coaches suggested the following actions that might obstruct MT development: if they attended to players' weaknesses instead of reinforcing players' strengths, and if low and unrealistic expectations for footballers were set. Specific strategies to enhance MT development included "positive reinforcement and encouragement for poor and excellent performances and effort; praising positive behaviours in front of the whole team,

encouraging mistakes as opportunities to learn from; and an “every player being equal: philosophy” (p. 1491) as tactics employed by the coaches for developing MT.

Gucciardi et al. (2009) provided support for previous psychological characteristic development research (Durand-Bush & Salmela, 2002; Gould et al., 2002), and MT development studies (Bull et al., 2005; Connaughton et al., 2008; Thelwell et al., 2010). Nonetheless, investigation into MT development is in its infancy, but the clear identification of individuals, tactics, and stages of development have paved the road to a clearer understanding of how MT may be developed in sport and in general.

### **Research Exploring Mental Toughness Measurement and Behaviours**

In this section I will focus on the limited research available where MT is measured along with what must be the most important variable of interest to coaches and athletes: sport behaviours (Andersen, 2011).

Gucciardi, Gordon, & Dimmock (2009c) investigated the effectiveness of a MT training (MTT) program and a psychological skills training (PST) program against a control group. The MTT program targeted specific MT behaviours, (e.g., self-belief, work ethic, tough attitudes, physical toughness, resilience). The PST program targeted common psychological skills, (e.g., self-regulation, arousal regulation, mental rehearsal, attentional control). Participation in both programs elicited similar improvements in self-reported MT, as measured by the Australian Football Mental Toughness Inventory (AFMTI), dispositional resilience, and flow. Parents and coaches reported similar improvements for the players. Andersen (2011) suggested that this study was a good start as the researchers provided evidence that psychological interventions can help change scores on arbitrary metrics, but it does not provide evidence that the training programs produced changes in

on-field performance. Gucciardi et al. suggested, “Future researchers should obtain both subjective and objective data when assessing the effectiveness of psychological interventions” (p. 321).

The MTT program Gucciardi et al. (2009c) designed for boys under the age of 15 appeared to include teaching the participants how to persist and push through the pain. Under the work ethic characteristic, the MTT program’s purpose was to “identify individual and team standards . . . increase awareness about current perceptions of work ethic standards” (p. 312). Under the theme of resilience, the young footballers were taught to “increase awareness about how others have persisted and overcome adversity. Increase awareness about how one has (or could have) persisted and overcome adversity” (p. 312). Under the theme of physical toughness, the purpose of the Experiencing Physical Pain exercise was to “increase awareness about situations that require one to push through the pain barrier; recall situations when one has pushed through physical pain and fatigue; identify techniques to assist in pushing through the pain barrier,” (p. 312). The themes developed in the MTT program represent characteristics previously identified in the MT literature (Coulter et al., 2010; Gucciardi et al., 2008; Jones et al., 2002, 2007), but regardless of whether these themes are accepted in the MT literature it might be considered questionable to teach young athletes to push through pain in sport.

Drees and Mack (2012) asked 54 high school wrestlers to complete the Mental, Emotional, and Bodily Toughness Inventory (MeBTough, Mack & Ragan, 2008) before and after a 3-month competitive wrestling season to examine MT abilities of athletes. Throughout a competitive season performance was monitored for correlations with MT abilities. Mack and Ragan reported that the differences in MT scores between athletes and

nonathletes as well as positive correlations between participants rating of their MT on a 20-point Likert scale and the MT scores from the MeBTough demonstrated initial validity. Assuming that athletes are mentally tougher than nonathletes as evidence for validity seems questionable, and it is not surprising that positive correlations are evident between MT self-report scores and a self-rating of MT on a 20-point Likert scale. It seems dubious to use these assumptions and correlations as evidence of validity. Nonetheless, Drees and Mack reported that a 3-month competitive season did not alter MT scores in student wrestlers, but they did find significant differences in MT abilities of wrestlers with winning and losing season records. Drees and Mack reported that successful athletes had higher MT scores over a 3-month period than less successful wrestlers. Nevertheless, use of the MeBTough, which was based on the anecdotal writings of Loehr (1995), renders the findings presented in the study as questionable. Using pre and post competitive season data and monitoring performance over a season may provide information regarding how being mentally tough can affect a real life variable, using questionable scales in research can only render any results doubtful.

Sheard and Golby (2006) measured MT, other psychological variables (e.g., hardiness, self-esteem, self-efficacy), and best competitive times pre and post intervention to determine if a psychological skills training program significantly influenced performance. Andersen (2011) criticized Sheard and Golby's conclusion that adolescent swimmers benefited from exposure to the training program in terms of sports performance, because there was no control group or attentional control group, and, like anyone else, the participants will get better at something if they train. There does not appear to be any basis to conclude that this psychological skills training program enhances performance.

Currently, there is limited research showing how MT can affect performance, which, as Andersen (2011) suggested, is the variable of interest in the real world of sport.

The MT research seems to have followed a diverse pathway, from studies where performance and MT are correlated but performance is measured only by winning a medal at an intervarsity competition (Kuan & Roy, 2007), to dependent variables that are divorced from real-world performance (Clough et al., 2002; Crust & Clough, 2005).

Clough et al. (2002) measured participants' MT against a cognitive planning task after positive or negative feedback. Andersen (2011) suggested that the results from this study were not meaningful for two reasons. First, athletes are not generally involved in competing at cognitive planning tasks, and second, Clough et al. dichotomized a continuous variable by separating participants into high and low MT categories, which alone renders results questionable.

Crust and Clough (2005) asked male students to suspend 1.5% of their body weight from their dominant arm to evaluate how physical endurance correlated with MT, and reported that weight-holding endurance was significantly and positively correlated with overall MT scores. In their conclusion, Crust and Clough suggested that hardiness research might provide a theoretical explanation to explain the relationship between MT and performance. As has been previously stated, using research developed from health-related environments to explain performance in a sport context does not add to the scientific rigor of the MT research. Additionally measuring performance by holding a weight in a laboratory does not measure how an athlete will respond in training or in a competitive sporting environment.

The limited research on MT and behaviour indicates that currently there is no solid evidence that MT relates to the behaviour of athletes in competitive environments. The limitations in performance indicators used and the issues identified with the measurement tools (see above) indicate there is limited evidence that enhancing athletes MT will enhance performance in the sporting environment.

### **Overtraining and Stress/Recovery Imbalance**

Athletes constantly walk a tightrope between stress and recovery. To maintain the delicate balance athletes must manage a host of stressors unique to them and ensure they undergo adequate recovery. Two athletes may be playing the same sport, at the same level, with the same training program, but one may flourish producing personal best performances, and the other may fail to complete the prescribed training program. The initial research investigating overtraining (OT) attributed plateaus or decreases in performance mainly to training stress, but many factors within different athletes' personalities, as well as their relationships and experiences, the sport environments, and their current situations will affect the stress/recovery balance, which in turn will affect the individuals' wellbeing and performances (Richardson et al., 2008).

### **Definitions**

Poor adaptation to training and unexplained performance decrement has been described using a multitude of terms and definitions, for example: OT, overtraining syndrome (OTS), burnout, staleness, overreaching, and underrecovery. The inconsistent terminology has hampered understanding of the OT-related phenomena. This inconsistency seems to have arisen because there are many outcomes and many risk factors, not just one

specific path. In the following section, I describe and review the OT-related terms that commonly appear in the published literature.

### **Overreaching, Overtraining, and Overtraining Syndrome**

Athletes specifically train to overload their bodies to produce a compensatory adaptation resulting in enhanced performance. The effect of the overload is a short-term performance decrement while their bodies adapt. Functional overreaching (FOR) describes the adaptation period, but FOR only lasts for a short period (e.g., days or weeks). Nonfunctional overreaching (NFOR) is characterised by a longer period of performance decrement that is not in line with the time it usually takes for athletes' bodies to adapt. OT appears to arise when there is an imbalance between training or nontraining stressors and the corresponding recovery, which leads to long-term decrements in performance and wellbeing (Meeusen, Duclos, Gleeson, Rietjens, Steinacker, & Urhausen, 2006). There appears to be a grey area concerning differences between NFOR and OT. Although Meeusen et al. (2006) provided some clarity with OT and OR definitions, it is still unclear when, or if, NFOR turns into OT (Uusitalo, 2006). Using these definitions, it appears that OR, NFOR, and OT are on a continuum of increasingly severe forms of athlete imbalance between stress and recovery, but alternative descriptors of OT exist, both as positive and negative adaptations to training (Lehmann, Foster, Gastmann, Keizer, & Steinacker, 1999; Raglin, 1993) and also as a process and an outcome (Kreider, Fry, & O'Toole, 1998). Hooper and Mackinnon (1995) suggested that OT is the process, whereas OTS is one of the eventual outcomes from stress/recovery imbalance (SRI), along with illness and injury, which represent the end state of nonadaptation resulting from OT behaviours.



## **Burnout**

Maslach (1982) initially developed the concept of burnout to describe outcomes of job stress among people employed in helper–recipient relationships (e.g., nurses). Smith (1986) produced a list of symptoms of burnout in sport, including boredom and a loss of motivation, which are at odds with the extremely high levels of motivation that are often associated with OT. Richardson et al. (2008) argued that the loss of motivation inherent in burnout is a key factor that distinguishes it from OT, although burnout may be one outcome of the OT process. Burnt out athletes may get sick of training, demotivated, and emotionally exhausted, but the physical breakdown associated with OTS is often not present (Richardson et al., 2008).

## **Staleness**

Staleness refers to the state of sustained fatigue or underperformance experienced by athletes. Silva (1990) suggested that staleness represents a less severe stage in the development of OTS. Richardson et al. (2008) suggested that staleness is generally described as “pretty much the same thing as OTS,” (p. 9), and suggested that adding another term to the already confusing array of terms is not a good enough reason to use the term.

## **Underrecovery**

Kellmann (2002) focussed on the recovery aspect of athletes’ training, arguing that limited and inadequate recovery between training sessions is the main cause of OTS. Kellmann (2002) defined recovery as an “inter-and intra-individual multilevel (e.g., psychological, physiological, social) process . . . for the re-establishment of performance ability” (p. 10) and specified that, “recovery is specific to the individual and depends on

individual appraisals” (p. 7). Looking at the broad view of recovery enables a holistic approach to understanding why athletes may be in SRI, rather than just reviewing training volumes and intensities (Richardson et al., 2008). Kellmann is not the only researcher to view the performance decrement in a holistic light. Kenttä and Hassmén (2002) observed that “Non-training stressors have more recently gained a wider acknowledgement in regard to overtraining and burnout in athletes” (p. 69).

In this thesis, I will follow the suggestions from Richardson et al. (2008) and use the term OT to describe negative processes or behaviours in response to SRI or performance decrements. Outcomes of OT include OTS, illness, and injury. I will refer to the other associated terms only in reference to the work of researchers who have used them.

### **Prevalence of Overtraining**

A number of researchers have investigated the prevalence of OT in athletes. Greenleaf, Gould, and Dieffenbach (2001) found that 40% of American Atlanta and Nagano Olympians indicated that OT had negative effects on their performances at those Olympic Games. Kenttä, Hassmén, and Raglin (2001) reported that 37% of young aspiring athletes identified with being stale once already in their careers, with the incidence of staleness being higher (48%) in individual sports. When interviewing four U.S. Olympic teams that did not meet expectations, Gould, Guinan, Greenleaf, Medbery, and Peterson (1999) reported that athletes identified OT as a major cause of perceived failure. Durand-Bush and Salmela (2002) reported that several of the ten Canadian Olympic athletes they interviewed described feeling overtrained, and reported a desire for increased recovery during their investment and maintenance years.

Although there have been numerous articles reporting the prevalence of OT in elite athletes, there appear to be a number of inconsistencies making the research difficult to generalize. The research groups investigating OT prevalence have used different terms. Kenttä, Hassmén, and Raglin (2001, 2006), Morgan, Costill, Flynn, Raglin, and O'Connor (1988), and Raglin, Sawamura, Alexiou, Hassmén, and Kenttä (2000) used the term *staleness*, whereas Durand-Bush and Salmela (2002) and Greenleaf et al. (2001) used the term *overtraining*, and when similar words were used, different explanations of the term were evident. Morgan et al. (1988) used the term *staleness*, but did not explain *staleness* to the athletes. Similarly, Gould et al. (2002) identified athletes as overtrained if they indicated that they thought they had overtrained in preparation to the Olympics. Gould et al. did not explain if they provided a description of OT to athletes prior to completing the task. The limited agreement about descriptions and definitions of OT and *staleness* indicate that using these studies as evidence of OT prevalence should be done with caution.

Raglin et al. (2000) studied young swimmers from four countries (i.e., Greece, Japan, Sweden, United States of America) and described the athletes as stale if they had ever experienced a loss of performance for at least 2 weeks that resulted not from injury or illness, but from training. Matos, Winsley, and Williams (2011) used a definition derived from Kenttä et al. (2001) for their prevalence study with young athletes. Matos et al. asked athletes, "Have you ever experienced a significant decrement that persisted for long periods of time (i.e., weeks to months) although you kept training and you felt extremely tired every day?" (p. 1288). Loss of performance is regarded as the hallmark of OT (Richardson et al., 2008), but using retrospective recall might not prove reliable regarding performance decrements because there are variables that may affect athletes' perceptions. These

variables may include not performing as well as they had hoped or comparing themselves with others, which perhaps made the athletes feel they were not performing as well as they felt they should be. The research thus far appears to be inconclusive regarding the prevalence of OT in elite athletes.

### **Overtraining Syndrome and Illness**

One aspect of OTS that may affect prevalence rates relates to athletes who become injured or ill prior to any OTS diagnosis. Mackinnon (2000) reviewed the OT and immunity literature and concluded that it is clear that overtrained athletes are not immune deficient by clinical standards, but they are susceptible to upper respiratory tract infections during and following heavy training. There appears to be substantial research on exercise, immunology, and illness, and even though regular physical activity has positive effects on the immune system, prolonged exhausting exercise appears to have the opposite effect. Richardson et al. (2008) suggested that illness might be both a contributor to and an outcome of OT, and explained that when athletes have an imbalance between stress and recovery they become vulnerable to infections and illnesses, which may stress the body further leading to a greater SRI and potentially OTS. It seems that the interactions of OT processes and behaviours with illness is circular with SRI and illness appearing to contribute to and be an outcome of the other, and some initial signs of stress-recovery imbalance (e.g., illness) can be part of the OT process.

### **Overtraining Syndrome and Injury**

In a similar manner to illness, injury may affect athletes before the identification of OTS. In comparison to the illness literature, there is limited research connecting overuse injuries and OTS. Flynn (1998), in one of the few articles on injury and OT, suggested that

OT might lead to musculoskeletal breakdown prior to OTS becoming apparent. In some sports, this scenario would appear more likely, as Richardson et al. (2008) suggested in certain sports. For example, a swimmer with a similar volume of training may be more likely to continue until OTS sets in, whereas a runner might develop overuse injuries before reaching the OTS stage. Injuries from overload often arise from an accumulation of stress, with a gradual onset, making detection (and early intervention) difficult. Richardson et al. suggested that when athletes begin a training cycle with muscle weaknesses, imbalances, or low flexibility, overload-related injuries might follow. Kibler and Chandler (1998) explained that weakened or fatigued muscles might not manage the load of the training program and transfer these forces to the skeletal system, resulting in stress fractures that are part of the process of OT.

Reviewing the psychosocial vulnerabilities to injury for athletes, life event stress appears to be consistent in the antecedents of injury literature (Williams & Andersen, 1998). Negative life event stress seems to be predictive of sport injury (Wiese-Bjornstal, 2010). As previously described, one of the first signs of OT is suggested to be performance decrements and mood disturbances. Evidence exists of the correlation of negative mood with increased injury risk (e.g., Smith, Stuart, Wiese-Bjornstal, & Gunnon, 1997), particularly with respect to high fatigue or low vigour, which have been suggested to be the mood states associated with OT (Morgan et al., 1988).

Similar to the illness research, when a sport injury occurs the injury may become a stressor that an athlete needs to manage, which may lead towards OT. It appears from the current literature that injury can be a contributing factor to OT as well as a potential outcome.

### **Detection and Symptoms**

Fry, Morton, and Keast (1991) listed more than 90 symptoms overtrained athletes reported that spanned performance, psychological, and physiological factors. The variety of symptoms indicates that no single practical, valid, and reliable marker can be used to enable clear and quick diagnosis of athletes who are entering this state (Kenttä et al., 2001).

Nevertheless, some frequently reported symptoms appear to be associated with OT, such as underperformance, a higher incidence of infectious illnesses (e.g., upper respiratory tract infections), loss of appetite, unexpected weight loss, sleep disturbances, mood disturbances, and concentration difficulties (Armstrong & VanHeest, 2002; Fry et al., 1991; Kenttä & Hassmén, 1998; Morgan et al., 1988; Raglin et al., 2000). Although there seem to be some commonly reported symptoms, OT appears to follow a pathway specific to the athlete experiencing it.

Researchers have investigated many of the physiological and psychological symptoms to determine some clear markers of OT. Physiological markers have included decreased heart rate during maximal exercise (Hedelin, Kenttä, Wiklund, Bjerle, & Henriksson-Larsen, 2000), hormonal responses to exercise (Uusitalo, Huttunen, Hanin, Uusitalo, & Rusko, 1998), and blood lactate concentrations during incremental graded exercise (Jeukendrup & Hesselink, 1994), but Kellmann (2010b) stated, “Physicians and physiologists stress that no firm physiological marker exists [to detect overtraining]” (p. 294). Kenttä and Hassmén (1998) suggested that psychological indicators of OT are more sensitive and consistent than any physiological marker. It seems that increased mood disturbance and reduced subjective ratings of wellbeing are associated with OT

(Richardson, 2005), and so substantial research has focussed on mood state changes associated with OT.

Researchers investigating OT have repeatedly used the Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1992) to monitor changes in mood states with training (e.g., Hooper, Mackinnon, & Howard, 1999; Kenttä, Hassmén, & Raglin, 2006; Morgan, Brown, Raglin, O'Connor, & Ellickson 1987). The POMS is a questionnaire originally designed to monitor the moods of psychiatric outpatients. The POMS provides a measure of total mood disturbance along with six mood state subscales (tension, depression, anger, vigour, fatigue, confusion). Five of the six scales measure negative mood and one measures a positive mood state, so a decrease in negative mood states does not automatically indicate mood benefits, merely a reduction in negative mood states. Morgan et al. (1987) used the POMS to monitor swimmers throughout a competitive season and identified a healthy mood state profile, which appeared to be connected to good performance. The seemingly healthy profiles progressively deteriorated during the season, but when there was a significant reduction in training stress, a healthy POMS profile re-emerged for the swimmers. Morgan et al. (1987) identified disturbances of the mood state scales of vigor and fatigue to be important in diagnosing OT. Hooper et al. (1999) suggested that an increase in confusion measured by the POMS scale was a significant indicator of OT. Martin, Andersen, and Gates (2000) investigated the effectiveness of the POMS in monitoring training stress in 15 cyclists. Martin et al. noted that changing the intensity of the cyclists' training did not significantly influence global mood or specific mood states. Between athletes whose performance improved and those whose performance did not improve, there were no apparent differences in mood states. The researchers

suggested that using the POMS was not effective for differentiating between productive overreaching and counterproductive OT. Kellmann (2010a) suggested that even though the POMS might provide information regarding some of the early indicators of OT “the POMS does not provide information about the causes of overtraining” (p. 98). This statement highlights an important potential limitation to using the POMS in OT research.

Understanding the causes of OT may provide researchers and practitioners with strategies to detect and manage OT. Kellmann and Kallus (2001) developed the Recovery Stress Questionnaire for Sport (RESTQ-Sport) for use in sporting populations to gain the information missing when using the POMS. The RESTQ-Sport identifies the extent of athletes’ physical or mental stress and athletes’ capability to recover. Recently, the effectiveness of the RESTQ-Sport to monitor changes in stress and recovery has received attention. Nederhof, Zwerver, Brink, Meeusen, and Lemmink (2008) investigated three female speed skaters, one who was recovering from nonfunctional overreaching (NFOR), one who had received a diagnosis of being in a state of NFOR, and one skater who was healthy. Athletes completed both the POMS and the RESTQ-Sport to determine if differences were evident for the three athletes. Both questionnaires displayed differences between the three participants. The healthy athlete displayed a typical athlete profile on the POMS, low on the five negative mood scales and high on the positive mood scale. The recovering athlete who had not been training for 3 months displayed scores around the middle, which is generally regarded as a nonathlete profile, whereas the NFOR athlete scored high on the fatigue scale and low on the rest of the scales, including the positive vigour scale. The POMS identified the different stages of OT for the athletes. The RESTQ-Sport scores also showed differences between the three athletes, with the current NFOR



athlete and the recovering NFOR athlete producing higher general and sport-specific stress scores than the healthy athlete. The current NFOR athlete displayed a profile with low general recovery. Nederhof et al. suggested that the athlete who was in a state of NFOR had high levels of total stress in combination with low levels of recovery, indicating that training stress was not the only factor contributing towards the imbalance between stress and recovery. Nederhof et al. concluded that the RESTQ-Sport had better diagnostic value for OT and OTS than the POMS. A limitation with this study is the small sample size ( $N = 3$ ). Additional research investigating the effectiveness of the RESTQ-Sport with larger sample sizes of athletes in different stages of OT might be beneficial.

Kellmann and Gunther (2000) used the RESTQ-Sport as a monitoring tool to investigate changes in stress and recovery in rowers during their preparation for the 1996 Olympic Games. Results from the rowers' preparation camp identified that high durations of training led to elevated stress levels and lower recovery levels. A major benefit of the RESTQ-Sport was in being able to monitor changes, not only in training stress, but also in general stress and in the capacity to recover. Travelling to compete in a different environment may increase general stress for one athlete, whereas others may take it in their stride. Using the RESTQ-Sport as a monitoring tool may reveal when athletes are struggling with the stress of changes to their environments or are unable to make use of recovery strategies.

Davis, Orzeck, and Keelan (2007) set out to assess the validity of the RESTQ-Sport. Davis et al. used 585 athletes, and their results confirmed the validity of the sport-specific scales, but disconfirmed the factor structure for the general stress and recovery scales. Davis et al. concluded that the RESTQ-Sport was a valid general measure of

underrecovery, but the individual items of the RESTQ-Sport combined to form different subscales than those Kellmann and Kallus (2001) outlined. Davis et al. suggested that their results supported the practical applications for using the RESTQ-Sport, which was to monitor athletes during training to identify specific signs of under-recovery that might prove detrimental to performance.

There are a number of additional tools used to monitor SRI and diagnose OT, but none that appear consistently in the literature. It is not within the scope of this literature review to discuss these questionnaires.

### **Risk Factors**

A number of researchers have attempted to identify risk factors associated with OT and burnout (Botterill & Wilson, 2002; Gould et al., 1999; Gould, Tuffey, Udry, & Loehr 1996, 1997; Gould, Udry, Tuffey, & Loehr, 1996; Krane et al., 1997; Richardson et al. 2008; Winsley & Matos, 2011) to enhance understanding as to why some athletes struggle to maintain the balance between stress and recovery and others appear to cope in the same situation. From the published literature, it appears that there are many reasons why athletes overtrain including environmental influences, personality traits, influential relationships, and sport cultures. Kenttä and Hassmén (1998) concluded that physiological, as well as psychological and social stressors might contribute to staleness syndrome. Krane et al. (1997) reported a variety of intrapersonal, interpersonal, and sociocultural factors that drive athletes to overtrain, including perfectionism, super motivation, and parent and coach pressure to win. Matos et al. (2011) suggested that development of a one-dimensional identity, limited autonomy, feelings of disempowerment, having perfectionist traits, receiving conditional love, and having unrealistic expectations were risk factors for OT in

young athletes. Kellmann (2002) suggested that the reason why athletes display different degrees of vulnerability might be interindividual differences in recovery potential, exercise capacity, nontraining stressors, and stress tolerance. Kenttä and Hassmén (2002) suggested that it is important to investigate why athletes respond differently to training stimulus under different conditions, and why a group of athletes will display differences in how they respond to same training program.

Richardson (2005) set out to enhance understanding regarding the many variables suggested to be risk factors to OT. He interviewed 27 elite level coaches and athletes regarding their opinions, perceptions, and experiences of OTS in Australia. From his qualitative research, Richardson produced a model of OT risks and outcomes. Within this model, Richardson suggested four categories of OT risks: athlete intrapersonal variables, interpersonal variables, situational factors, and sport sociocultural contexts or environments in which the other three factors are embedded. Richardson et al. (2008) suggested that risk factors might do one of two things to upset the balance of stress and recovery that could lead to OTS: increase athletes' desires to train, or increase athletes' demands for recovery. The dynamic nature of this model indicates that at any time any number of factors could influence the OT process. In the following sections, I will outline numerous risk factors of OT and, where relevant, I will identify any seemingly apparent associations with MT. The link between MT and OT initially would appear to be in a buffering capacity given that MT is associated with consistent good performance in athletes and OT with athlete performance deterioration. Purvis, Gonsalves, and Deuster (2010) suggested that MT or resilience might act as a buffer against the development of OTS. Purvis et al. indicated that although no research had examined MT in athletes with OTS, MT training may be beneficial for the

prevention of OTS and associated symptoms. It appears logical that some characteristics and behaviours of MT may appear to buffer stress, as Purvis et al. suggested, reducing the susceptibility to SRI, but some characteristics of MT seem likely to increase athletes' demands for recovery, potentially exacerbating an imbalance between stress and recovery leading towards OTS, injury, and illness.

### **Athlete Interpersonal Factors**

The people who surround athletes may influence attitudes and behaviours regarding stress, recovery, and OT. Richardson et al. (2008) suggested the following as a nonexhaustive list of interpersonal factors that could influence athletes to overtrain: past and present relationships with parents, coaches, and significant others; attitudes and behaviours of others related to OT; illness and injury; success and failure; patterns of reinforcement for OT behaviour; and contingent dispersal of love and approval.

Richardson et al. (2008) suggested that the most salient risk factors for OT were the influences of coaches and parents. Athletes' susceptibility to OT might increase if they internalised parents' and coaches' OT ideals through patterns of reinforcement, and contingency-based expressions of love and approval. In the OT literature there is support for these findings. Krane et al. (1997) identified abusive coaches who drove athletes to overtrain, and described an athlete who would do anything her coaches asked her to do to try to receive some love and approval. Kellmann (2002) suggested that coaches influenced rest and recovery behaviours during competition and training camps. Wrisberg and Johnson (2002) displayed quotes from participants who reported feeling humiliated, denigrated, and verbally abused by coaches, which prompted athletes to turn to OT behaviours as a way to cope.

Richardson et al. (2008) suggested when athletes receive praise and approval for excessive training or underrecovery behaviours; there may be an increased susceptibility of OT for those individuals. Additionally coaches who had achieved success in the past by promoting the more-is-better approach may encourage athletes to internalise this approach, taking on board the idea that they too will achieve success if they can keep going. Budgett (1998) proposed that gaining success of any kind in sport might reinforce the attitude that tough training is the way to succeed. Coaches appear to influence athletes to develop the attitude that when it comes to training more-is-better, which may lead to OT. The psychological climate established by coaches can clearly influence athlete behaviour with regard to training and recovery.

Richardson et al. (2008) suggested that family, friends, teammates, coaches, and the media praise hard-training athletes, making them feel that they are doing something good when they train excessively. Family members who have unrealistic expectations for athletes or who try to provide support by motivating the athlete to perform when they have a niggle or a cold may increase the risk of OT. Richardson et al. suggested that medical staff who try to support athletes by approving a premature return from injury or illness may promote the message that play, with pain is fine, but it may also increase SRI likelihood. There are many identified risk factors in this dimension of the model, but the risks that seem most relevant to this literature review appear to be contingent dispersal of love and approval, patterns of reinforcement for OT behaviours, and how significant others, coaches, medical staff, and family members view OT behaviours. It is inevitable that individuals are influenced by people around them, but the MT literature on characteristics and behaviours of mentally tough athletes suggests that when athletes are mentally tough they are not as

likely to need approval from others. That suggestion is probably in many cases not true, but coaches from Australian football suggested that mentally tough players do not require as much feedback from significant others because they can do their own self-assessment (Gucciardi et al., 2008). Perhaps because of their “unshakeable” self-belief, mentally tough athletes are less likely to be influenced by coaches and parents, and do not feel pressured to perform in a certain manner when coaches and families disperse contingent love and approval. Mentally tough athletes are suggested to be able to “remain in control and not controlled” when it comes to the training environment (Jones et al., 2007). The characteristic of control may enable mentally tough athletes to train optimally and not adapt to a more-is-better approach in the training environment.

There appears to be limited research regarding how being mentally tough enables athletes to manage interpersonal influences aside from the research mentioned. Comparing MT characteristics and interpersonal OT risk factors, there appears to be a suggestion that being mentally tough may mean that athletes can buffer some of the influences that encourage increased training or that may affect athletes’ needs for recovery.

### **Intrapersonal Variables**

Athletes’ personalities, behaviours, and beliefs may help them be successful in sport, but particularly low or high levels of certain traits and behaviours may exacerbate stress levels, prompting increased needs for recovery, which might increase susceptibility to SRI. The risk factors identified in the model include super-motivation, pushing through injury, seeking love and approval for performance, fitness levels, and injury/illness status. There seems to be a fine line between when such characteristics are helpful for performance

and when the characteristics become risk factors. Richardson et al. (2008) suggested that athletes at risk of OT may be placed at the high end of one or more of those characteristics.

**Supermotivation.** Possessing high levels of motivation, demonstrated by having a strong commitment to goals and dedication to training, is undoubtedly important for success in sport (Mallett & Hanrahan, 2004), but possessing extremely high levels of motivation to achieve success and to set new standards may be a risk factor for OT (Budgett, 1998; Gould, Tuffey et al., 1996; Hollander, Meyers, & LeUnes, 1995; Kuipers & Keizer, 1988; Levin, 1991). The OT literature highlights the supermotivation profile of athletes being driven to achieve any goals no matter how unrealistic the goals may be and dedicated to their sports in pursuit of success as at increased risk for OT. Athletes who have excessively high levels of motivation may ignore how their bodies feel and potentially neglect recovery because they are so motivated to reach their goals. This profile may lead an athlete towards SRI by training too hard.

Motivation in MT research shares similarities with supermotivation in the OT literature. Jones et al. (2002) reported that mentally tough athletes had insatiable desires and internalized motives to succeed, and Middleton (2005) described the MT attribute *personal bests* to be, “an internal motivation or drive to pursue personal best performances” (p. 87). The consensus from the MT literature seems to be that having an insatiable desire and perseverance to achieve one’s goals, and overcoming any adversity because one is so motivated, is mentally tough, while in the OT literature having an insatiable desire to reach your goals no matter what obstacles are in your way could potentially lead to SRI and OT.

**Pushing through injury.** Richardson et al. (2008) suggested that pushing through injury was an intrapersonal risk factor for OT. Athletes will push through injury for a

variety of reasons, including gaining love and attention, to meet financial obligations, because the media reinforces the belief that playing injured is heroic, and because athletes think pushing through injury is the route to achieve success. For whatever reason the athlete has for pushing through injury, the likelihood is that athletes who engage in this behaviour might potentially exacerbate injuries, upsetting the stress/recovery balance. Noblett and Gifford (2002) identified that injury was a source of stress for Australian footballers. Regardless of the increased stress associated with injuries, which may increase athletes' needs for recovery, pushing through injury was reported as being mentally tough. The physical toughness characteristic of MT included the ability to push through injuries and ignore pain while maintaining performance (Coulter et al., 2010; Gucciardi et al., 2008). It appears contradictory that pushing through injuries is both a risk factor for OT and a characteristic of a mentally tough athlete.

Crust and Clough (2005) reported that individuals who scored high on overall MT, as measured by the MTQ 48, can block out pain more easily than those individuals who scored lower on overall MT. Levy et al. (2006) indicated that athletes with higher levels of MT, as measured by the MT 18, perceived injuries as less threatening, felt less susceptible to further injury, and coped better with pain during rehabilitation than individuals with lower levels of MT. Perhaps mentally tough athletes are able to push through injury because they are more able to manage the pain associated with injuries, which enables them to perform, but this does not reduce the likelihood of a potentially more severe injury. Nonetheless, mentally tough athletes may not feel increased stress when injured because they perceive the injury as less threatening than lower mentally tough athletes. It is unclear if MT might buffer or hinder the development of OT in this case.



**Seeking love and approval for performance.** Richardson et al. (2008) suggested that athletes who look for love and approval for their performances might train excessively in an attempt to elicit positive reactions from significant others. Matos et al. (2011) suggested that young athletes might try to dedicate themselves to training and aim for sporting success to meet parent and coach expectations, but a perceived failure in meeting the expectations can result in increased training, feelings of guilt, and threatened self-esteem, all of which may contribute to OT. One consistently identified characteristic from the published MT literature is self-belief (Gucciardi et al., 2008; Jones et al., 2002; Thelwell et al., 2005). The research supports mentally tough athletes having strong beliefs in their own abilities to achieve success regardless of what anyone around them says. Middleton, Marsh, Martin, Richards, and Perry (2005) reported that mentally tough athletes have an unquestionable self-belief, and despite adversity, those athletes can see the potential in themselves without needing any external reinforcement.

### **Situational Factors**

The situational influences described in the OT risks and outcomes model (Richardson et al., 2008) include aspects of the environment, internal and external to the sport, that increase athletes' susceptibility to stress or affect athletes' needs for recovery.

**Nonsport factors.** A variety of nonsport factors have been identified in the literature as factors that may elevate stress levels upsetting stress/recovery balance, for example, an athlete's roommate (Wrisberg & Johnson, 2002), financial or family problems (Scanlan, Stein, & Ravizza, 1991), travel (Nicholls, McKenna, Polman, & Backhouse, 2011), moving home, and involvement in school or university (Richardson et al., 2008). Athletes, like everybody else, have to cope with day-to-day concerns not only negative

situations but also positive life events such as a becoming a parent or starting a new relationships, which may elevate stress levels and affect recovery needs.

The participants Coulter et al. (2010) and Gucciardi et al. (2008) interviewed identified a number of nonsport situations where being mentally tough would be beneficial. Some of the situations appear to be similar to the nonsport events risk factors. Coulter et al. suggested that having the ability to remain “focused following both positive (e.g. birth of a child) and negative (e.g. death in family, financial concerns) distractions away from the game” (p. 707) were situations that players and coaches perceived being mentally tough might be helpful. Another situation Gucciardi et al. reported that being mentally tough might be advantageous was when players were trying to balance football commitments with commitments outside football (e.g., relationships, media, work).

One characteristic of mentally tough athletes is being able to cope with and manage pressure without that pressure affecting performance. Jones et al. (2007) suggested that MT included being totally focussed on the job at hand in the face of distraction and managing to remain committed to a self-absorbed focus regardless of external distraction. The participants interviewed by Coulter et al. (2010) suggested that mentally tough soccer players could persevere through adversity within and out of soccer. Australian football coaches suggested that mentally tough players could focus on what they wanted to achieve regardless of internal or external pressures, obstacles, or challenges (Gucciardi et al., 2008) and could manage their emotions in any situation.

Being able to manage one’s emotions, cope and handle pressure, and avoid distraction in any situation would appear to buffer the risk of OT, but it seems that this characteristic may be idealistic (and it stems from fantasy-based research that asks

participants to describe and construct “ideal” sports people. Constructing ideals is the same as constructing fantasies). Perhaps the expectation of athletes to be able to maintain performance, while coping with life events, may exacerbate stress levels and increase the need for recovery. The expectation that mentally tough athletes should be able to manage emotions, and cope and handle all types of pressure may be a risk factor for SRI and not a buffer.

**Sport-specific events.** The descriptions of sport-specific events that may increase the risk of OT by elevating stress levels or affecting athletes’ needs for recovery include transitions in sport, setbacks due to injury, illness, or poor performance, and completing a professional preseason. Hanin (2002) suggested that athlete responses to poor performance could affect the balance of training and recovery, potentially motivating athletes to push excessively in training to eliminate uncertainty and enhance self-confidence.

Richardson et al. (2008) suggested that during transitions athletes were likely to experience additional stress, which would benefit from extra recovery time that might not be available. Transitions might include joining a new team, moving to a higher level of the sport, switching time zones, or performing in a different physical environment. Coulter et al. (2010) described a number of similar situations that elite soccer players thought would be handled well if one were mentally tough. Two of the situations seem relevant to this discussion, namely managing the transition of moving away from home for the first time during adolescence, especially when facing adversity (e.g., injuries, nonselection), and coping with moving into a higher level of sport. The same situations appear to be risk factors for OT and situations where MT is beneficial. It seems that when a situation could

increase stress levels then being mentally tough should enable athletes to manage the situation because they can handle pressure situations and overcome many obstacles.

In a similar manner to the nonsport factors, it seems that mentally tough athletes should be able to cope with potentially difficult situations within and out with sport without increased stress or an increased need for recovery and without any additional support. Nevertheless, these sorts of expectations are, in part, from fantasy-based research and researchers who apparently have positive prejudices for MT. The perception of athletes who display elevated stress levels or indicate that they need more recovery might be that that are not mentally tough, which may lead to athletes hiding their need for recovery and pretending they are managing their stress.

### **Sport Sociocultural Context**

These risk factors refer to the attitudes, norms, and imperatives imposed by the sociocultural environment that can push athletes to increase training or increase the demands for recovery. Richardson et al. (2008) proposed that when athletes struggle to maintain an image of toughness, as imposed by the sport's subculture, they have an increased susceptibility to OT. Hanin (2002) suggested that the sport culture and subculture could emphasise the benefit of quantity over quality in training, thereby increasing the risk of SRI. Brustad and Ritter-Taylor (1997) suggested that coaches who frequently endorse attitudes, such as "no pain no gain" and "more-is-always-better," create a sport culture of risk instead of promoting positive self-care and self-awareness. Referring to these demands placed on athletes by coaches, an interviewee, quoted in Richardson et al., suggested that there appear to be certain values and norms accepted in sport that seem to be abusive and would not be acceptable in other areas of life, such as the education system. Wiese-

Bjornstal (2010) identified the role of sport culture in potentially maladaptive athlete behaviours. She suggested that athletes learn what the expectations and norms of the sport cultures are through socialization experiences and that the expectation is for them to be tough and play through injury and pain. The problem with the expectations that everyone hides their pain, has to be tough, and plays through injury is that OT becomes the norm in sport. Gould, Jackson, and Finch (1993) and Wrisberg and Johnson (2002) provided examples where athletes felt ashamed, condemned, or stressed-out for not living up to the expectations of the sport culture. Playing injured, hiding emotions, and ignoring pain appear to be tactics athletes use to try to live up to the norms and expectations in some sport cultures, but these tactics appear to be maladaptive responses to signs of SRI that potentially lead to further injury, illness, and, potentially, OT.

It seems that if athletes do not live up to expectations in sport or share the values of the sport culture then they might try to adopt the cultural ideals of the sport and train even harder to try to fit in. Hughes and Coakley (1991) suggested that conforming to the norms in sport might become the only way to gain acceptance in a team. Hughes and Coakley described a sport ethos in which coaches, commentators, and sport publicists reinforce the norms of the culture, which includes aspects that seem similar to MT (e.g., persevere until goals are met, view adversity as a challenge, make sacrifices and subjugate other experiences generally associated with growing up, be all you can be in sport, play with pain). Conforming to the norms of MT may mean athletes play injured, ignore pain, view emotions as weakness, and strive to go beyond physical boundaries to gain contingent love, and thus, increase their susceptibility to SRI.

Some of the risk factors identified as sociocultural norms seem similar to some of the characteristics of mentally tough athletes. The pressure on athletes to be mentally tough may mean that athletes have no other option but to risk SRI, injury, illness, and potentially OTS to prove their MT. Andersen (2011) suggested:

I think when we sell mental toughness we need to be mindful that, for some predisposed athletes, we may be selling shackles. Mental toughness fits hand-in-glove with the masculine ‘tough’ environment of sport, and when coaches (and sport psychologists) champion mental toughness and praise athletes who demonstrate that toughness, and neglect (or abuse) athletes who don’t, then mental toughness may become part of the problem. A ‘we-all-need-to-be-mentally-tough’ atmosphere may help silence athletes who are struggling. (p. 82).

MT is undoubtedly a construct that is used in everyday sport by coaches, athletes, media, and fans. The prevalence of MT in the sporting world indicates that further research is needed to investigate the various aspects of MT. The research so far has focussed on enhancing understanding of what MT may enable athletes to achieve, but it appears that there needs to be some clarification of the process of how MT affects performance and wellbeing, particularly within the sociocultural context of elite sport.

### **Purpose of Thesis**

The purpose of the research reported in this thesis was to investigate MT and OT in elite athletes. The published literature has focussed on defining MT, identifying characteristics, developing MT, and measuring MT. Currently, there is no published research investigating how MT may help or hinder athletes in terms of stress and recovery

in elite sport. The aim of this thesis was to investigate how MT might influence perceptions of stress and the capacity for recovery with elite athletes.

In Study 1, I focussed on investigating the associations between MT and SRI using a quantitative approach. The aim of Study 2 was to develop an in-depth understanding, using qualitative methods, of the way that MT might influence stress and recovery in both a potentially buffering and detrimental manner. Finally, in Study 3, using a case study approach, I aimed to monitor how athletes with different MT profiles and SRI history coped with stress and managed recovery throughout a competitive season. I paid particular attention in Study 3 to how MT characteristics and behaviours helped or hindered maintaining a balance between stress and recovery.

Richardson et al. (2008) suggested that there is a tendency to look for answers only where there is light. In this thesis, I aimed to ask questions where there is light, by examining the positive aspects of MT and how being mentally tough can help elite athletes in terms of performance and wellbeing. My intention was also to look also for answers in the dark by investigating the potential subterranean side of MT to increase understanding of circumstances when being mentally tough may hinder performance and be detrimental to athlete wellbeing.

## **CHAPTER 3**

### **STUDY 1: A QUANTITATIVE APPROACH TO UNDERSTANDING MENTAL TOUGHNESS AND STRESS/RECOVERY**

There is widespread agreement on the importance of MT in sport (Jones et al. 2002; Krane & Williams, 1988; Loehr, 1982, 1986) with athletes and coaches attributing successful performances to being mentally tough (Gould et al., 1987, 2002). Researchers are now beginning to develop programs aimed at increasing athletes' MT (Gucciardi et al. 2009c, 2009d), with the goal being enhanced performance, but the extent of the benefits (or detriments) of increasing MT are not well known.

Athletes have idiosyncratic MT profiles with varied characteristics that may help or hinder performance. For example, athletes who are able to reduce their emotional reaction to adversity, described as stress minimisation (Middleton, 2005), may be able to perform well regardless of the adversity they face. Running training programs to develop this characteristic of MT may help athletes to manage adverse situations without detrimental emotional reactions, and therefore maintain a healthy balance between stress and recovery. Nevertheless, trying to increase other MT characteristics may be detrimental for athletes in terms of the stress/recovery balance. Middleton (2005) described perseverance as, “persisting in or remaining constant to a purpose, idea, or task in the face of obstacles, discouragement or adversity” (p. 87). This MT characteristic would appear to be important for athletes to help achieve their goals and overcome obstacles, but trying to increase perseverance in athletes who already have high levels of perseverance may teach them to persevere too much (e.g., when injured, ill, or excessively fatigued) leading towards OT and reduced performance. Training to increase many MT characteristics in individuals



without a thorough understanding of all the potential outcomes might lead to problems with athlete wellbeing and performance.

Research investigating the stability of MT is in its infancy, however it appears that some aspects of MT may be stable and some more changeable. Horsburgh et al. (2009) concluded that MT consists of some characteristics that are stable traits and other characteristics that may be developed. Middleton et al. (2004a) supported the idea that MT has some stable characteristics and other characteristics that are malleable by separating attributes in their study into actions (e.g., focussing of attention) and personal characteristics (self-belief). Bull et al. (2005) identified that MT characteristics encompassed the development of athletes' enduring personality characteristics indicating the stability of MT. Connaughton, Wadey, et al. (2008) proposed that levels of MT attributes could fluctuate and therefore required maintenance throughout the remainder of athletes' careers. As seems to be consistent in MT research there is further work to be carried out to enhance our understanding regarding MT stability.

Researchers have primarily focussed on understanding the MT construct and the characteristics associated with MT. An important step to understanding how MT might influence health and wellbeing is to investigate which MT characteristics could be beneficial to health and performance, and which, if any, could be detrimental, especially at high levels. Further, little research has addressed the impact of MT on stress-recovery imbalance (SRI) and on indicators of impending OT. Given that SRI may arise due to a failure to manage stress or take time for recovery in adverse situations (and most mental toughness definitions contain a capacity to cope in the face of adversity. See Middleton et

al., 2004a), investigating the relationship between MT and SRI may increase knowledge of why some athletes are susceptible to OT.

In this study, I had a number of aims in relation to MT and SRI. I will explain the aims in relation to the order of the Results section to maintain continuity. The first aim was to examine the stability of mental toughness over time. There are disagreements in the MT research with some researchers claiming that mental toughness is stable and trait-like (Clough et al., 2002; Horsburgh et al., 2009; Nicholls et al., 2008) and others describing MT as transient and state-like (Bull et al., 2005). I predicted that some MT attributes to remain stable (e.g., mental self-concept), and other attributes (e.g., task-specific attention) would be less stable during the period of testing. To investigate MT stability, I correlated the MTI attributes measured at two times (test-retest reliability) during a competitive season under potentially different stress conditions (i.e., during a competition week, during a noncompetition week).

The second aim of this study was to investigate if stress and recovery levels vary depending on whether athletes' are involved in a competitive match or during a training-only week. The RESTQ-Sport has been used to measure athletes' changes in stress and recovery corresponding to training load (Kellmann & Günther, 2000; Jürimäe, Mäestu, Purge, & Jürimäe, 2004; Jürimäe, Mäestu, Purge, Jürimäe, & Sööt, 2002). I expected scores on the RESTQ-Sport in a week without the stress of a competitive match to reflect lower stress and increased recovery levels compared to scores in a week after a competitive match.

The primary aim of this study was to investigate how MT and SRI may be related. I anticipated that high levels of MT attributes would be associated with low stress scores and

high recovery scores. To investigate this hypothesis I examined the correlations between the Mental Toughness Inventory (MTI; Middleton, 2005) subscales and the subscales of the Recovery-Stress-Questionnaire for Athletes (RESTQ-Sport; Kellmann & Kallus, 2001). To test for the presence of linear relationships (as MT increases does stress decrease and recovery increase?) and curvilinear relationships (as MT increases does stress decrease up to a point then increase again and does recovery increase to a point and then decrease again?), I examined both linear and quadratic relationships.

## **Method**

### **Participants**

The participants for this study were 107 male athletes competing in a variety of sports in Victoria, Australia. Participants' ages ranged from 16 to 34 years ( $M = 21.5$  years,  $SD = 4.1$  years). Participants were recruited from the Australian Football League (AFL,  $n = 43$ ), Victorian Football League (VFL,  $n = 33$ ), field hockey ( $n = 17$ ), and soccer ( $n = 14$ ). Years involved in sport at their current levels ranged from 1 to 14 years ( $M = 4.00$ ,  $SD = 3.32$ ). AFL represents a demanding contact sport that has a 22-week yearly season with a 4-week final series culminating in two teams competing in the Grand Final. The VFL is a reserve league for the AFL following the same competitive structure. The VFL is a semi-professional league and is a statewide competition, but has more limited press and television coverage than the AFL. The recruited field hockey players were either part of the national Australian team ( $n = 5$ ), or represented the state (Victorian) team ( $n = 12$ ). Soccer players represented either the national Australian under 18s team ( $n = 9$ ) or the state (Victorian) team ( $n = 5$ ).

## Measures

**Demographic information form.** On an information sheet developed for this study, I collected demographic information on age, sport and level of competition in which each athlete was involved, and years involved in that sport (see Appendix A).

**Mental Toughness Inventory.** (MTI; Middleton, Marsh, Martin, Richards, & Perry, 2004b, Middleton, 2005). This 36-item questionnaire was designed to measure 12 attributes (3 items for each) of MT identified during the development of the MTI (i.e., self-efficacy, mental self-concept, potential, task familiarity, personal bests, goal commitment, perseverance, task-specific attention, task value, positivity, stress minimisation, positive comparisons). The MTI subscales have high internal consistency across sub-elite and elite athletes. Middleton et al. reported that the MTI is strong conceptually, because it has a strong theoretical background. Participants are asked to self-report on the items, using an 8-point true-false response scale from 1 (completely false) to 8 (completely true). The MTI has a minimum score of 3 and a maximum of 24 for each of the 12 attributes (see Appendix B).

**Recovery-Stress Questionnaire for Athletes.** (RESTQ-Sport; Kellmann & Kallus, 2001). The RESTQ-Sport is a 52-item self-report measure of general stress and recovery scales along with sport-specific stress and recovery scales. General stress consists of the following eight subscales: general stress, emotional stress, social stress, conflicts/pressure, fatigue, lack of energy, and physical complaints. General recovery consists of five subscales: success, social recovery, physical recovery, general wellbeing, and sleep quality. Sport-specific stress consists of three subscales: disturbed breaks, burnout/emotional exhaustion, and fitness/injury. Finally, sport-specific recovery consists of four subscales:

fitness/being in shape, burnout/personal accomplishments, self-efficacy, and self-regulation. Subscale scores are added together to give a total score for each of the four major scales. Participants respond on a 7-point Likert scale from 0 (*never*) to 6 (*always*). The RESTQ-Sport identifies current stress/recovery states of athletes, which is important in identifying and addressing the potential for OT. Cronbach's  $\alpha$  values for each of the 19 subscales range from .72 to .93 (Kellmann & Kallus, 2001), demonstrating good internal consistency. Test-retest reliability of each subscale was highly stable after 24 hours with decreasing stability after 3 days (Kellmann & Kallus, 2001). Scores for the four major subscales were used in the data analysis (see Appendix C).

## **Procedure**

After the Victoria University Human Research Ethics Committee granted approval for this study, I approached a number of coaches and explained the project to them. I identified the coaches through the Victorian Institute of Sport (VIS) and through contacts within Victoria University. Five coaches agreed that I could approach the athletes with whom they worked at designated training sessions to explain the study. When I met each athlete group, I provided verbal information about the study, and I supplied participation information sheets and informed consent forms (see Appendix D). All athletes who were present at the agreed-upon training sessions gave consent to be involved in this project. Parents or guardians of participants under the age of 18 completed a parental/guardian informed consent form (see Appendix E). During the first data collection period, all athletes had been involved in a competitive match/competition within the previous 2 days. In all, 125 athletes completed the questionnaires at this time. The questionnaires took approximately 20 minutes to complete. Responses from six athletes were not included

because numerous questions were unanswered. I administered the questionnaires again between 4 and 6 weeks after the initial data collection. None of the participants had been involved in a competitive match the week prior to the second time of testing. As before, athletes completed the questionnaires prior to a training session. Of the original participants, a number of athletes were unavailable during the second data collection period. One athlete left a number of questions blank, so his data did not contribute to this part of the study. Overall, 108 athletes fully completed the questionnaires at both data collection periods. At the end of the second session, I thanked all the athletes for their participation and offered them a debriefing session if needed.

### **Data Analysis**

I used descriptive statistics (*Ms*, *SDs*) to examine the variables (demographic information, RESTQ-Sport scores, and MTI scores). I ran test-retest reliability correlations between the two occasions of administering the MTI to determine the stability of MT attributes. To detect differences in RESTQ-Sport scales from a competition week to a week without competition I ran paired *t* tests for the four general and sport-specific stress and recovery REST-Q scales. To address the question of how MT attributes might be related to general and sport-specific stress and recovery, I ran 4 (stress and recovery scales) x 12 (MTI subscales) correlation matrixes, using linear and curvilinear (quadratic) analysis. I analysed the MTI and RESTQ-Sport results from Time 1 for these correlations.

### **Results**

In the first section, I present descriptive results that outline athlete scores for MT on the MTI during the week with a competitive match and the week without a competitive match. Test-retest reliabilities for MTI attributes are displayed in Table 3.1. I then present

descriptive results of the RESTQ-Sport for the two data collection sessions. Next, I examine differences in stress/recovery as measured by the REST-Q sport between the two data collection occasions. In the main section, I investigate the primary aim of this study and display correlations between MTI attributes and RESTQ-Sport scales using linear and quadratic analyses.

Preliminary analyses were performed on all data with regard to statistical assumptions (outliers, normality) and there were no outliers or missing data. I conducted tests for normality and the data was within tolerances of normality for correlational analyses.

### **Patterns of Mental Toughness**

The sample showed approximately normal distributions for the 12 subscales, although the study would need to have a much larger sample size to conclude that there are normal distributions in the population. Due to employing multiple statistical tests and experiment-wise error rates, more stringent  $p$  levels were used.

Participants demonstrated a range of scores for the MTI, which has a minimum score of 3 and a maximum of 24. All scores were within the top half of the MTI range as displayed in Table 3.1.

Table 3.1

*Means, Standard Deviations, Reliability Coefficients for MTI Attributes Measured during a Week with a Competitive Match and the No Competition Week and Cronbach's alphas*

MTI attributes	With competitive match		Without competitive match		Test-retest coefficient	Cronbach's alpha
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Goal commitment	19.41	3.20	20.39	2.90	.61*	.84
Task value	19.67	3.27	19.98	3.21	.64*	.75
Personal bests	20.44	2.79	21.38	2.45	.64*	.80
Perseverance	19.44	2.97	19.82	2.80	.62*	.78
Task-specific attention	16.67	3.76	17.69	3.96	.30	.84
Self-efficacy	17.57	3.93	16.91	3.82	.35	.65
Potential	18.73	3.66	18.56	3.51	.80*	.84
Mental self-concept	17.84	3.81	17.89	3.72	.84*	.91
Positive comparisons	20.06	3.59	21.01	3.25	.31	.60
Positivity	16.63	3.38	16.99	2.99	.51*	.78
Stress minimisation	16.66	3.95	17.00	4.01	.48*	.79
Task familiarity	17.11	3.39	17.32	3.35	.84*	.75

*Note.* \* indicates  $p < .001$

There appears to be little variability between the MTI attributes. The highest score being seen in personal bests ( $n = 21.38$ ) and the lowest score in the attribute of positivity ( $n =$



16.63). All MTI mean scores are within the top third of the scale indicating that athletes involved in this study generally felt strong on all aspects of MT as measured by the MTI.

During the week without a competitive match, changes in mean scores for all subscales were less than  $\pm 1$  from the first data collection period. Cronbach's alphas were used to determine the internal consistency reliability estimates of the MTI. Reliability was within a range of .60 to .91. At this point in the analysis, the scores on the MTI look stable with an acceptable reliability for a 3-item subscale. The definitions of MT have included suggestions of stable personality traits but also the potential for transient mood states. To investigate further I ran test-retest correlations to determine the stability of MT attributes, and results are displayed in Table 3.1. The reliability coefficients display a large range (from .30 to .84) indicating that some attributes of MT may be more stable than other attributes. If one looks at the means and standard deviations only, then the subscales look quite stable, but the test-retest correlations tell a different story. The means may not be changing much, but the low correlations for some subscales indicate that individuals are changing their scores substantially on some subscales (indication of instability). In this case, looking at the means for the two data collection times is deceptive. If a subscale is supposedly measuring a stable underlying variable, then the test-retest correlation should be about .80 or better. To illustrate how little scores on "positive comparisons" are related to each other at times 1 and 2, one should square the  $r$  value and get the percentage of shared variance (i.e., .096 or 9.6%). What the results in Table 3.1 suggest is that most of the subscales have poor test-retest reliability, and whatever they are measuring is not trait-like. Only three subscales, mental self-concept ( $r = .84$ ), task familiarity ( $r = .84$ ), and potential ( $r = .80$ ) reach an acceptable level of test-retest reliability coefficients. Data for both

periods were collected under similar but slightly different conditions, but the change of having a competition one week and not the other week, in the middle of a season, should not have such a dramatic effect (at least for some subscales) on subscale reliability. The different testing conditions go somewhat against the basic principle for test-retest analysis, but if the MTI is supposed to measure trait-like attributes, then there is evidence for only a few subscales having adequate stability. Further analysis of the MTI subscales was conducted only on those scales that reached a cut-off point for test-retest reliability (e.g.,  $\geq .80$ ). The choice of this cut-off was to be in keeping with traditional psychometric standards and not use the more liberal cut-off of .70

### **Patterns of Stress and Recovery**

The RESTQ-Sport scales are presented in Table 3.2, namely general stress, general recovery, sport-specific stress, and sport-specific recovery. Each scale consists of a different number of subscales; therefore, each scale has a different maximum. The minimum score on each item was zero and the maximum was six. General stress consists of seven subscales, so the maximum score is 42; general recovery has five subscales with a maximum score of 30. Sport-specific stress consists of three subscales and has a maximum score of 18, and sport-specific recovery consists of four subscales with a maximum score of 24. There are no published norms for the RESTQ-Sport scales as the questionnaire has been used primarily for monitoring changes in athletes' stress and recovery states.

Table 3.2

*Means and Standard Deviations for RESTQ-Sport Scales during a Competition Week, and the No Competition Week.*

	Competition week		No competition week	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
General stress	13.90	4.66	12.34	4.65
General recovery	16.37	3.87	16.26	3.69
Sport-specific stress	6.76	2.34	6.31	2.54
Sport-specific recovery	13.00	3.56	13.52	2.99

The maximum in the general stress scale is 42, so a mean score of 13.9 appears to be low indicating that the athletes did not feel high levels of general stress. Sport-specific stress is similar in that the maximum score is 18, and athletes scored a mean value of 6.76, suggesting low stress levels. The maximum score for the general recovery scale is 30 and sport-specific recovery is 24, so both recovery scores displayed in table 3.2 were only slightly above the mid-point of the scale. The stress/recovery profiles display athletes who indicate they are feeling low levels of stress and moderate levels of recovery. The differences in all four scores between competition and no-competition weeks are so small that they are minor and probably meaningless fluctuations in measurement. For example, on the scale with the largest change, general stress, the mean difference is only 1.56 points. What a mean change of this magnitude means for a scale that can range from 0 to 42 is “probably not much.”

**Stress and recovery over two periods.** Although the general stress scale displayed a small decrease over the two periods, the initial stress scores in both stress scales were low

in terms of the scoring range. The low stress scores do not leave much room for stress to decrease during the week without competition. Similarly, both recovery scores were in the top half of the scoring range, and, so, if participants were already feeling recovered during a competitive week, they may not have felt notably more recovered during the no-match week.

### **Relationships between Mental Toughness Attributes and RESTQ-Sport Scales**

**Linear correlations.** I carried out linear correlation analyses, using Pearson's product moment correlation coefficient ( $r$ ), to determine how the three MT attributes that had adequate test-retest reliability (i.e., potential, mental self-concept, task familiarity) were associated with the four RESTQ-Sport scales. Because most of the MTI subscales do not have adequate reliability (and demonstrate instability), any further analysis of their relationships with the REST-Q scales would result in correlations that are also unreliable and uninterpretable. The linear correlations are displayed in Table 3.3.

Table 3.3

*Pearson's Product Moment Correlations of MTI Attributes and RESTQ-Sport Scales during Competition Week*

	General stress	General recovery	Sport-specific stress	Sport-specific recovery
Potential	-.09	.28	-.15	.33*
Mental self-concept	-.23	.18	-.31*	.41*
Task familiarity	-.14	.24	-.17	.44*

*Note.* \* indicates  $p < .001$ .

The two stress scales' correlations with the three MTI subscales are negative, indicating that higher scores on the MTI are associated with lower stress scores, but they

are in the low to moderate size. All correlations between the three MTI attributes and the recovery scales are positive, suggesting that as athletes reported higher levels of these MTI attributes they reported higher recovery scores. The largest correlations emerged in the sport-specific scales, in particular the sport-specific recovery scale.

The results presented in Table 3.3 suggest that these three MTI attributes are associated with stress and recovery at low to moderate levels. To understand the correlations between these three MTI attributes and RESTQ-Sport subscales more clearly, I chose to review the scatterplots of correlations with significance level of  $p < .001$ . This meant reviewing the scatterplots of one correlation in the sport-specific stress scale, and three correlations in the sport-specific recovery scale. When I reviewed the scatterplots of these significant correlations, some scatterplots looked curvilinear. To investigate the different patterns, I chose to re-analyse the data using curvilinear correlations.

**Curvilinear correlations.** I analysed the data using SPSS quadratic curve estimations between the three MT attributes and the four RESTQ-Sport scales. I wanted to determine if any of the correlations between MTI attributes and the four RESTQ-Sport scales were stronger when analysed using curvilinear correlations than with linear correlations. The curvilinear correlations are displayed in Table 3.4.

Table 3.4

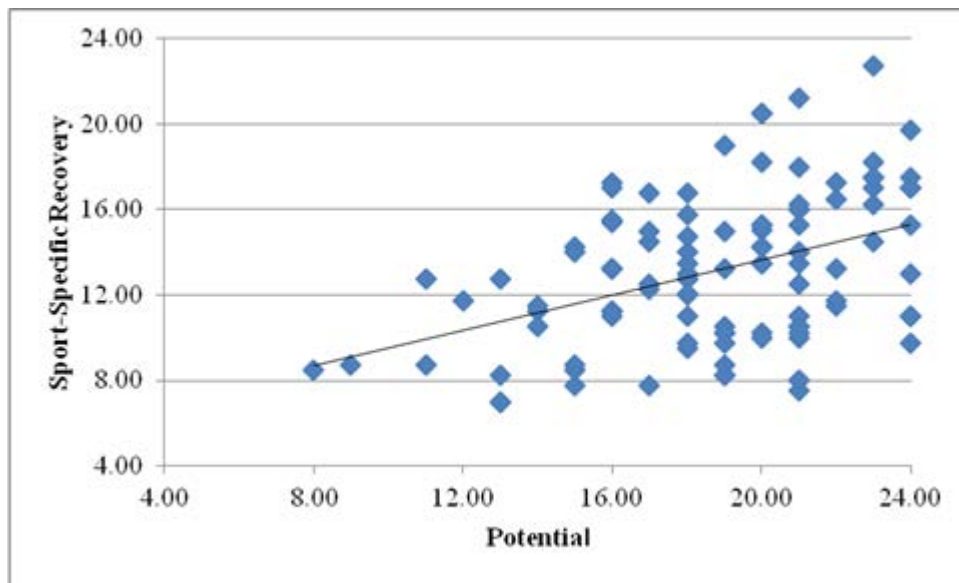
*Quadratic Curve Estimations of MTI attributes and RESTQ-Sport scales*

	General stress	General recovery	Sport-specific stress	Sport-specific recovery
Potential	-.21	.29	-.17	.34*
Mental self-concept	-.23	.18	-.32*	.51*
Task familiarity	-.16	.24	-.18	.51*

*Note.* \* indicates  $p < .001$ .

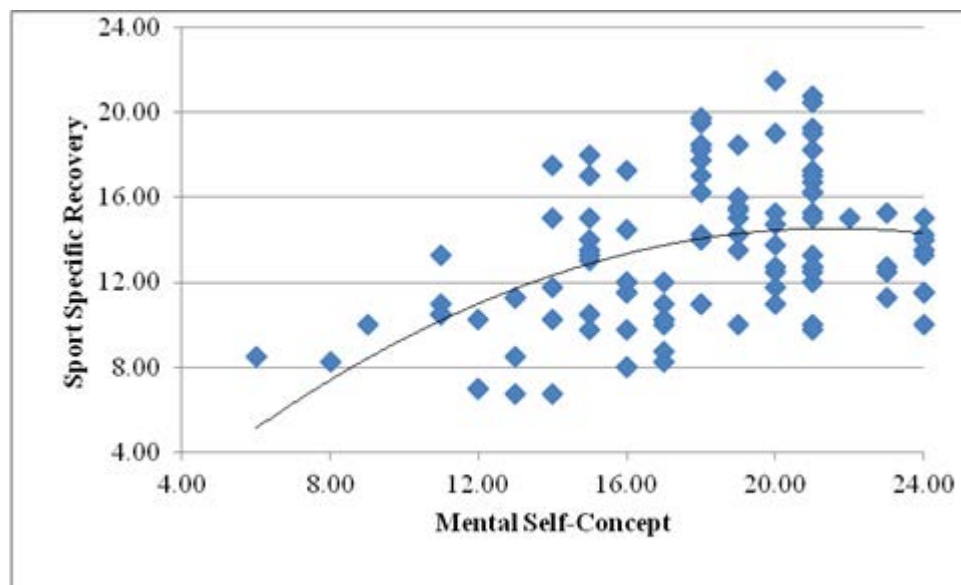
Many of the curvilinear correlations display similar results to the linear correlations presented in Table 3. 3, nevertheless, a number of differences emerged, for example, mental self-concept and task familiarity displayed stronger curvilinear correlations than linear correlations with sport-specific recovery. Results from both linear and curvilinear analysis indicate that only one correlation was significant with either stress scale, both in the sport-specific stress scale, implying that these MT attributes do not influence general stress. The results displayed in Table 3.3 and 3.4 indicate that MT attributes may have specific patterns with stress and recovery.

I selected one example of a scatterplot to demonstrate the stress and recovery patterns evident with MTI attributes. The MTI attribute of potential, described as believing that one has the inherent ability or capacity for growth, development or coming into being (Middleton, 2005), demonstrated the clearest linear scatterplots with sport-specific recovery; this pattern is displayed in Figure 3.1.



*Figure 3.1.* Scatterplot of potential and sport-specific recovery.

The linear pattern relating potential and sport-specific recovery indicates that a high potential score is associated with high sport-specific recovery scores. Participants who indicated they felt low on potential displayed low scores of sport-specific recovery. Mental self-concept, described by Middleton (2005) as viewing one's self as being mentally strong in relation to dealing with adversity, and sport-specific recovery demonstrated the clearest scatterplot for the curvilinear correlation and is displayed in Figure 3.2.



*Figure 3.2.* Scatterplot of correlations between mental self-concept and sport-specific recovery.

The scatterplot between mental self-concept and sport-specific recovery displays a curvilinear pattern. Athletes who score themselves maximally or near maximally for mental self-concept appear to score lower on sport-specific recovery. The highest recovery scores are seen when the MT attribute mental self-concept is lower than the maximum score.

The relationship between MT attributes and stress/recovery appears complex. Some attributes display relationships with only recovery scales, some only with sport-specific scales. Some attributes exhibit curvilinear correlations with the scales of the RESTQ-Sport whereas other attributes appear to produce identical correlations when analysed using linear and curvilinear correlations. The scatterplots also reveal that the assumption of homoscedasticity may not hold, and that the data points to the far left of the scatterplots may be artificially inflating the correlations. Any conclusions should be made with caution.



## **Discussion**

The main purpose of this study was to investigate the relationship between MT and SRI. Secondary aims were to review the stability of MT and to examine if stress and recovery scores varied between a competitive and training week. As with the previous sections in this study, I will first discuss the results regarding MT stability, followed by reviewing athletes' stress and recovery levels with competition and training load, and finally the relationships between MT and SRI.

### **Patterns of Mental Toughness**

The MTI comprises 12 components of MT and can produce a global score. The focus of this study was investigating attributes of MT, rather than an overall score, so the global MT score is not presented. The results in Table 3.1 indicate that participants considered themselves moderate to high on every attribute. The participants in the present study differed from participants used to refine and validate the MTI in a number of ways. Middleton (2005) used athletes from an elite sports high school, whereas the participants in the present study were from range of semi-elite and elite athletes with between 1 and 14 years of experience of sport at their current level, and with an age range of 16 to 34 years. Middleton et al. (2011) acknowledged that sampling participants with an age range of 12 to 19 years for their validation process makes generalising the results of the inventory to athletes in other age ranges a limitation. The experience levels between the sample Middleton used and the participants of this study may be another point of difference. Having longer careers in professional sport may mean that athletes in this study might have already developed degrees of MT that would allow them to function successfully in high-

level competition as opposed to athletes who may only be starting out in elite sport (as sampled by Middleton, 2005).

The test-retest results of the MTI indicate that, on many subscales, individuals are substantially altering their scores between the two data collection periods, which suggest limited stability of the subscale. Only three scales displayed an acceptable level of test-retest reliability implying that the MTI may not be a dependable measure of MT. The MTI has had limited use in MT research, and although the scales seems to have had a psychometrically sound development, it appears that the inventory, at best, is measuring something that is quite changeable. Perhaps the potential idiosyncratic nature of MT (Fawcett, 2011) may mean that the measures are reflective of MT being a “variety of transient, fluctuating and mercurial states of being.” (Andersen, 2011, p. 71). The limited commonality among research groups regarding the characteristics of MT suggests that measures may not be viable until a degree of conceptual clarity is achieved.

### **Patterns of Stress and Recovery**

Results displayed in Table 3. 2 indicate that athletes reported minimal change in stress and recovery between a competitive week and a training week (4 to 6 weeks later). The only statistically significant change appeared to be a decrease in the perception of general stress, but the effect size was small and probably not meaningful. Although athletes may not have been involved in a competitive match, they still attended training and went through the normal stress and strains of everyday life. I did not collect data on training loads during a competitive week and a training week, which may have identified how athletes trained when they did not have a competitive match. As mentioned previously, the stress and recovery scores during the initial data collection period did not indicate high

levels of stress or low levels of recovery, and so, within the scoring range of the RESTQ-Sport, there was not much potential for change in terms of reduction of stress and increase in recovery. Due to the requirement for all participants to have a week without competition within approximately six weeks of the first data collection period, all of the participants completed the inventories in the first half of their competitive seasons. The low stress and moderate recovery scores may not be the same as the end of a competitive season after the cumulative effects of competition week in and week out. To understand more about how a week without competition may affect athletes' perceptions of stress and recovery, more in-depth research would be fruitful.

### **Relationships between Mental Toughness Attributes and RESTQ-Sport Scales**

The focus for this study was to identify how MT attributes were associated with stress and recovery. The results appear to suggest that a variety of associations between MT and stress/recovery exist. The strongest curvilinear relationships were displayed between task familiarity, mental self-concept, and sport-specific recovery ( $r = .51$ ). Middleton (2005) used the following representative quote to describe task familiarity, "being familiar with your environment and with the competition just makes you relaxed" (p. 87). It appears that athletes in this study perceived themselves to feel less sport-specific recovery when they felt most comfortable in their environments (the downward trend in recovery at the highest levels of task familiarity as evidenced by the curvilinear estimation). Perhaps athletes who are most familiar with their competition, and have an awareness of what is required to perform at the elite level in sport, might work harder or spend more time preparing, and not allow time for recovery because they understand how much work is required to achieve success. This suggestion is, however, only speculation at this point.

Middleton (2005) described mental self-concept as, “viewing one’s self as being mentally strong in relation to dealing with adversity” (p. 87). This attribute displayed a small linear relationship with sport-specific stress and a moderate curvilinear relationship with sport-specific recovery. It is possible that athletes in this study identified being mentally strong only in relation to their sports, hence the significant relationships with only the sport-specific scales.

The relationship between MT and stress/recovery appears to be complex. Understanding how attributes of MT may help or hinder stress/recovery balance would be useful before researchers deliver training programs to enhance characteristics of MT. Some athletes may benefit from knowing how to lower some characteristics of MT to help maintain the balance between stress and recovery. By understanding where individual athletes are on the curvilinear graphs may be beneficial to know if an athlete would profit from enhancing some attributes of MT attributes and lowering other MT attributes. For example, an athlete who scores high on mental self-concept and task familiarity may feel lower levels of sport-specific recovery, which may lead to an imbalance between stress and recovery, potentially leading to OT. Perhaps with the idea of MT, there may be similarities to anxiety research, in that athletes have their individual levels of arousal, and applied psychologists can work to increase or decrease arousal for optimal performance. In the same way, perhaps, athletes may have unique profiles of MT and would benefit from learning what attributes are helpful to them, and then individuals could focus on attaining their unique MT profile for health, wellbeing and performance.

Gucciardi and Mallett (2010) stated that, “Little attention has been given to potentially dysfunctional outcomes not only for performance but also for general wellbeing

. . . further research is needed regarding this potential “dark side” of mental toughness.” (p. 554). Although this study identified only 3 MT attributes with acceptable reliability, the results based on these attributes indicate that at the highest scores of MT, these attributes may be associated with increased stress and a reduced capacity to recover. Further research investigating the potential dark side of MT and how the development of MT attributes may relate to athletes’ wellbeing and performance.

### **Methodological Issues**

There are a number of methodological issues that will be discussed in the following section. This study used two relatively recently developed questionnaires to achieve the aim of highlighting possible links between MT and SRI, although at the time of testing there were few alternatives available.

I chose to use the MTI to measure MT characteristics because it was developed from what seemed to be a sound theoretical base and had been evaluated via a construct validation framework, although Middleton et al. (2011) reported that the MTI needs further validation from independent samples of athletes. The use of school-based athletes aged 12–19 years old in the MTI validation process makes it questionable to use with athletes from other age groups. A further potential limitation was the use of the RESTQ-Sport. Kellmann and Kallus (2001) developed the RESTQ-Sport to assess the recovery-stress state of an athlete. This applied tool is used to monitor how individual athletes cope with training programs and preparation camps (Kellmann, 2010a; Mäestu, Jürimäe, Kreegipuu, & Jürimäe, 2006). Using the RESTQ-Sport to provide information on stress/recovery states of athletes in comparison to MT attributes was not the idea behind construction of the

RESTQ-Sport. Nonetheless, at the current time of writing, a questionnaire to diagnose OT is not available in the current literature.

The participants involved in this study were from a variety of sports and levels of competition. Some athletes had only been competing at their current level for 1 year although they had been involved in the sport for many years, whereas other participants had been competing at the same level of sport for 14 years. These time differences may have affected the results because characteristics of MT may develop at different times in individuals' careers (Connaughton, Wadey, et al., 2008).

In this study I tried to capture two periods when athletes would be under different levels of stress. The choice of administering the questionnaires following, as opposed to prior to, a competitive match may have produced an additional limitation, because there may have been a reduction in stress levels following a competitive match. Unfortunately, my access to two substantial groups of participants was limited to the training session two days following a competitive match, so to maintain consistency I carried out all testing following competitive matches or following a rest weekend. Using only 2 time points limited the investigation to a linear perspective, including 3 or more time points would open up the study to examine different types of relationships (e.g., quadratic), but in this thesis I was lucky to gain access during 2 time periods with professional athletes. I acknowledge this point as a potential limitation.

A further limitation in this study was the gender of all participants. At the outset of this study, I aimed to include data from both males and females. Throughout this study, I had many problems trying to gain access to female athletes. Of all the coaches I approached, the only coaches who were not keen to participate in the study were involved

with female athletes. When I had data from approximately 80 male participants (with another male sports team signed up to be part of my study), I chose to stop trying to gain access to female participants and focus on male participants.

All participants were involved in team sports throughout the study. This team-sport limitation was not the initial intention, but gaining access to athletes in individual sports, who had weekly competitive matches and a one-week break from competitive matches, proved difficult. At the end of the data collection period, I had responses from eight athletes from four different individual sports. I chose not to include the data from these athletes because they did not really fit with the rest of my participants.

### **Future Research**

During the analyses of this study, I became unsure about both the conceptualisation of MT and its measurement. I thought that maybe, as Andersen (2011) suggested, that MT was something that might not be reasonably conceptualisable or reliably measureable. The results of the MTI led me to abandon the use of quantitative methods and head down a qualitative path of exploring what MT actually means to individuals in the high-pressure world of professional sport. While writing up this thesis, additional evidence emerged that highlighted measurement problems in MT research. Gucciardi et al. (2012) psychometrically tested another MT instrument (MTQ 48, Clough et al., 2002) and found results from a confirmatory factor analysis suggested that this instrument was not a useful tool to measure MT. Unless the conceptualisation of MT begins to gain clarity, perhaps measurement tools will not provide the answers to the questions regarding MT.

Many researchers, thus far, have primarily viewed MT as a positive construct with only a handful of researchers (e.g., Andersen, 2011; Coulter et al., 2010; Crust, 2008;

Fawcett, 2011) asking questions about a potential dark side of MT. Yet no research has investigated if MT could be harmful and if the attainment of specific attributes of MT could lead to an imbalance between stress and recovery potentially leading to OT. Qualitative research focussed on investigating how unique profiles of mentally tough athletes manage stress and how their coping abilities affect recovery would enhance our understanding regarding why some athletes are more vulnerable to OT than others are.

Longitudinal work regarding identifying how attributes of MT interact to achieve success and maintain performance might provide unique insights into the development of a mentally tough athlete. During the early stages of a sports career, athletes may need to demonstrate high levels of perseverance, dedication, and commitment to prove to coaches that they have what it takes to be successful, but athletes who are in the later stages of their careers may benefit more from being able to reduce their perseverance, dedication, and commitment to training and allow more recovery based activities. I do not think quantitative, nomothetic studies will answer those questions. Idiographic approaches looking at how specific individuals interact with their specific sport environments may be a more fruitful approach than large-sample quantitative methods, especially considering that the quantification of MT, in any reliable or valid way, seems elusive.

An additional area for future research may be to examine if MT plays any part in maladaptive responses to SRI that may lead to OT. Ignoring the early warning signs of SRI is reported as a maladaptive behavioural response (Richardson et al., 2008), which can lead to OT. There are similarities between the early warning signs of OT and the characteristics of a mentally tough athlete. The warning signs include an accumulation of fatigue, an increase in minor pains, colds/infections, muscle soreness, minor injuries, continuing or



increasing training effort, ignoring stressors, and neglecting recovery, and mentally tough athletes have been suggested to be able to play through pain (Gucciardi et al. 2008), have a higher pain tolerance and a lower perception of injury severity (Levy et al. 2006), and can override physical pain and fatigue by using motivating cognitions focussed on winning (Coulter et al. 2010). Using case-study design to monitor how athletes respond to the early signs of SRI and how this may be influenced by characteristics of MT may provide information on which specific athlete-sport environment interactions operate to enhance SRI or work to maintain an imbalance.

## **CHAPTER 4**

### **STUDY 2: A QUALITATIVE APPROACH TO UNDERSTANDING MENTAL TOUGHNESS AND STRESS/RECOVERY IMBALANCE**

The correlations displayed in Study 1 demonstrated that a number of patterns exist between MT attributes and stress/recovery. Some correlations were indicative of MT characteristics potentially buffering an athlete's ability to manage stress and recovery in general life and sport-specific situations. These results support the view that MT, as a construct, may safeguard against adversity as Gucciardi et al. (2008) described. Some of the results from Study 1 seemed to indicate that particular attributes of MT were associated with less recovery. When athletes displayed close to maximal scores in these MT attributes, recovery scores were low. Athletes who score themselves high for these MT attributes could potentially be susceptible to SRI, injury/illness, burnout, and OTS. Attributes with this pattern included mental self-concept and task familiarity.

The aim of this second study was to explore in detail how MT attributes might affect stress and recovery, paying particular attention to positive stress/recovery balancing stories and potential negative aspects of MT. I gathered information through semi-structured in-depth interviews and focussed on athletes' and coaches' stories of MT and SRI, and situations where participants felt they had demonstrated MT. In addition, I focussed on how attributes of MT may have helped or hindered the participants in sport and in a wider sense—life outside sport.

## **Method**

### **Participants**

I recruited a total of 11 elite athletes and coaches, aged 18 and over, from the Australian Football League. Coaches were included in the sample to gain a wider perspective on MT development and SRI. The sample comprised three coaches, four senior AFL players, and four first- or second-year players. All participants were from the same team. One coach had been a professional player for 13 years, and at the time of data collection had been coaching for 5 years. The second coach had initially been involved as a player in the AFL, but retired early in his career due to a serious injury. Following his retirement from professional football, he became involved in coaching. He had been in his current coaching role in the AFL for 6 years during the data collection period. The third coach was in his first year of coaching senior AFL, but he had coached in different sports at an international level throughout his career.

The four senior footballers had been competing at the elite level for between 6 and 9 years, and the four junior footballers had been playing AFL for between 1 and 2 years. The eight players had come through two different pathways, three through the national draft, and five through the rookie list. The national draft is when clubs pick young players who have not experienced senior-level AFL football. The rookie list is for players who were not successful in the national draft or who may have been delisted from another club. The rookie list represents a last chance for many players. Following the 2-year rookie contract, a player may be elevated to the senior list or delisted.

I recruited the AFL players following interviews with the coaches and after reviewing the players' responses from my first study. I deemed players relevant to this

project if coaches described them as being exceptionally mentally tough, mentally weak, or had experienced SRI in their careers.

Theoretical saturation, that is, when interviews with new participants no longer provided novel information, determined the sample size (Glaser & Strauss, 1967). I also drew on Patton's (2002) approach to determine sample sizes. As a guiding principle, Patton recommended that investigators estimate the minimum sample size they believe necessary to answer their research questions, and add more participants if doing so helps them achieve the purposes of their studies. A minimum sample size is a researcher's best guess based on knowledge of the area. For this study, a minimum sample size was estimated at being ten participants (based on past similar studies), but I continued collecting data for 11 participants to reach saturation.

## **Interviews**

To provide a foundation for the semi-structured in-depth interviews, I developed an interview guide that contained topics for discussion derived from Study 1 and previous published research. The guide comprised of three sections: MT perceptions and experiences, SRI perceptions and experiences, and perceptions of the role of MT in SRI (see Appendix F). The interview questions were open-ended to access potentially rich contextual information regarding MT, SRI, and OT development. Each interview included questions relating to definitions of MT, attributes of MT, benefits and potential problems of MT in sporting and nonsporting environments, experiences with SRI and OT behaviours, and perceptions of the relationship between MT, SRI, and OT. In the first coach interview, I found that by attempting to stick rigidly to my interview guide I was directing the participant away from his story, which meant I did not gain the rich detail that emerges

when conversations are participant-centred and able to flow. During the following coach interviews, I decided to try to listen closely to the participants using my interview guide as a reference point and let the individuals direct their own stories rather than attempting to fit the participants into my predetermined structure. This evolution of interviewing, starting with a guide and then branching out is typical of interview-based research. The information gathered covered a broad range of topics that each participant felt was relevant to the study and to the area of research.

### **Procedure**

After the Victoria University Faculty of Arts, Education, and Human Development Human Research Ethics Committee granted approval for this study, I contacted three AFL coaches to ask if they would be interested in participating in my study. I explained to the coaches that I would like to hear their personal opinions and experiences regarding MT, SRI, and stories of their mentally tough (and not so tough) athletes. After meeting and interviewing these three coaches, I contacted nine footballers whom the coaches had described as demonstrating either exceptional MT, lacking MT, or had substantial experience with SRI, recurrent illness, and/or injury. Of the senior players suggested, one declined to be involved in the study. All of the junior players contacted agreed to be involved. I offered each participant a choice of venue for the one-to-one interview: the offices at Victoria University, at the training ground, or at any other venue where he felt comfortable. All of the participants except one chose to use the offices at Victoria University. There was a consensus that the players and coaches felt comfortable talking to me away from the club venue. One participant chose a coffee shop for our interview. He explained that he did not want to be near anyone that he might know.

I explained to each participant that I would digitally record the interview, that it would last approximately 1 to 1.5 hours, and that all information provided would remain confidential. I informed each footballer and coach that the interview would focus on perceptions of MT, experiences of SRI, and opinions regarding how MT and SRI may be related. After the initial coach interview, I added that although there were specific areas that I would like to concentrate on individuals should feel comfortable telling their own stories.

Prior to the commencement of each interview, I obtained written consent to conduct and record the interview (see Appendix G). I informed each coach and footballer that participation was strictly voluntary. I advised participants that any identifying information from the interviews would be available only to the researchers. It was important to reinforce to the athletes that all information was confidential and no information would find its way back to the club because of my previous involvement in a study at the club in which I gathered data for the coaches.

I gave each participant a brief introduction explaining the aims of the research, and I invited them to ask any questions. Each interview began with questions regarding demographic information (such as age, sport involvement, and sport development) designed to help the participants relax. Then I asked questions that gave the athletes an opportunity to recall their experiences regarding MT and SRI. As each individual interview progressed, I used clarification and elaboration probes to facilitate my understanding and to ensure the participant had no more information to add. The interviews lasted between 55 and 115 minutes. At the conclusion of each interview, I debriefed participants and thanked them for their involvement. I transcribed the recordings verbatim as soon as possible after each interview. After transcribing each interview, I reread each transcript while listening to the

digital recording to ensure accuracy of the transcriptions, and then sent all interviewees full transcripts of their interviews for member checking to enhance credibility (Lincoln & Guba, 1985). I invited all participants to verify the accuracy, and add, alter, or delete any content.

### **Data Analysis**

To organise and interpret the participants' stories I used content analysis with key issues and concepts from the published literature and Study 1 serving as organising codes for deductive content analysis. When unique codes emerged from the data, I used inductive content analysis. I used the coding techniques Miles and Huberman (1994) recommended to draw categories and themes from the qualitative data. Researchers have used these techniques in earlier qualitative sport psychology research on MT (e.g., Bull et al., 2005; Gould et al., 1999; Jones et al., 2002; Middleton et al., 2004a). I then compared the data from the coding with the aim being to organise the information into general categories. At this point in the data analysis, I felt uneasy about trying to reduce the data into specific categories, because in many cases there were opposing views within the categories. In the categories where conflict emerged, it seemed that participants had two opposing viewpoints without shades of grey in between. It appeared that I was losing the rich details of the participants' stories by trying to fit them into the categories. After discussions with my supervisors about the difficulties trying to code the data, I decided to try to write up each participant as an individual story, because it seemed that the quantity of conflicting information merited a case-study approach. I reread each interview and wrote up profiles encompassing the main themes of each athlete's story.

On reflection, this methodology created significant overlap, and it seemed like I would be telling the same story repeatedly. After another discussion with one of my supervisors, he encouraged me to present the participants stories as aggregate case studies encompassing the conflicting viewpoints from the 11 participants. I reread each interview and reviewed the individual profiles I had created for each participant. The individual profiles shared many similarities and the 11 interviews naturally split into a number of broad themes. I then organised the relevant quotes under the broad themes. This allowed me to pull together similar quotes under general themes to use in the stories. These broad themes helped me develop the fictional characters and storylines for this study. I reviewed the quote headings and found a number of subthemes within the broad headings. These subthemes provided rich detail for the fictional tales. I went through several different structures for my fictional characters trying to include as much detail as possible, and I tried to focus the stories around MT and SRI. In my attempt to stay strictly with MT and SRI, it seemed that chunks of the participants' stories would not fit.

My supervisor urged me to, "just tell the story." I decided to move away from my rigid structure of MT and SRI, and I attempted to encapsulate the conflicting viewpoints in two stories. By moving away from a rigid structure and trying to tell the participants' stories, the narrative for both tales appeared fully immersed in MT and OT behaviours. Using the quotes verbatim meant I could maintain a realist element to my tales.

I chose to include my voice throughout the narrative tales, and later the case studies, because the stories are co-constructed by the researcher and the participants. Including my personal thoughts and experiences maintained a confessional tale stance in the tradition of Sparkes (2002) who stated, "some suggest that researchers-as-authors need to indicate their



positioning in relation to the research process” (p. 17). The aim of including a personal voice in this thesis was to clarify my position in relation to the research process.

When I wrote the aggregate stories, I made sure I altered details that might have led to identifying the real-life athletes and coaches. I changed injuries, ages, locations, and family details, to try to maintain anonymity and the resultant fictional tales protected the identity of each participant. In the following chapters, I will use parenthesis to identify any actions by the participants that add value to the quote and square brackets for any explanatory text.

## CHAPTER 5

### STUDY 2: THE STORY OF LEO: THE “GO HARD OR GO HOMERS”

*Can you be too tough? I dunno, probably, probably not, you can definitely be too mentally weak, but there is a lot about “harden the fuck up.” We are told that constantly, but I guess you just deal with it. Nothing, nothing we can do about that. Yeah, you just need to cop it and harden the fuck up.*

When I sat down to talk with Leo, he was keen to share his stories and experiences of his time in the AFL (Australian Football League) system. At the time of interview, Leo had been playing football professionally for 10 years, 2 years on the rookie list and 8 years as a senior player. For the last 3 years, Leo had been part of the leadership group. Being in the leadership group was an honour at the club, and players in this group took on the role of mentoring and disciplining new players. He talked nostalgically about going through lessons to become mentally tough and explained how his mentally tough attitude shaped his life within, and outside of, football.

Leo developed an interest in football, as most Australian children do, through friends and schoolmates playing football at the local oval. Leo’s family had always been involved in sport. His mum played basketball, and his dad played football. His dad had almost achieved his dream of becoming an AFL player, but never made it through the first stage of the draft camp. Leo’s older brother had a similar fate. Leo had the same dream, and decided to specialise in football at an early age. He knew his mum’s support could help him avoid the same mistakes dad and brother made:

She was a big support to my dad when he was younger, and he was a really good footballer and never made it, and [she] saw the mistakes that he made as a footballer. She tried to make sure I didn't make the same mistakes.

From the way Leo talked, it sounded as though his mum ensured that Leo benefitted from his dad's and brother's experiences. Leo's mum had told him not to squander his talent as his brother had done. "My brother, he could have been really good. She [mum] said he just didn't work hard enough either, so I didn't want to make the same mistakes."

During our interview, Leo talked unreservedly about his family's involvement in his football career. It sounded as though he needed, but resented, his parents' input:

Sometimes if I'd had a shocking game, and I knew I'd had a shocking game, but I'd just tried my hardest and haven't given up, he'll come up and go, "Geez, you had a shocker didn't you?" Sometimes I brushed it off, or I'd say, "Yes, that happened because of this, and this happened because of that." He'd just see the result. He wouldn't see what happened leading to that result. If my man led up and took a mark, kicked a goal, and won the match or something like that, he'd say, "Geez, why did you let him mark that?" I'd say, "I didn't let him mark that. He got a block. I was trying to get onto him." I'd have to explain why it happened. He used to be really bad; [he] would pick up on the negatives more than the positives . . . he's hard on me, but he does it to improve me.

Although Leo portrayed his dad's critique as being helpful, it sounded like a rehearsed explanation for his dad's criticism. Leo talked about his mum's involvement in his career in a similar manner:

I always remember when I used to get into the car after a game of footy if I didn't play that well. There would be silence for a couple of minutes, and she'd go, "So, what went wrong there?" I was like, um, I mean it's not the question you should ask straight after a performance when you don't play well. You just let it sit in its box and then ask later. So, I just turned around and would give her a glare until she left it alone.

Leo seemed able to manage his mum's criticism, but he did not seem able to shake off the criticism that came from his dad. Leo appeared to take his dad's disapproval to heart. From early on in his career, Leo's critics were all around him; a poor performance needed an explanation, and a good performance carried with it expectations that more could be achieved. Leo suggested that his mum lived vicariously through him, "I think sometimes she sort of lives her life through me a little bit." The frustration Leo felt with his parents' involvement in football was evident, and as soon as he could drive, he made his own way to and from games to escape the postmatch analysis. Leo laughingly said even now that he was a professional footballer he found his mum's constant presence in his career annoying:

Yeah it's a bit um . . . well, you know, she goes to every game and goes to all the interstate games and goes to every function we have. I think that's why it gets a little bit much for me. I tell her all the time [to back off], but she never listens.

Leo sounded like he was crying out for some space to be able to develop his own career without criticism from his family.

Leo's family were not what he called "well-off." When his dad gave up his dream of being an AFL player he turned his attention to building the family business, and he worked tirelessly. Leo's dad stated repeatedly that if he had worked harder at football he

would have been successful. Now, he had learnt his lesson and told anyone who would listen to him that success was achievable if one “put in the hard yards.” When Leo was growing up, his dad had rarely been at home, because building the business was his dad’s priority:

My father tried to make a successful company, and he worked terribly hard for it, but it killed him. He was a workaholic, and it destroyed his relationship with Mum. . . . We all admired him for it and loved him for it. We knew he had become a terribly hard worker.

Leo’s father died when he had his second heart attack. His family attributed the heart attack to the stress of maintaining the business, but the family respected the work his father put into trying to build the family business. In Leo’s family, it seemed that hard work, no matter the cost, was admirable. After his father’s death, Leo’s family struggled financially. His dad had taken out a large loan to keep the business going, but he had hidden it from the family. Leo was just finishing his second year at the club when his dad died, and he felt the weight of expectation on his young shoulders. Now, he needed to be successful in the AFL to help his family. “I had to make it [as a professional footballer]; there was no other way. When Dad died I knew that even more.”

### **The Rookie List**

Leo became an AFL rookie at his third attempt. Leo said he was a bit naïve in his first attempt and did not know how to make the system work for him. He explained:

I was still up the front of all the running and training, but just little things like they made a few sessions noncompulsory. I was like “noncompulsory. Great!” I was living a long way away and didn’t have a car, and it was like, “I can’t get there, so

I'll do my swim somewhere else." So I said that, and they'd be like, "Okay, no worries." It was probably a little bit of a ploy. It wasn't that I wasn't committed. It was just that I was a bit naïve in thinking they might take your word for the fact that you actually do the work ... So I did eight weeks of preseason just for a rookie spot, and I didn't get it, but I also didn't make the same mistake again.

Leo learnt the hard way that what the coaches said was not necessarily what they expected. Noncompulsory training sessions were to test the dedication of the footballers. After his first failure, Leo vowed he would "always do more than what's required." The second time he tried to get a rookie spot Leo injured his hamstring during training, but instead of completing his rehabilitation, Leo decided to compete at the draft camp. The AFL coaches had told him he had no chance of selection unless he performed at the draft camp. Leo damaged to his hamstring again by trying to impress the coaches at the camp:

I did my hammy twice in 4 weeks. It was between me and another guy trying out for the one spot, and I remember thinking "I am much better than him." [After the injury] I spent 4 weeks doing rehab. I came back a bit earlier to make . . . the rookie draft. So I said, "Bugger it. I have to come back this week. I have to show them what I can do." Second session in, I did the hammy again." The other guy gets picked up over me. They said it was because "You've done your hammy. We don't know what we're going to get from you. Sorry."

After his second failure, Leo learnt that he could not let an injury interfere with his performance. Leo secured a rookie spot at his third attempt. During our interview, Leo mentioned that he was grateful that he had failed twice because the adversity developed his

MT:

Sometimes missing out or not getting something, or not being good enough, or having failure is actually a really important part of [MT] development. If I hadn't done it the hard way, the right way, I wouldn't have learned how to deal with the tough times.

Leo talked about his first year at the club. He remembered it as an “eye-opener.”

Leo had moved in with a supporter family for 12 months, and though getting onto the rookie list was exactly what Leo had wanted it was still a difficult transition to make:

I learnt a lot in that first year. Yeah, it made me stronger, but definitely, the first year was tough. There were quite a few tears on the phone to mum. It was hard . . . but it was never going to hold me back. You sort of have a honeymoon period where you come into the footy club, and it's great ... You're real bubbly and motivated, but then you start getting tired, but you made the decision to go [to the football club], so you need to make it work.

It sounded like Leo was pleased he had managed the numerous changes in his life on his own, without telling anyone at the club:

It is a very tough thing [first year at the club] . . . it's not as if you are gonna sit round a table and talk around it. You just go through it yourself and say, “I need to be tougher and harder if I want to get through it.”

Leo initially sounded sad when he talked about his first year at the club, but quickly changed to display an attitude of being glad of the adversity. Leo repeated that he was happy for the hard times. He had been “toughened up.” Leo mentioned that the players who had not been through the toughening up process when they were younger often struggled to get through the tough times now. During Leo's rookie years, one of his coaches had used

another player as an example of how not to deal with a difficult situation. The coach had said:

He [player] all of a sudden couldn't cope with any training, you know, lost weight, stopped training, like noticeably lost weight in 7 days, and was throwing up in training. He had broken up with his girlfriend. His whole world had fallen apart. He had no one he could talk to about it, but he needed to learn to leave that bit of life alone and get on with footy. That is what the superstars do. [The coach told the player] I don't want to know if you have broken up with your girlfriend. I'm not here for that. I'm here to teach you how to be a footballer, and if you can't suck it up then how are you going to be successful? How do you expect to stay in the club?

Leo went on to say, now that he was in the leadership group, he tried to teach the new players that “sucking it up” was important to be successful in the club. He thought he was teaching the new players the proper way to deal with issues. Leo explained that he dealt with everything properly now. “I always leave everything that happens off the field, off the field. As soon as I get onto the field, I'm there to play football.” Leo had convinced himself that nothing could affect his performance, because he had the ability to “put everything into its box.”

Leo felt the mentally weaker players could not deal with difficulties as well as he could. “The weaker player is an example of that. They don't deal with anything else going on. The tough player, they deal with it 'cause they know what's important and stop the nonsense with anything else.”

Leo returned to talking about his first preseason as a rookie, and the training sounded brutal:



Training was the biggest shock ever. All you did was train, eat, sleep, wake yourself to eat again, and go back to sleep. Without fail as soon as you got home, you just hit the bed, and you are just exhausted. You sleep and then you get up and eat again, and it's 8 o'clock, and you go back to sleep, and bang it's time to get up the next morning and go train. You train, you eat, and you sleep. That is all you do from beginning of November, when you get on the rookie list, right up until March. If you didn't get a stress fracture in your foot in your first year you weren't training hard enough.

It seemed that getting an overuse injury was admirable. Leo's stress fracture sounded like validation that he could work hard enough. After the diagnosis of a stress fracture, Leo had "a week of being gone light on, and then back into the proper training." He talked with pride that his stress fracture was something tangible to prove how tough he was becoming. During our interview, I oscillated between feeling admiration for his ability to train so hard and feeling sorry for him, because he did not have any choice except to push himself excessively hard if he wanted to deal with his training *properly*. He recalled the senior footballers talk at the beginning of his first year regarding injuries. They had said:

Some players are just better at taking it [injuries, training]; their bodies are used to it. I think it's just they are used to taking the hits from their background. It's what they are used to. Some [players] are a bit more desperate to make sure every little thing is okay, and they might seem to have more injuries, but it's just the harder ones don't worry about them so much.

Leo was determined to be one of the harder players who did not worry about every little injury.

Leo had decided that he wanted to show the rest of the players and coaches that he was going to be one of the toughest players at the club. During one of the first training sessions with the full team, Leo had pushed himself to try to stand out:

I remember my first runs [as a rookie], the 1K time trials. You've gotta go hard for a K. We did it six times, and it was just insane. That was my first session [with the senior players], and I was half-dead. I went out hard at the start of each run, [and] I was leading for the first four hundred, five hundred meters of the run each time. I was buggered at the end. Maybe I went too hard, but I wanted to do that. I wanted to show them, and say, "Here I am sort of thing. Catch me." At the end, X [the captain] who hadn't spoken to me came up to me and he goes, "Geez, you were coming out pretty hard. I thought you were going to die at the end." I said, "Oh, I thought I was going to die too." He was like, "No, it's good. Keep doing that. You are pulling everyone else up with you, so just keep doing it." I thought, "Ah, okay, sweet. No worries." It was the best thing I could have done.

He began to train hard at every session trying to prove he could be a tough footballer. "I was just so hell bent on playing AFL footy. I knew that if I didn't give 100% at one single training session I'd regret it."

Leo began talking about MT, and he suggested that MT was, "just kinda being able to separate your mind from your body. I think MT is just being able to push on when it gets tough, and it gets hard, and it is painful, but worth it." At the club, because Leo worked

extremely hard at every training session, the coaches started to praise him. Leo explained that he was beginning to love the pain of training:

You kinda get used to it; your body gets so used to feeling that muscle soreness that you like that feeling that you have been really worked and you have been pushed through the pain barrier. I love that. When I am at that point in training when I feel like I want to stop, and everything is screaming out that I wanna stop, and everything hurts, and I've got lactic acid building up, and I'm in so much pain, it's being able to push on, just keep pushing.

Leo was learning to enjoy the pain of excessive training, and he was thankful that he seemed to have the ability to manage the pain without having to stop training. Leo recognised that the coaches admired his ability.

An additional quality the coaches admired included MT. The coaches had told every new player that they needed to be mentally tough, and one coach identified a good role model for the young players:

X is mentally tough 'cause I can say to him, "you need to improve your running," and he will work, and work, and work to a level that I want to push him at. He can be feeling horrible, but he knows when he gets into that session and works that afterwards he will get rewarded for it. He will be better for it. He can go home and do all the training we need to get to the point we want him at. Obviously, we don't push him to the brink when he is going to break down. We push him within his boundaries, but he is very good like that.

The coaches were spelling it out to the new players—mentally tough footballers are the hardest working players who do not break down. The coaches knew how far to push

players and suggested that if a footballer did break down it was because they were not tough enough.

Leo was enjoying being at the football club, but he did not like living with a supporter family. At the beginning of his second year at the club, Leo moved in with some friends from his hometown, which posed a different set of difficulties:

When I moved in with my mates, well, they weren't the cleanest of boys. I was sort of made to be the father figure I suppose and be responsible. They loved having a drink and having a bit of a punt, and those sort of things. My lifestyle didn't suit that sort of thing. I had to, um, it makes you grow up very quickly. I might have missed out, but I got to be a footy player. How many of my mates got that?

Living with his friends, Leo realised that he could not do any of the things they did during the season: eat junk food, drink alcohol, or go out partying, but he was happy with his choice:

When you're young you want to go out and party blah, blah, blah. I didn't do that. Friends would say, "Come out, you're weak, you're this, you're that, you should come out." But I knew where I wanted to get to. If they [friends] weren't going to help me I'd just push them aside. I had to move out. I knew that partying and alcohol aren't great for you. I tried to knuckle down really early.

Leo chose to move in with some footballers from the club instead of staying with his friends. His dream of being successful in AFL was more important to him than maintaining nonfootball friendships. Leo thought the coaches respected his decision.

One thorn in his side was the pressure from his dad regarding his education. In his second year at the club, Leo had tried to study part-time at university. He enrolled at the

same university on the same course his father had completed, but he struggled to balance university and football. Leo had several arguments with his dad when he made the decision to quit university.

I tried to explain to him. I said, “Dad, you have no idea how hard this footy world is. It is so hard, and there is no time for anything.” He didn’t understand. He was disappointed with my results. He had passed his [exams] when he was there. He had wanted me to move into the same halls [of residence] he had been in, but it was impossible. How can I live with students when I need to have a mindset of footy?

It did not sound like Leo could win his dad’s respect. Leo was already more successful in football than his dad, but that did not seem to be enough. His dad expected Leo to be successful at university too and argued that he had a part-time job when he was studying. Leo’s dad equated the stress of having a part-time job to the stress of trying to be a professional footballer. Leo completed two semesters of university and then left to concentrate on his football career. “I couldn’t balance uni and football, so I had to give it up. Uni has to come later; it had to go.” Leo mentioned that he thought he might go back to university after his football career because, although his dad was no longer around, if he completed his degree his dad might, “look down and be proud” of him.

At the end of his second year at the club, the head coach promoted Leo to the senior list. Leo thought his sacrifices had been worth it; he had achieved his dream. He was a senior footballer.

### **The Professional Footballer Years**

During his rookie years, Leo played primarily in the reserve team with sporadic call-ups to the seniors. He started his first senior year well, training and performing beyond

expectations in the preseason drills. His hard work paid off and the head coach selected Leo to play in Round 1, which is one of the biggest matches of the season. Two weeks before the season began Leo broke his hand during training. Leo had surgery on his hand and managed to play in Round 1. I asked him if the head coach knew he had a broken hand. Leo laughed telling me that a small injury like that would not affect selection, and when the head coach selected you to play, you played. It seemed unlikely that Leo would risk losing the head coach's respect by complaining about his injury. Leo played the opening match of the season, and tried to prove he was one of those players who did not worry too much about injuries:

I broke it [my hand] on a Friday night, [and] had the surgery on Tuesday. I played 12 days after the surgery, and I remember thinking, "will I be right?" I wanted to be right. It was a big game . . . I wanted to see if I could play with six screws in there, and the docs were like, "It will be fine. Structurally it's fine. There is a Meccano set in there. There is nothing that can happen to it." I asked, "Will we inject?" They said, "No, we don't inject that area. Just take some painkillers. You'll be sweet." You don't really feel it, but your fingers don't really work . . . it's sore from the operation. I mean [playing] 12 days after hand surgery, that's not bad. That was probably the first real time playing with an injury, stitches, a guard, and a glove, but I remember feeling great that I had chosen to play.

I asked Leo if there were any long-term effects of playing so soon after the surgery. He replied:

Yeah absolutely, I can't move those knuckles much. I go to grip something, and it goes like that (gestures as though something is falling through his hand) all the time.

I can't move the thumb properly. So yeah, things like that, but it's the price. I did the right thing playing.

Leo realised that although he was a young man, there was a physical price to pay to play football. He seemed happy to accept that he would have some long-term problems in the future. Leo talked about some of players in his team who, now, struggled physically:

I see all the older players who are all decrepit now, no joke. I mean some of them struggle just with the most basic things, but does it bother me? No. Do I think that if I play for another five, six, seven years, and don't win a premiership it'll be all in vain? No. It's a tremendous experience. It's rewarding at times.

I wondered if Leo would think long-term injuries were worth the tremendous experience when he had finished playing football. Leo went on to say injuries were a common part of football. "I've always had an injury that's lingered for the whole year, but I just push through it." Having an injury and pushing through sounded like it was the norm in football. He elaborated:

You probably don't feel great for half the games you play. You've probably got a little niggle, a sore groin, a sore foot, because of all the knocks and bumps and all the work you do. I'd say 80% of all AFL players are at 80% for the whole season. Whether it's overuse injuries or accidental injuries; it's the sheer length of the season. We are probably involved in it for 10 to 10 and half months, and there is a 5-month conditioning season. I mean it's a lot, a 5-month preseason even before the competitive season. When you get injured, you just cop it sweet. There's nothing you can do about it.

I asked him if recovery would enable him to perform at 100% during the season. Leo laughed shaking his head saying, “You can’t just stop during a season and recover. There are matches to play.” In Leo’s club, the footballers did not have time to recover from injuries. The players had long conditioning periods followed by a tough competitive season and a short off-season. Even though players trained hard for most of the year, some coaches encouraged the players to perform extra training:

I was doing extra work with one of the coaches, because that is what he told me I needed to do . . . to get me fitter, and stronger, and stuff. You get that pressure wherever you go with any coach. They want the best out of their players; so they’ll put the heat on to see how you respond.

It sounded like Leo had taken on-board the coaches advice that to get to the top he needed to do extra training without question. I asked him if he still did extra training now he was a senior player. Leo replied:

I just do my additional training on my day off. If I sit down for a whole day without doing anything, I’m like “should I be eating this?” I’ll be like, well, I shouldn’t eat that ‘cause I haven’t trained. If I do half an hour, an hour, it makes me feel a lot better . . . I need to do that to feel good.

It sounded like extra training was Leo’s way of life. I asked him if he overtrained. The emphatic answer was “no.” Leo explained that he liked to do his extras, because they made him feel good. Leo knew he could manage the club’s training and coach’s extra training, Leo thought one of his strengths was his ability to talk himself out of feeling fatigue. He spoke about how he had learned this skill:



I didn't play well [one] match . . . 'cause I hadn't worked hard enough. I was trying to run, and I just felt like I had no energy in my body. I felt like that again [the following match] in the first five minutes, but I said, "No, I'm not going to let that happen again," and I went harder, pushed through it, and played better.

Leo's way to deal with fatigue was to push through and not let it affect him. I asked him if he had ever pushed too far. Leo replied, "No, I don't think I've pushed it too far, yet."

Leo fully believed that hard work led to success, he used that philosophy in everything he did. I asked Leo how his work ethic related to injuries. He explained that when he was injured he always managed to get through it and rehabilitate quickly. Leo told me about injuring a supporting joint because he had worked so hard during rehabilitation. "Because I'd pushed so hard [in rehabilitation], I ended up getting a bit of patellar tendonitis in the other knee." Leo explained that it was a good injury, because it showed how hard he could work at rehabilitating. Leo always played through injuries, because it was the right thing to do. I asked him why. He reeled off a list of reasons that pushed him to play injured: Not wanting to lose his position in the team, playing because the medical staff told him the injury would be fine, feeling pressure from the senior coach, and not letting his teammates down. He said playing injured was not a big deal, because the coaches taught the tough players to do that. Leo told me about the first time he had learnt about playing injured:

That was probably the time I learnt about, (pauses) not playing with injuries, but making the decision [to play]. At that time, I was like "Oh, but I only got my scan, like now." I had a [tibia] fracture . . . I didn't know it was a stress fracture. I had a

sore shin, and I might have run with a bit of a gait, and sort of played a bit half arsed. Now, if you are playing, you are playing, [and] it doesn't matter what you have got, you just deal with it. I played poorly, and I was like, well maybe it was that [his leg], and you start looking for excuses. You learn a lot over the years about looking for excuses, too much looking for excuses back then.

Leo had learnt that if you put your hand up to play then the injury was not an excuse for a poor performance. This theme was recurrent throughout our interview. Coaches expected players to be able to cope with the pain and not get to the stage where it affected their ability on the pitch.

Leo mentioned that he played injured because the doctors and medical staff knew better. Leo told me they had the final decision, and if they said you could play then you would be fine to play. Leo gave me an example:

I dislocated my big toe during a game, and they put it back in at the side of the field. I said, "Listen, can I keep playing, or do I have to take four weeks off?" They said, "You can take four weeks off, and it will heal, or you can keep playing and get it jabbed each week. You might have three good days and then two bad days' sort of thing. So it might take six weeks to heal." I said "Well, I'll keep playing," because they knew what they were talking about."

The medical staff had not left Leo with much of a choice. Leo did the tough thing and played disregarding the pain he felt during the week when the injection wore off. Leo was proud that he had chosen the tough route and played injured.

Leo talked about wanting to impress the head coach. He described the pressure from the head coach to play injured. Leo did not want to disappoint the head coach:

There's pressure from the coach [to play], especially if you're a regular player. If you've got an injury but you can keep playing, although it might cause damage later on, I think it's hard for him [coach] to see any other way except to play.

I asked Leo what happened if an injury became too painful to play. Leo said the team were there to help him remember his priorities, "The boys say, um, say, 'harden the fuck up,' and it's just a good reminder, when you wanna complain about the pain. You wanna complain about this, the weather, whatever. Just shut up and do it." Leo did not want to disappoint his teammates.

You don't want to let your teammates down. One match, I went back with the flight and got kneed in the stomach. It was really sore, but I jog[ged it] off, and they could tell that I was hurting, but I didn't want to just lie on the ground and give up and say "No, I can't keep going." So, I ran it off. Then the ball came in, and I had to go back with it again, but you just do it. Every one of your teammates would do it for the team. If you have one person not doing it, it's letting the whole team down. You just don't want to let your mates down. I've been knocked out a few times and stuff like that, but you get up and do it again. You do that for the team.

Leo was adamant that it was the right thing in the club to ignore the pain of injuries to avoid letting the team down. I wondered why players were encouraged to hide their pain rather than get treatment. Even though Leo was a senior player, he still needed approval that he was tough enough from his teammates. "I know my teammates will stand up tall for me if I put my head over, throw my head in first to a pack, or something like that. I enjoy that part of my teammates enjoying it." It sounded like the way footballers performed during a match determined if they were worthy of respect from the rest of the players.

Leo talked about a player he had always admired, “He has no fear for his body. He will sacrifice himself for the team. He will run in front of any player and do the team thing, every time.” Leo tried to play the same way. By sacrificing himself, Leo could make his teammates proud and set an example to the rest of the club. As a senior player, Leo felt responsible for teaching the younger players how to take the hits. He told the younger players:

Look, you are 6 points down in the third quarter, one minute before three quarter time, and someone does that [throws himself in front of another player], then you have twenty guys who will stand tall and give him something back because of it. Those acts lift the people around them, and someone who may have had a split-second decision not to do that, thinks “next time I need to go. Next time I need to take it.”

The coaches used the post match analysis to deal with players who did not take the hits for the team. Leo talked about one young player who continually did not take the hits:

Coach says in front of the team, “You are not putting your head over the footy. The opposition look at it. You pull out of contests in the game, [and the] media are onto it. [The] opposition are onto it.” He [the young player] was looking for a rock to hide under.

Leo went on to say that humiliation was useful to teach the younger players to “toughen up, physically and mentally.” To be the individual player singled out as not doing the job for your teammates sounded awful. Leo explained that players knew what the coaches expected of them, so if they did not do what was expected, then being humiliated in front of the team was reasonable:

We've got things we stand for at the club, and one of them is for your mates, doing things for your mates. So if you don't do it, it's letting down what we believe in. If players aren't doing what we believe in then we have a go at them. I think sometimes that's the best way to learn. When they don't do it and you hit them pretty hard, they won't mess up again, if they're smart. If they don't do it then they'll get delisted, and it happens all the time. They've just got to learn. New kids coming in have to learn. We educate them. We tell them what's acceptable, [and] what's not acceptable. They've got to be educated.

I asked Leo what other methods the club used to toughen players up. He replied, "There is a real push to do more and more boxing to improve MT." I asked Leo to elaborate. He said, "Getting in the boxing ring you learn how to take the hits. If you want it [the boxing] to stop, then you need to toughen up." He overheard the coaches talk about one player, "X, we don't think he is mentally tough enough, and he doesn't work hard enough in games, so put him in the ring with the boxing coach twice a week, 'til he toughens up." I asked Leo if he had ever been on the receiving end of the postgame analysis or the boxing. He laughed saying "only when I needed it." Leo explained that during his early years in senior football, he had gone through a period when he was struggling to perform well, but the coaches kept playing him. At every post game analysis, he came under a barrage of criticism, but eventually something changed for Leo, and he started to perform. He suggested that handling the constant criticism was part of his learning process to be mentally tough. His coach had said of him at the time:

We are going to keep throwing him to the wolves, 'cause he has got to learn to find out what happens in these situations. If he continually doesn't come up against it he

is not going to learn. Let's leave him in the desert. See you later, and see him in a few days and see what sort of player we've got. Mentally, that is an experience. There's something that happens in a footy game that can make a player think "Oh yeah, beautiful." He then starts to grow. He mightn't have grown if he was back at the reserves. He might have been [as] low as shark shit.

Leo described this process as the normal learning process for footballers at the club. I asked him if this process always worked with players. Leo replied:

The mentally strong keep surviving, and the weak fall out. You will eventually get [the player] to where you want. Sometimes, you actually have to tip players to a point where this is sink or swim now. Some swim and others sink. Just 'cause you sink doesn't mean you are a bad person. It just means that you can't do what we want you to do, and unfortunately that is the way in footy. The weak ones have to go.

It sounded like a description of Darwinism; the strongest players survive and the weaker ones fall away. The way Leo talked about dropping the weaker players was matter of fact. There did not seem to be much support for players who were delisted. Leo talked about the situation as if it was no big deal. If you were not tough enough then you were out. Leo began to talk about a player, who although constantly injured was doing the right thing by trying to toughen up:

He [had] two shocking reoccurring stress fractures in his feet, [and] he has missed two years of footy. His feet are now right, but his back isn't through a magnificent tackle that probably would have done everybody else's back. He's tried to get back [playing] when his back was getting right, and he hurt his thigh. The coaches

probably tried to rush him back too soon, just to get him back. They said that they see big things for him, if he can get over this one.

This player was only in his early twenties and already had suffered through many serious injuries. Leo explained that the young player was “just a bit like that, a bit injury prone. The club might have brought him back, too much, too soon, but he will keep going, just keep plugging away. We think he might make it.” It sounded like Leo thought that even though the club had pushed the young footballer to return to training too quickly, the injuries were the young players fault. Leo was impressed that although the young footballer was injured, he had put his hand up to say he wanted to play during finals football:

He wasn't prepared enough in his body to play in terms of finals footy, but he wanted to play. He was not ready, but during that week, you could see it in his eyes. This is a young kid who wants to get there ... I said, “X has got to play ‘cause we know what's going to happen if it's going to be a really tight situation or high pressure then he is going to stand up.” He played and his body wasn't ready and it broke down, but it happens. Sometimes the coaches might make the wrong call, but you can see a few months, a year down that track, they will be back.

It sounded like Leo thought sacrificing the young player's body was fine if it was for the good of the team. The player was not able to return to football until midway through the following season because of the damage he had sustained by playing injured. Leo felt that this sacrifice was acceptable. “Each player knows their place in the team. They know the team is more important than the individual. We tell new players all the time ‘don't overrate your own self-importance and your influence.’”

We started to talk about how Leo defined MT. Leo thought MT was about doing what mattered to stay in the club (e.g., pushing oneself regardless of the pain, taking the hits, giving up everything else external to football, putting the team ahead of yourself). I asked Leo if a player could be too mentally tough. He replied (the quote at the beginning of this chapter) that one could be, “too mentally weak, but no, I don’t think you can be too mentally tough.”

Leo reflected on how he developed his MT: the difficulty of his first year, the criticism when he was not playing well, but he also thought his childhood had helped. Leo said:

I’ve done it hard, so I always . . . want to show people how hard I am. It gives me a sense of satisfaction to be able to do that. To say “I didn’t need to go to that school” or “I didn’t need to have three new pairs of boots to do that.”

Leo seemed proud that he had “done it the right way, the tough way” when he was growing up. Leo thought now when he faced difficulty he was much better equipped to deal with the adversity. Leo talked about one situation when he had demonstrated how tough he was:

I had my Dad’s funeral one weekend and obviously didn’t play. I came back the next week and played like a goose; my mind wasn’t there. The next week, just before half time I got hit in the back and punctured my lung. So I am in hospital having surgery in the intensive care unit. I’ve got a tube in my chest (laughs) and I was like, “Well, what more do you wanna throw at me? I can’t possibly get any lower than this. What more can you throw at me? Just bring it on.” That’s one place I got my MT from.



Leo had been annoyed with himself that he had not played well soon after his dad's funeral. He commented that he should have been able to put that in its box and perform. Leo was not one of those players who had "just waltzed in," and had not learnt MT the way he had.

Leo talked about one preseason when the coaches had decided to test the players' MT. The footballers thought they were on their way to a team-building relaxation weekend, and instead arrived at surprise training camp specifically designed to see each individual's endurance. Each player received limited food supplies and told that an attack was imminent at any time, so players had to be on guard throughout the day and night. Leo said, "It was all about how long you can hang on for. Can you dig in when you are totally deprived?" Leo lasted the duration of the camp. He was the one player the organisers of the camp singled out for his MT. Leo stated, "That was a really good sort of mentally tough thing, and I'd really love to send all our young kids on this and go 'harden the fuck up.'" Numerous players asked to leave the camp before the exercise was over. Leo was disparaging of those teammates:

They found out where their breaking point is. Maybe they aren't in the right place.

Maybe they realised they need to harden up or go 'cause, um, well I didn't reach my breaking point. I moved it back. I raised the bar by the end of it, and I really enjoyed being pushed so much.

Leo mentioned that the coaches were pleased with how he had managed the camp, and the positive feedback helped him feel confident at the club. The coaches had told him that now he was mentally tough he would not have to worry about performing poorly, because his MT would help him out of it. Leo explained that mentally weak players would not be able to do the same:

The mentally weak will go to the highest peak [when playing well] and think, “How good is this?” When the pressure comes on the next time, they go down, and they keep going down to the lowest peak, ‘cause they can’t handle it, cause they are weak people, not bad people. They could be your best mate, but the weak person might not want to hear the honest truth. They might want to hear it, and then they will cringe about it [performance]. The tough might not want to hear the truth, but instead of stew about it they say, “I’ll fucking prove him wrong.” The weak person will go home, curl up, and think about it for days.

Leo was happy that the coaches were viewing him as mentally tough. He thought that now he was mentally tough he would cope with any situation that he found himself in. Leo likened himself and the other mentally tough players to an army.

He [coach] is building an army that can take him to where he needs, and along the way there is going to be a lot of pain, but when he gets to where he wants to it’s good for them [players] to know the pain. Those are the people you want to go into war with you.

I asked Leo if there were any other situations when a mentally tough player coped and the mentally weaker player did not. Leo mentioned that mentally tough players could handle the media unlike the mentally weak players:

They [mentally tough players] don’t care what the general public think, good or bad. They are the ones saying, “bring it on. I’ll show everyone.” They have that inner confidence, more than the average person. . . . They think, “I am still gonna have the person in the backyard who fucking barrels me . . . and I’m still gonna have the person who tells me if I am good or bad, and I’ll get it from the supporters,

so I don't care." He blocks it out and says, "I am just going out there, and I am gonna cut loose, and I will have the last laugh in the end." They [mentally tough player] can do it, not like the others, the [mentally weak] ones that think, and think about it, and wanna be a star, but don't have the balls to suck it up.

Leo's description seemed black or white; a player could either handle the pressure or not.

There was no middle ground. There were no excuses.

Leo talked about going into coaching when he reached the end of his career as a footballer, which he felt was on the horizon. He believed he had the right attitude and experience to make a good AFL coach. He knew how hard to push a player and felt happy putting in the extra hours, if needed.

That's the sport. That's why I am in it. It's a tough hard sport, and in this kind of competition the whole team have to work harder, and harder, and that means the coaches too. So if it means an extra 10 hours' work then that's what it means.

I asked Leo if he thought spending extra hours at his club would affect his home life; he was married with two small children. Leo replied:

This is my sport; my wife knew that when she married me. It's the way it goes in this sport. I want to win a premiership, and you don't get that too easy. It's just the sport, and if it needs more work then I am going to be the one to do it. All the boys would do the same.

It sounded like the most important thing in Leo's life was football. His family knew he needed to put in extra work to be successful, and if that meant not spending much time with his family then they would have to accept it. It sounded like Leo was going down the same path as his dad, valuing hard work over being with his family. If Leo became a coach,

like he indicated that he wanted to, it seemed like he would continue the work-hard ethic that he had developed. Leo finished the interview at this point indicating that he had spent enough time with me and needed to get back to the club. I thanked him for his time and he said he had enjoyed sharing his career with me.

As I watched Leo leave, I reflected on the feelings that I had throughout the interview. It was hard not to get lost in his ideals. As Leo talked about pushing through, grinding, doing the hard yards, I could feel my resolve to think about MT in a dispassionate light, crumble. Closing one particular interview, I was hyped up, full of energy; I wanted to show that I could also be tough. I was ready to prove myself. I was just over 7 months pregnant during this interview. I had been so uncomfortable over the last month that spending any time at a desk felt like torture. I worked that night as I had not worked for months; I spent hours at my desk writing notes, cancelling dinner with my partner, choosing to work on the interview instead. As I got up from my desk, I was dizzy, I had to sit on the floor, and a passing student helped me get up. I had not eaten for hours. I had been so intent on the interview. I still went back to my desk and kept going. If the players could be injured and push through, so could I. It felt like I was on fire again, I could disregard any aches and pains. I quickly wrote down all my thoughts, writing some of Leo's statements on my notes to motivate me. I kept writing. After another few hours at my desk, my anxious partner persuaded me to come home to eat and rest. It was so annoying; he did not understand. The next day I could hardly move, everything hurt, I could not walk, and I could not sit. I could not do anything. I tried to keep working, but every movement felt like a struggle. After a day or two, I was able to take a step back out of my "work hard" bubble. I realised that I had gone into trying to prove to everyone and myself that I could do

what others could not. There was no harm done, except for increasing the stress levels of my already anxious partner. I had spent an hour and a half with a player like Leo, and already I wanted to be invincible. I had no investment with this player; what the player thought of me had no influence on my career. I can only imagine if I were in a working environment with him, I would push myself hard, trying to break through boundaries and to “grind” myself to gain his acceptance.

Now when I read the transcription of my interviews with some of the players that make up Leo, I have mixed feelings. I get lost in the drive, desire, and desperation to prove that you can achieve things that others cannot. My need to achieve, rather than just *be* gets triggered when I am around individuals similar to the players that make up Leo. It spurs me on, but for me the cost may be too high. Prior to this study, my description of MT would have included many of the following commonly used terms: Overcoming adversity regardless of the obstacle, pushing oneself to points no one else can reach, having insatiable desires, but now I am not so sure what terms I would use to describe MT.

### **Discussion**

At the beginning of my second study, I thought the player and coach interviews would shed light on MT attributes as they related to SRI. As my two aggregate narrative tales, Leo the footballer, and Sam the coach, emerged from the data, it was clear that there were no specific MT attributes that helped or hindered stress and recovery. A variety of traits, situations, behaviours, and environments combined to influence how MT could affect stress and recovery.

### **Mental Toughness Definitions**

In the footballer's aggregate story, MT emerged as a construct with adversity at the core. The character in the story used phrases like "pushing on when it gets tough and it gets hard, and it is painful, but worth it," and "loving the pain of training," to describe MT. At the club, players believed they were mentally tough if they could take the big hits, play through injuries, cope with any obstacle, and sacrifice themselves for the team. The footballer's ideas of MT shared many parallels with the published research: "cope better than your opponents with the many demands (competition, training, and lifestyle) that sport places on a performer" (Jones et al., 2002, p. 209), "remaining relatively unaffected by competition or adversity" (Clough et al., 2002, p. 38), having "an unshakeable perseverance" (Middleton, 2005, p. 106), and "having a collection of values, attitudes, behaviours, and emotions that enable you to persevere and overcome any obstacle, adversity, or pressure experienced" (Gucciardi et al., 2008, p. 278). The footballer fits into the mentally tough mould when comparing this story to the published research, and he epitomises many of the descriptions of MT. In their interview study, Richardson et al. (2008) identified that describing MT using the terms common in the published literature might be problematic for athletes:

Mental toughness basically becomes defined as never complaining, tolerating high levels of stress, and never showing any emotional response, and basically putting up with things. So that's extremely disempowering for the individual who is on the receiving end. It doesn't create mental toughness. It creates dissociation; it creates harm (p. 92).

Comparing MT characteristics to risk factors of OT supports the view that the current understanding of MT may be harmful for athletes. Many mentally tough behaviours and characteristics identified in the footballer's story are not new concepts in MT research, for example, pushing through injury (Coulter et al., 2010, Gucciardi et al., 2008), and loving the pain of training (Bull et al., 2005, Jones et al., 2007). Nevertheless, the damaging consequences of trying to gain acceptance into a culture that idolises pathogenic behaviours is absent in the MT literature. The footballer's tale describes a player who internalises the viewpoints from his coaching team and tries to become what the culture demands. In doing so, he became a player at risk of OT and serious injury. Richardson (2005) identified that "athletes are at a higher risk for OT when they are surrounded by people who reinforce excessive and physically-damaging training practices" (p. 189). At the footballer's club, his coaches and teammates continually reinforced the more-is-better attitude giving contingent dispersal of love and approval for footballers who could keep training without displaying weakness. The coaches' expectations of players were to play injured, and to be able to rehabilitate quicker than expected from injury. Richardson et al. (2008) suggested, "Coaches' attitudes and behaviours toward injury appear to be significant risk factors for OT and reinjury" (p. 40).

In the next four sections, I present significant MT themes that emerged from the footballer's story: working hard, pushing through, and playing injured; managing distractions; making sacrifices; and developing MT. In each section, I will discuss how these salient themes relate to OT.

### **Working Hard, Pushing through, and Playing Injured**

The individuals in the footballer's tale learnt while growing up that success is only possible through hard work. Persevering to achieve success could potentially be a positive trait for athletes to develop, but the players learnt the extreme version in sport and life. The footballer in the tale took on-board his dad's example that success was the priority, and the cost, no matter how high, was worth it. Even though his father died of a heart attack attributed to the stress of working excessively hard, the footballer admired his dad for his work ethic. His education continued when he failed to get onto the rookie list because he did only what the coaches told him to do, instead of doing more than expected, which was the actual expectation. As a new player, the footballer only stood out when he tried to prove a point by grinding himself during the training drills, and he realised that his pain did not matter, performing was more important. At home and in the club, the footballer had learnt that working hard, pushing through, and playing injured without complaining was the way to gain admiration, approval, and even love.

The ability to work hard, push through, and play injured is consistent with MT research. Jones et al. (2007) identified "loving the bits of training that hurt" as part of the training dimension of their MT framework (p. 250); Bull et al. (2005) described a never-say-die and go-the-extra-mile mindsets, and Coulter et al. (2010) suggested physical toughness was "pushing through the pain barrier...and maintaining a high level of performance while carrying an injury, fatigued, or hurting" (p. 705). Pushing through pain, injury, and fatigue, without complaining seems to be integral to being mentally tough, but these characteristics are also OT risk factors. In the OT literature, the more-is-better attitude is prevalent as a risk factor (Brown, Frederick, Falsetti, Burke, & Ryan, 1983; Gould et al.,



2002; Richardson et al., 2008) because athletes internalise the message that extra training will lead to rewards. In the footballer's tale, the harder he pushed himself through the physical pain of excessive training, the more his coaches and teammates applauded him, giving him approval contingent on how hard he worked. Contingent dispersal of love and approval and patterns of reinforcement for OT behaviours are two suggested risk factors for SRI from the OT risks and outcome model (Richardson et al., 2008).

A risk factor in the OT risks and outcomes model described as *pushing through injury* is part of being mentally tough. In this tale, footballers in the team were encouraged to keep playing through their injuries to prove their MT. Brustad and Ritter-Taylor (1997) suggested that coaches who endorse the no-pain-no-gain and more-is-always-better attitudes might create cultures of risk. The footballer's tale identified how players could internalise the club's cultural imperatives and ideals.

### **Managing Distractions**

In the footballer's story, there is a perception that mentally tough behaviours include managing distraction without affecting performance. The expectation from the coaches was that all the tough players managed any external problem without bringing the issue into the football club. In the club, coaches would not tolerate taking time off or displaying negative emotions for any reason.

The footballer in the story thought players who allowed their emotions to affect performance needed to stop the nonsense and think about their priorities. The player had internalised the coaching staff's ideals when it came to dealing with emotions and learnt to hide vulnerability. For example, the footballer played a match 10 days after his dad died and was annoyed with himself because he let his emotions affect his performance. Jones et

al. (2007) identified that mentally tough athletes had the ability of “being acutely aware of any inappropriate thoughts and feelings and changing them to help perform optimally” (p. 251). The footballer typifies these characteristics of how mentally tough athletes manage distractions. He could remain “fully-focussed in the face of personal life distractions” (Jones et al., 2002, p. 211), and he displayed the “single-mindedness to focus on the job at hand in the face of internal or external pressures, obstacles, or adversities” (Coulter et al., 2010, p. 705). The footballer worked hard to block things out like pain and personal issues and he tried to, “realize that what they’re there for in the first place is to play a game of football ... and to do their job” (Coulter et al., 2010, p. 705).

Kellmann (2002) discussed how athletes need balance in their lives and how those with substantial psychological stress need time to recover psychologically. Physical and mental underrecovery may upset the stress/recovery balance that could lead to OT. In the footballer’s story, any psychological distress carried with it a judgement that displaying emotions or vulnerability was weak. Mentally tough players should not get to the stage where external distractions could affect performance. Kenttä and Hassmén (2002) noted that sudden increases in nontraining stressors add to overall stress, leading to needing more recovery to balance the demands. Without additional recovery, imbalance between recovery and stress may ensue.

The core of this MT characteristic is about managing one’s emotions without letting an adverse situation affect one’s performance. Mentally tough players should not need more time to recover when they are going through a tough time, but the OT literature suggests that athletes who have increased stress from any aspect of life will need increased recovery to manage that stress. Athletes who feel that they cannot take time to manage a

problem, or are afraid to talk about a problem because they are trying to be mentally tough, may find that the increase in stress without increased recovery will lead to SRI.

### **Sacrifice**

The Australian football coaches Gucciardi et al. (2008) interviewed acknowledged, “that sacrifices (on and off the field) are inevitable if you want to achieve both individual and team success...” (p. 271). The footballer’s tale included numerous examples of the sacrifices that footballers make to be successful. In the tale, he sacrificed his friends, his adolescence, his body, and his university education trying to achieve success as a player. The individuals in the footballer’s story did not think these sacrifices were exceptional; the norm was to give up everything around them. The sacrifice of the footballers’ injury-prone friend for a finals match did not surprise or worry the footballer in the tale even when the player spent the following 8 months in rehabilitation. The footballer in the tale thought if you were mentally tough enough you would sacrifice yourself and everything around you. When the participants told me their stories regarding the things they gave up for the team to be successful there was rarely any resentment, only acceptance.

Kellmann (2002) suggested that in the steps towards stress/recovery balance coaches needed to acknowledge that athletes had lives external to their sports. In the footballer’s story, approval seemed to be contingent on how much players could sacrifice. Richardson et al. (2008) identified when athletes gain all their self-worth from sport and have no other interests outside of sport they may be at a high risk of OT. The club culture in the footballer’s tale pressured athletes to have no other focus outside of sport and appeared to restrict athletes to derive their self-worth from only football. By the club not encouraging players to have other interests in life meant players became dependent on football to feel

good about themselves. This dependency, in conjunction with the ethos of training harder makes one successful, might drive footballers to increase training and push harder to feel better about themselves.

The experts Richardson (2005) interviewed suggested that a way to aid prevention of OT might be for athletes to engage in activities outside of their sports, and by doing so they will also have something to fall back upon when their athletic careers end. It seems that trying to prevent OT and trying to demonstrate MT are incompatible, at least in this aggregate tale.

### **Mental Toughness Development**

The participants who made up the footballer's story identified getting through a tough childhood, experiencing humiliation at the club, failing at various tasks, managing tough situations without support, and being repeatedly hit by a boxing coach as ways to develop MT. There are differences in MT development when comparing the footballer's tale to the strategies identified in the published literature. The MT development research has highlighted the importance of the environment, the coach-athlete relationship, and the experiences the athletes have in life (Bull et al., 2005; Connaughton, Wadey, et al., 2008, Connaughton et al., 2010; Gucciardi et al., 2009; Thelwell et al., 2005) as important to becoming mentally tough. In the section, I will focus on the main difference between the footballer's story and the published research, specifically in the area of the coach-athlete relationship.

### **Coach-Athlete Relationship**

The relationship between coach and athlete may help to develop MT via numerous mechanisms, including having an open line of communication in a performance and a

socioemotional context, and showing interest in developing a long-term relationship with the athlete (Gucciardi et al., 2009). The relationship between athletes and their coaches can strongly affect performance and other aspects of athletes' lives (Jowett & Poczwardowski, 2007). Gucciardi et al. (2009) identified when a coach puts success before a player's development, this could impede MT development because it would, "emphasize inappropriate values and attitudes" (p. 1492). In the footballer's tale, the normal pattern at the club was to put success before athletes' individual development.

When the footballers talked about developing toughness, they spoke about having their weaknesses exposed by the coaches until they toughened up. This process was deemed especially useful for players who had not experienced much adversity in life. In contrast, Gucciardi et al. (2009) suggested that overemphasising players' weaknesses could hinder optimal development of MT.

In the footballer's tale, strategies to toughen players up included humiliation and punishment. For example, if players could cope being punching bags enough times then they would toughen up. The players thought, or learnt, that ridicule and physical abuse develops MT. Gucciardi et al. (2009) identified the following as strategies employed by coaches to develop MT: positive reinforcement and encouragement for poor and excellent performances and effort, praising positive behaviours in front of the whole team, encouraging mistakes as opportunities to learn, and an every-player-being-equal philosophy. The footballers who made up the tale would probably disagree with Gucciardi's suggestions. The footballer in the story talked about experiencing humiliation and criticism in front of the team when he had not played in the manner the coaches expected. The footballer suggested this strategy of constant criticism had forced him to

toughen up as he was in a sink or swim situation. These situations helped the footballers to “play properly.”

The culture in the footballer’s tale seemed to be one of authoritarianism with coaches trying to control players by diminishing their self-beliefs. Again, this coaching style is contrary to recommendations within published MT development research. Coulter et al. (2010) suggested that coaches who promoted soccer players’ self-belief helped them develop MT. In the narrative tale, footballers rarely got positive feedback to promote self-belief, and seldom got constructive criticism to teach them how to improve, which may help reduce stress regarding anxieties about their positions in the club. These strategies appear to be designed to reduce, not promote, self-belief.

Richardson et al. (2008) suggested that coaching style or focus could pressure athletes to increase training. Results from 14 experts regarding risk factors for OT identified, “autocratic coaches—those who expect athletes to follow their orders and who will brook no discussion—are more likely to overtrain athletes” (p. 53). In the footballer’s tale, the coaches epitomised an autocratic coaching style and seemed to have limited care, if any, for the players. The footballers seemed to internalise the belief that the coach knew better, and if the coach ever ridiculed a player, it was because the player needed the humiliation.

A risk factor affecting athletes’ needs for recovery that Richardson et al. (2008) identified was the reinforcement of sociocultural norms (e.g., do not complain; play while injured; encourage athletes to be silent when injured, ill, or fatigued). Participants in the footballer’s tale described the forms of punishment they received if they let injury affect their performances. The footballer explained that when he had let injury affect his

performance he was dropped from the team, so he had to learn not to be weak to be successful at the club. The footballers again internalised the coaches' views on playing injured, ill, or fatigued, and thought that physical impairment was not an excuse for a poor performance. The coaching team used these tactics to push the players to play regardless of how their bodies felt and used the term MT to validate their actions.

Experts in Richardson's study (2005) identified characteristics of coaches that may minimise the occurrence of OT. The "good" coaches were described as astute, athlete-focussed, not preoccupied with their own agendas, communicative, open to change, and flexible in their programming. Much of the published research regarding MT development is not evident in the footballer's tale. The coaches appear to bully and abuse players forcing them to take on the cultural imperatives of the ideal mentally tough player. Promoting the go-hard-or-go-home approach to MT led to players internalising damaging ideals like playing while injured, ignoring any fatigue, pushing through pain, and sacrificing external life. Trying to be mentally tough in this environment seems likely to increase footballers' risks of OT.

## CHAPTER 6

### STUDY 2: THE STORY OF SAM: THE DARK SIDE OF MENTAL TOUGHNESS

*We are pieces of meat, and you are pushed, and prodded, and overtrained, that is a stress in itself, and it's ridiculous. You just gotta cop it sweet and say, "Yes sir, No sir, three bags full sir." But I think we could do it a better way, like from how we warm up to how we cool down to the structure of training times. I used to fight with the coaches over this. I've finally learnt to keep my mouth shut and just cop it. So, what's tougher, fighting it or copping it? (Laughs)*

Sam was in his first year coaching AFL when I met him. He had played in the AFL for six successful seasons before sustaining a career-ending injury. After a few years recuperating, he chose to embark on a coaching career at a junior soccer club. His success with the soccer team meant that it was not long before an AFL club came knocking at his door.

Sam became interested in my research after hearing me brief several of his players for my initial study. He suggested that I might like to hear his story. Two years later I contacted Sam to invite him to be part of my second study, and he agreed. When we met, it looked like the last two years had taken their toll on him. As we started the interview, Sam asked for reassurance that our conversation was "off the record," and that information would not go back to the club. After reassuring him that everything we talked about was confidential, Sam visibly relaxed. I wondered what had been going on with him over the last few years. When I first met Sam he was the epitome of enthusiasm and optimism, but the man in front of me did not appear to be the same person. Sam started to talk as though



he needed to offload, and he talked for nearly two hours with little input from me. At the close of our interview he mentioned that being able to talk to someone who understood the *craziness* of the football world helped him feel *normal* again. In-depth interviewing is not therapy, but it seemed therapeutic for Sam.

Sam started to talk about how he was battling against the “machine that is football.” When he stopped playing professional football, he had not wanted to return to AFL in any capacity. The abrupt end to his football career had left him feeling bitter. Sam mentioned that he only returned to the AFL because he wanted to stop other players going through what he had gone through. He began telling me about his career in football.

Sam initially started out playing tennis, but his dad preferred football. Sam desperately wanted his dad to watch him compete, but when he was playing tennis his dad waited in the car listening to football on the radio. At a young age Sam reasoned that if he played a sport his dad liked, then his dad might watch him play. Sam’s dad watched his brothers play football so Sam decided to switch. Unfortunately, changing to football had not resulted in the undivided attention he craved. His dad came to watch Sam and his brothers play a handful of times, but he preferred to watch the “real” thing.

### **Learning Lessons in Junior Football**

Sam played football for his private school team but soon followed his brothers to a serious junior football club. He listened intently to the junior club coaches, and followed their instructions closely. Sam loved being at training; in contrast, his teammates would complain that training took up too much time and got in the way of schoolwork. Sam felt nothing could be more important than training. The coaches began to single Sam out, complimenting him on his work ethic; he was starting to get the attention he desired.

At the junior club Sam stood out because his natural playing style was different than most of his teammates. He was not a traditional “bash and crash” type player; rather he was fast and could dictate play by creating chances for the other players. Sam’s dad had teased him about his “awkward style,” telling him he was not tough enough to play football with his brothers. Taking the teasing to heart Sam trained harder trying to prove he was tough enough to play as well as, if not better than, his brothers. The extra training began paying off, and it did not take long for him to surpass his siblings and become a regular player for the firsts. Sam had made it to the top level of his junior team, and he thought his dad would be proud of his achievements. Sadly, this was not the case.

The time Sam spent training was taking its toll on his school grades. The academic downturn created tension in the family. In Sam’s family, school grades took priority over sport. His dad would not go to any of Sam’s matches until his school grades improved. Sam tried to use his father’s withdrawal as motivation to prove he was tough enough to play football without his dad’s support. “I was going to show him I could do it. Looking back, I just wanted to impress him.” Sam upped his training, on and off the field, and his school grades slipped further. Sam’s social life, school life, and family life receded into the background, and all Sam wanted to do was train. “I wasn’t paying hardly any attention to my family or social life. I kinda got through school, but the club became my family, and I just didn’t want to stop. I loved it so much.”

Sam’s parents worried about him and were becoming increasingly uncomfortable with their son’s priorities. They spoke anxiously to the junior club coach about the amount of time Sam was spending training, but the coach told his parents that Sam had real talent, and the extra training was worthwhile. His parents were not convinced:

Dad didn't get it. He wanted me to focus on school. He just wanted me to have an academic career, or at the very least, something to fall back on. He didn't rate football as a career. He was like, "You train too much. You do too much. You need to rest more [and] concentrate on school."

Devoting so much time to football got more of his mum and dad's attention, albeit negative, than getting good grades ever had.

As Sam's relationship with his family was crumbling, his football career was going from strength to strength. Sam became one of the stars of the team. He put his success down to being *superfit*. "I could outrun all the players, even the older ones who were going to draft camp. The coaches thought it was hilarious." The harder Sam trained the better he played and the coaches used him as an example for the other players in the club. "I loved training and the coaches loved me 'cause I could keep going no matter how I was feeling. I could do whatever they asked me to do." The coaches admired Sam's work ethic, and Sam learnt there was a positive relationship between training hard and receiving attention.

In the second half of the season, Sam sustained an injury, and he was not able to train for almost a month. Sam found getting through his first injury difficult, because instantly, Sam was out of the spotlight. It seemed like his world was falling apart. His dad was dismissive of his feelings, "Dad told me to get over it. He said it was a good thing 'cause I could study more." His dad's comments reinforced his limited interest in Sam's football career. Sam felt hurt, and he resolved to work hard at rehabilitation to get back into training before the end of the season:

That really drove me to get my rehab done quickly [to prove a point to his dad] . . . I came back a lot quicker than they [coaches] expected me to, 'cause I pushed myself

so hard in my rehab I got in an extra game, which they were really impressed by.

That was just 'cause I wanted to get back out there.

Sam had impressed the coaches again with his hard work, but he knew he lost that attention when he was injured. He reasoned that he would be less likely to sustain an injury again if he were fitter and stronger, so Sam began to train harder. He knew he could work harder than the other players in the club, and knowing he had this ability made him feel special. He could not understand why anyone would want to hold back during training. "You can't hold back, why would you? You've gotta go hard in every training session." It sounded like Sam was beginning to overtrain. He constantly pushed himself as hard as he could in every training session. He found it difficult to lower his training intensity saying it was "harder to go easy for a session." The few times when he had not trained hard enough, he thought he had let himself down, which drove Sam to train harder:

I knew if I hadn't given everything at training, at night I needed to go out and do more even if it was just a run. I just knew that I needed to prove to myself that there was more in the tank.

Sam told me about one particular occasion, during his junior football career when he had his school prom, and the coach had told him to take the following morning off training to let him recover:

I had my school prom, and I was out late. Coach was cool with me not going to training the next day, as it was a one-off. I went through so many different phases that night, and I ended saying "I won't set my alarm." I went to bed for half an hour and I couldn't sleep, 'cause I knew I wasn't getting up for training. I had to set my alarm then I finally could get to sleep. My reasoning was "I'll see how I feel when

my alarm goes off.” When the alarm went off I was like “I’ll go back to sleep.” Ten minutes later I was like “I’ll go to training.” I was so glad I went. I would have felt guilty all day if I hadn’t gone. When you don’t do it, it’s like something is missing. It [training] becomes such a part of your life.

Sam felt guilty about missing a single training session. It sounded like training hard made Sam feel like a worthwhile person. When training was not going well, he began to feel worthless:

If I had a bad training session I’d go home, and I’d be so, I’d get so, I’d get upset at myself. I’d get angry, and I’d get upset. I’d feel like I’m such a crap person. I’m letting everyone down. I hate myself. I’d have to punish myself in the next session. If I’d had a bad session I’d have to work myself twice as hard the next day. I love myself when I’m performing, and I’m having good sessions . . . When you have had a bad session it’s not like you have had a bad training session, it’s that you are a bad person. If the training wasn’t worth doing then you are not worth being here. You just identify with it so much. It just makes me need to have every session go well.

It sounded difficult for him to be *Sam*; he needed to be *Sam the athlete*. Sam needed the admiration from friends and family that came from being a hard-working athlete:

You get into that mode that people identify you as an athlete, and you start to identify yourself as an athlete. If you have a bad session, you automatically think you are going to lose fitness. . . . You think if you lose fitness people might start to, um, you feel that people are judging “he looks like he has lost size” or “he looks like he has lost fitness.” You do think that. It’s really weird ‘cause I’m the footballer, everyone knows that. The first thing they say to me is “How’s your

training? How's footy?" I love that. I really love that, but then if I have a bad session that puts the pressure on me and I think "Oh god, I need to keep that going." You start to think of yourself as the athlete. Probably that is why you go out and do the extra runs. Even people that know nothing about footy, I still want them to look at me and think, "Wow he's really fit, he's the athlete."

Maintaining the status of Sam the athlete seemed to put extra pressure on him and drove Sam to keep training excessively to impress those around him. He trained at the club, he trained at home, and any spare time he had he spent thinking about football.

During his second year at the junior club, he had performed well, but towards the end of the season his performances started to deteriorate:

Towards the end of the season, I lost heaps of power and strength. It became, um, I got, um, I was pretty unhealthy looking, but I couldn't really see it. I look back at photos from that year [and] I look so tired, but at the time I thought that I looked good 'cause I thought I looked superfit. I was basically all footy.

When he realised that his performance was deteriorating, Sam's solution was to train harder. "I couldn't stop. Every day when I was like that [not performing well], it just made me go harder." When off-season approached, he struggled with the thought of stopping training even though his body was hurting and crying out for some recovery time. It sounded like Sam had made football the central theme in his life and stopping, even for a few weeks, would be impossible:

It was terrible that thought of the end of the season, "I have to have a 4-week break now." I was like, "I don't wanna. I have to keep training." Obviously, (laughs) I kept on training during the holidays. I did back it off a little. I even felt guilty 'cause

you know you need a break, but when football is such a big part of life, when it's not there you don't know how to do normal life (hesitates). After the 4-week break we had 3 weeks of going light on our own. I started to go downhill and was really sore. The next week we got back to proper training, and I hadn't had a break. I couldn't keep doing it. I got so injured, and I hardly managed to do any preseason. I couldn't play for months.

When Sam talked about not being able to "do normal life," he looked like a lonely young boy. It did not sound like Sam had anything in his life that made him feel worthwhile, except football. When the season was over he was just Sam, and that was not enough. To make himself feel better Sam kept training, but this led to becoming injured. Sam talked about how much he would struggle to stop training when he was injured:

I would try to train through it. Ignore the injury. Keep training. Eventually, I'd feel the stress building up inside me. I'd never tell anyone. I'd pretend it was fine. Then it's like "Aw, this injury is here, but I'm still going to try to train. Try to ignore it. Pretend it isn't happening." Eventually though you'd have to admit that something is wrong. Even if other people know that something is wrong, ultimately, it comes down to you recognising it yourself and saying, "Okay, I do need to have time off." That's usually when the breakdown starts and the tears come.

Sam wanted to show his family that he was tough enough to play football, so he kept pushing through his injuries, "they [family] didn't quite understand how I could push through injury. I think they [family] were proud of me."

The next two seasons passed in a similar manner with sporadic good performances and many injuries. At the beginning of the following preseason training, one of his coaches

suggested going for a coffee to discuss Sam's performance. Sam thought he was in trouble for not performing well during the previous season. He had worked so hard, and he could not understand why he was not performing the way he knew he could. Sam's first few training runs of the preseason had been poor; he trailed behind the other players unable to shake off his fatigue and push through the pain. Sam was exhausted. The junior club coach sat down with Sam and started to go through his training loads. His pattern was like a yo-yo. Sam started each preseason run down and unable to train and inevitably, he ended up injured or ill. When he returned to full training, he played and trained well for a few weeks, but he would soon overtrain, which led to a gradual deterioration of his performance as the season progressed. The pattern always repeated. Sam's coach started to talk about OT. Sam explained to the coach that he just needed to work harder and he promised he would try harder this year. His coach listened patiently, and then talked to him about other players in the club and the way they trained. He mentioned OT, recovery, and training smart, not hard. Sam listened to his coach talk about the times when Sam's body got stronger. Sam remembered that talk:

He [junior coach] said, "You don't get stronger from training. You get stronger from your recovery. It's not actually training that makes you a better athlete, it's your recovery time, and a lot of athletes don't realise that." He said "training is bad for you. It's breaking down your body. It puts all your organs and bodily systems under stress. It's only the recovery time that makes you become stronger."

Sam had put his initial success at the football club down to how hard he could push himself, and changing this pattern was not easy. Even after the club coach talked to him and he became aware that he was OT it was difficult to hold himself back:



In preseason, you feel yourself overtraining, [and] you know you have done too much, but you still get up and push yourself to the limits and beyond. You just can't stop. I knew I was doing it, but I still had to finish, and then you went, "That was a bad idea. I shouldn't have done that." You still did it though, it's hard not to.

Sam returned to his pattern of working hard, but now he began to hide his training. He said that, "even after all the advice and the injuries I'd hide my extra training." Sam's coaches recognized he was still in his OT pattern and tried a different method to highlight the importance of recovery. Sam had been sick with a cold and unable to train during the week, but at the weekend, the coaches selected him to play. Sam was surprised how well he played:

I was so fresh, I had a really, really good game. That probably happened for a couple of weeks where I couldn't train during the week, but I was feeling really good on the weekend. The coaches were really happy with me.

Sam realised that he could impress his coaches by holding back rather than pushing hard:

That's what I learnt there [at the junior club]. Before, I would be trying to push myself as hard as I could to try to impress them. They made me realise that coaches can be impressed by you holding back, 'cause it shows that you are trying to listen to your body a bit more. That was a bit of a revelation (laughs).

When Sam returned to full training, the club coach paired him with a player who was a potential high selection for the next AFL draft. The player outperformed the rest of the team in time trials and in matches, but was inconsistent during training. Some days he worked harder than anyone else did, but on other days he seemed to be taking it easy. Sam

could not understand how the player kept beating the rest of the team, so Sam watched him train:

I used to watch X [successful junior player]. I'd always go "How do you get so good? Where do you fit in the real training?" He always said to me "I train smart not hard." We'd all be training in the pool pushing ourselves, and all of a sudden he will get out of the pool and say "I've had enough that's it." He had a way of knowing when to stop. At other times, he would be really, really pushing himself much harder than the coach had told us to. He just had a way of knowing how hard to push his body. I saw people like that and I began to think that's how I need to be.

Sam began to listen to his coaches who reassured him that they were impressed when he worked hard at recovery as well as training. Sam realized that when he could let himself recover he performed consistently.

The following season Sam continued performing well with fewer injuries than previous years. He was trying to be more honest about his training, and admit when he was feeling sore instead of training through injuries. He began to keep a training log and included information about events in his life to try to understand what affected his performance. Sam found he had specific patterns:

The times [during the season] when I didn't feel good, or it was painful, and it didn't feel like I was popping and had that energy, I could look back at my log and go "Well, I trained too hard in those two sessions, and I didn't have enough time off." Sometimes you will be able to go hard in training and you can still play well. It comes down to so many other factors too: What I'm eating, how much sleep I've

had, how stressed I am, that drink I had that night, or that argument I had with dad.

All these things need recovery too.

Sam recognized that numerous variables could influence his performance, and training was not the only stressor that affected his ability to play. He acknowledged that without adequate recovery psychological and physiological stress could negatively affect his performance.

For the first time since joining the junior football club, Sam stopped training through the off-season. Now that he was not busy training, he struggled to find things to do in his nonfootball world. He had to force himself to socialise:

You have to pick up other aspects of your life, but it's hard, even just socially.

Meeting with friends is hard 'cause you don't wanna. You just wanna train. You don't wanna see friends. What you really wanna be doing is training, but you have to go and see friends 'cause you don't have anything else. You might not have seen them for months, and you put it on, "I'm so happy to be here, what's been happening?" You don't wanna be there. You wanna be training, but eventually it kicks back in, and you get the feel for hanging out with people again. It takes a while. I always felt like no one could understand. It's hard to explain. It's hard to get into that other world. It felt like I was going through a bit of a depression.

Venturing outside of his football world was uncomfortable for Sam; socialising appeared to be an effort. It seemed difficult for Sam to relate to people who were not footballers or coaches. "I didn't want to talk to friends. I had to try to be one of them, and I couldn't be. I was a footballer." That season when Sam returned to start preseason training, he was healthy. He was ahead of all the other players in the training drills and time trials.

Throughout the next season Sam performed consistently and gained an invitation to attend the AFL draft.

### **The AFL Years**

Although Sam performed well at the draft camp, he was surprised to be a top-twenty pick. Everyone was happy for Sam; his dream was becoming reality. During the party to celebrate his selection, his dad told Sam he was proud of his achievements. Sam was on top of the world.

When he arrived at his new club for his first training session, Sam was overwhelmed. Here he was in the midst of all the stars he had watched on television, and he was part of the same team. It was a big change for Sam. He had gone from being the big talent in a small team to being a nobody showing his “awkward” playing style to a team of superstars. Sam talked about the first training session:

Folk handballing footies at your head just to see how you were going to respond.

First training session, yeah, and then sure enough another one handballed straight at my head. That hurts, it’s like “aw, it’s my first training session.” Someone said quietly “they are just testing you out.” There’s 40 blokes, and they are massive guys, and there’s scraps. It’s “wow that’s X,” then you can’t kick, [and] my skills were atrocious. I couldn’t kick, [I was] unlikely to kick the target. You feel embarrassed, and it’s like, “Oh shit.”

During the first week the club coaches assessed the new players to evaluate their skills. One drill involved pairing the new players up with a senior player to test how they well they took hits. This was not Sam’s strength. “They put me on the captain, and I didn’t know if I should hit him or not. Well, I didn’t get the chance ‘cause he got me first [Sam

got knocked out during the drill].” Becoming an AFL player had been Sam’s dream, but the first week was more like a nightmare. Every new player’s weakness was written on a board with comments like, ducks head in a contest, can’t kick, fat, doesn’t work hard enough. Sam found it hard to keep believing he was good enough when criticised constantly.

During the first few weeks at the club the new players were gathered together to get to know each other. Even at that early stage, Sam felt different than the other players, because he did not think in the same ways as they did. He felt like an outsider:

They were crapping on about girls and just that whole attitude towards women, all this kinda stuff, and me coming from X, very different, like you at least go to the movies first (laughs). The stuff that I was hearing from this guy, it was like, “Really? You do that?” Stuff like that was a bit of a shock.

Sam began to wonder if he wanted to fit into this world. The players who surrounded him had different attitudes to football, to women, and to each other. He had thought becoming a part of the club would mean, “feeling a sense of belonging, but I’d never felt so alone. I wanted to go home.” Sam knew he could not go home. If he did not make it in AFL, his dad would gloat:

At the beginning, I was like, “Oh shit, I don’t wanna have two years at the footy club, not play well, and be gone.” I would’ve had to go back home and have dad say “I told you to have a back-up plan.”

When Sam had started at the club he realised that his pathway to the AFL had been different from most of the other players. Most of the new players had come from tough football schools, but Sam had attended a private school with more emphasis on academic

results than football. The coaches told Sam they thought he was weaker than the other players were:

I needed to show that I could do the job and that I was interested in football. I needed to work harder [than the other new players] to show I could do it. I've never understood that they could think I would be weak because I came from a private school. My skills were weak, but I wasn't.

Sam worked hard to try to meet the coaches' expectations. After each training session he would limp home feeling battered and bruised. It was a big change from junior football. The coaches had advised the new players that, "nothing else should matter. You are playing football now." It was confusing for Sam because his junior coaches had taught him that balancing football and external interests helped him perform, but that lesson did not seem to be right for this club. The coaches talked about one player they respected. For this player, everything in his life revolved around football. Sam told me more:

He walks to his car, and you'll see him do a one, two, and shoulder an imaginary player, or pick up a ball. I used to be like that [in junior football], but I didn't wanna be like that again; I really didn't. I'd rather see a car that he wouldn't have seen and see that it has a sticker that says "Vancouver," and think "Oh, one day, I'd like to visit there." He won't even have seen the car; he just sees the footy. He has worked so hard. He's a great footballer and that is what he wants more than anything else in the world. For a long time I wanted that, but I'm better when I've got more [in life].

For the remainder of the preseason Sam watched how the other players trained, and he listened when they talked about their lives. None of the players held back in training sessions; the opposite seemed to happen. In the locker room, players boasted about how

much extra training they did and how football was the most important thing to them. Sam had worked hard to try to leave that pattern behind, and he had been successful with his new pattern up until now.

Sam asked to talk the coach to discuss his training. At the meeting, his coach had all Sam's training information in front of him. Sam explained that he had overtrained in the past, and his performance had suffered, and that he did not want to repeat the same pattern, because he wanted to perform well for the club. The coach had laughingly told Sam, "There is no more overtraining in football; there is mental toughness. The mentally tough make it. The others drop out. What are you gonna be?" Sam had been embarrassed. He did not want the coach to think he was weak. He wanted to be a mentally tough footballer. Sam wished he were back at his junior club. His old coach had told Sam, "You need mental toughness to be able to push yourself, but you need the mental toughness to be able to back off training as well." Sam was realizing the pattern that had earned him a place at the club was going to have to change if he wanted to be successful in the AFL.

Sam started to train hard again and not hold back, because he wanted the coaching team to think he was mentally tough. Sam found it difficult because the expectation was that every player managed a generic training load, which consisted of numerous sessions a day:

It's like, really? You think this is the best way [players breaking down all the time]?

This can be done a better way, and it's . . . just being able to discuss it. We trained at 8am, had a 2-hour break, then train at 12, 2-hour break, and then train at 4. I mean, why don't they just get everything done in the morning?

Sam knew better that to mention his training to the coaches again. He worried that he had not made a good impression at the club. Sam decided to try harder at fitting in with the players if he wanted to be successful, so he started to socialise with his teammates, but he loathed the footballer label the other players loved. Some players used the label to get what they wanted; club entry, girls, drinks, attention. Sam recalled one specific night out with the football boys. He was trying to be one of the team, and the players had gone to a private room at a nightclub complete with free bar. The players were encouraged to pick a handful of girls to keep them company in the private room. Sam had tried to go along with this, but he hated it. The girls who agreed to go into the private room were at the footballers' disposal. Sam could not understand how the girls were happy to participate purely because they were footballers. Sam disliked that night so much he never socialised with his teammates again. When Sam did go out, he tried to get as far away from the footballer label as possible.

I say "I'm a University student" or "I play badminton," and it's like "Oh really?" Anything to get away from football and that is so completely different from the other players. "Yeah baby, I play football (makes a face)." That kinda thing, that's sickening. I am never like that. I never wanted to be like that.

Sam was lonely, but it was difficult to find a player he wanted to befriend. He tried to go out with some old friends from school but because he was not with footballers, he was under suspicion the following morning:

I went to a nightclub and drank bottled water, and Monday morning I got pulled into the coach's office 'cause some fan saw me. Why was I not drinking beer? Only people on ecstasy drink bottled water in nightclubs. I must have been tripping out



on ecstasy 'cause some fan saw me. Next thing I know, I'm pissing into a bottle getting drug tested.

When Sam did not do exactly what the other players did he was criticised in front of everybody, but at his junior club, not doing what everyone else did was admirable. The AFL coaches continually pointed out, "If you wanna make it in football: eat it, sleep it, breathe it. Everything else stops." Sam was beginning to understand that, now he was a professional footballer, perhaps he needed to sacrifice everything else in life too. He needed to go back to being *Sam the footballer*. "I need to say to myself, 'I am a footballer,' so I believe it, so I get the best out of my body, so I'm successful, so I win a premiership." For the next few months, Sam immersed himself in football and tried to do what all the other players did. The coaches showed more interest in him, and Sam started to think that he might have figured out how to cope at the club. He played a number of training matches for the senior team, but his form was inconsistent. Sam talked about the difference in the coaches' response to him when he played well and when he played poorly:

You play a good game, and all the coaches are tapping you on the back saying "Well done, well done." You are on cloud nine sorta thing. Then you play a couple of bad games, and no one talks to you. It's horrible, and you think "Jeez, I'm not going to make it." It's a real rollercoaster. The feedback you get when playing well is great. The feedback you get when you're not playing well it's like you don't exist . . . You play one bad game, and all of a sudden you're on the outer. The coaches will not even acknowledge you. They love you one minute and then hate you the next. It's a week-to-week thing.

At the junior club, it had mattered to the coaches how Sam felt. In the AFL, Sam's feelings were unimportant; performance was all that counted. Sam could not understand why he was ignored if he played poorly. He was not a different person if he did not play well, but the coaches' attention was contingent on performance.

A major problem Sam faced was trying to alter his natural playing style. He thought his style of play would be suited to the club, because no one at the club played the same type of football as Sam. He hoped the coaches would see his difference as a positive, but the training seemed to be more about exposing his weaknesses than exploring his strengths. The coaches repeatedly told him that he could not hit, he could not kick, he could not take a mark, and he was not big enough. The list seemed to be endless. Sam had never been a big hitter, and if he ever ducked his head in a contest, the coach would replay the specific incident in front of the group. He had other talents that the coaches acknowledged, but they still wanted him to play tough football. Sam tried to take the big hits, but he felt constantly battered and bruised, although he tried to hide the pain when he was at the club. After a few months of keeping the pain to himself and trying to take the big hits, the coaches selected Sam to play in his first senior match.

The first few matches were nerve wracking, but Sam thought he played well, although he was not always able to take the hits head on. The coaches told him, in front of the playing group, to "toughen up or forget it." In his fourth match he tried to prove that he was toughening up:

I knocked him [opposition player] flat. My shoulder hit his head. It was a free kick at the time . . . It was actually one of the best things I did for my footy career 'cause

everyone liked the fact that a kid in his fourth game flattened someone—bit of aggression. The papers and fans loved it. I was known as a bit of mongrel.

Instantly Sam became part of the team. “That was why the mongrel label helped. I kinda did have to prove that I could be like the other players. You learn that you need to fit in with the team.” Sam learnt when he conformed to the club’s principles he would be successful. He needed to train hard, hide the pain, and keep his mongrel label. He worked harder than he ever had before, but he was still surprised how much he had to endure to be a footballer:

I got a really nasty bump to the shoulder; it was from a lightweight player, and it was one of those freakish things where you got hit just in the right spot. I couldn’t raise my arm above my shoulder. I’d heard and seen people getting local anaesthetics for games, and it’s like “Geez, that’s a bit bloody extreme.” Here I was, 18 years old, getting this local injection in my shoulder and sure enough, I could raise my arm above my head. I thought, “This is a bit extreme. It’s a bit hardcore.” I played the rest of the game. I can’t remember if we won or lost (laughs).

The following week Sam did not know if he would be able to play, because his shoulder was sore. In junior football, if he had an injury he was encouraged to recover and go through rehabilitation. In AFL, there was a different pattern:

The physio suggested injections. I played getting injections so it wouldn’t affect my game. After a game, when the painkiller wore off, it was excruciating. Like you don’t think about the pain [during the match], but at night when the injections wore off it was the most excruciating pain, and it lasted all night. I couldn’t sleep at night because of the pain. I played seven games with injections, and I thought that maybe

I could do it for the rest of the year. Then it just got too painful. I said, “No, I’ve got to get it treated.” Coach was pissed off. I got dropped for 8 weeks after the surgery [the doctor said he could play 4 weeks post surgery]. I guess that was to teach me a lesson.

Sam could not believe the coach punished him because he did not want to be in pain for the remainder of the season. At the end of the season the head coach took him to one side and said he recognised Sam’s talent, but Sam needed to prove his MT. Sam was not sure how to prove his MT. “Yeah, I didn’t know what MT was supposed to be. How could I do it when I didn’t even know what it meant? They [coaches] expected me to know.” Sam did not feel he could ask the coaches about MT. He was a professional footballer. He should know. Sam reasoned that if he worked hard at the coaches’ off-season training program, it might show the coaches he was trying to toughen up. Sam told me about his off-season training that year:

You have your 2 weeks off as soon as the season finishes then your 6-week off-season period [each player does their prescribed training program at home during off-season]. In that 6 weeks, probably 5 of those weeks, I was going really hard on leg weights, plus upper body weights, and cross training. I mean, it was the prescribed program. I had a jarring sort of feeling in my hip. I didn’t know if it was tightness or fatigue. I pushed through it, and I thought it would go away, but we came back to preseason training, and three days in I woke up and couldn’t move it. For about a week, I couldn’t move my leg. I could hardly move, and that really shook me up . . . I was just following the program. I was annoyed with myself at the time, but I was a bit annoyed with the coaches too.

Sam was out of training for almost a month, because he had been following the program the coaches set out for him. The coaches were angry with Sam, because he had not been strong enough to manage the program without getting injured. Sam rehabilitated his hip quickly, which got the coaches back on board and earned Sam a first round selection for the senior team. Sam played most senior matches that season, but he struggled with injuries. He settled into a pattern of playing matches and managing his aches and pains with either self-prescribed medication or injections prior to a match. He realised that by keeping quiet about his injuries, and playing through the pain without complaining, he was demonstrating his MT. Sam rarely told anyone at the club about any injuries unless he needed the doctor to give him an injection. This was the norm:

I think about 90% of the players in the AFL have a bit of a niggle, and they still play with it. They get it treated before the game or during the week. Everyone's got a niggle that they sort of have to carry into a game. Very rarely would you go into a game 100%.

Towards the end of his second season, Sam started to lose his ability to push through his constant aches. He was tired of being in pain every night. He recalled nights when he would go home and cry as the pain killing injections wore off. He knew he could not speak up about the pain. When he had spoken up about his shoulder, the coach had punished him for being weak. Sam knew he needed recovery time to let his body heal, but if he tried to take some time off training, he would lose his position in the team.

Sam continued in the same pattern for the next few seasons: hiding niggles, playing through the pain, and trying to show the coaches that he could play tough football, but he was starting to feel resentful about the way the coaches treated him. Every player in the

team trained too hard without enough recovery to gain the coaching team's respect. Sam knew that training hard would help him improve, but he never got the chance to recover, especially in preseason. Sam described the training. "Preseason, we get flogged, totally flogged. I mean we start preseason in the middle of October, tell me that's not overtraining." Even though Sam was weary with the club, he still needed the coaches to think he was good enough, and it sounded like there was little reassurance.

The coaches continually told the players, "don't overrate your own importance, you are just a small part in the team. There are new guys waiting to take your place." Sam continually had to perform or he would lose his position, but it was difficult to keep performing when he was fatigued and in pain. Sam began to resent the power the coaches had over him:

I am only as good as my last game, or training session. I could break down any week . . . but we are just pieces of meat. We are expendable, and if I'm no good someone else comes in. We break down all the time . . . training all day, every day; it's insane. You break your leg, you break your arm, you rupture a disc in your back, [and] you just have to cop it. There's nothing you can do about it, 'cause unfortunately it's run by morons, absolute morons. They say, "This is how we are going to do it, train until you are fucked."

Listening to Sam talk, his anger was apparent, but even though he was justifiably angry, he still needed the coaches' approval that he was tough enough. Sam talked with frustration at how some players could tolerate training without continually getting hurt, and he wished he was one of those players, but he knew that his body did not manage the club's training without breaking down. Sam knew no other way to keep his position apart from

hiding the pain, and so he pretended to be one of those players who could tolerate the training to keep his place in the team.

The coaches talked about mental weakness, “Being mentally weak is someone that just gives up and gives in.” At the club, players never gave up, but some evenings at home alone Sam wanted to give up. He had nothing left to give the club, but they still wanted more. He tried to be mentally tough, but it meant living in pain. Sam knew he could not ask the other players if they felt the same. The team slogans included, “mateship above all else” and, “sacrifice makes a team,” but they only went as far as the football pitch. None of the players in the team would support Sam if he tried to stand up to the coaches and question the way they trained:

Most players wouldn't run the risk of that kinda thing [talking about how hard the training is]. He might talk to a mate, and he [the mate] might tell the coach, and all of a sudden it goes to the head coach who makes jokes about it in front of everyone.

I think that makes it difficult. It is that testosterone environment.

Sam craved a situation where he could talk about his ideas and discuss his struggles with someone who cared. He wanted to be listened to and not just be a body performing on a football field. Unfortunately, there was no compromise in football and the coaches only wanted his body.

Sam began talking about how inhibited he had felt being a footballer. He gave numerous examples of situations when he could not do any of the things he wanted, because football had to come first. One specific situation sounded frustrating for Sam:

I was scheduled to go overseas off-season, but as a result of my hip injury sitting is the not the best thing for me, so planes are shocking. I wanted to go, and one of the

reasons I decided not to go was because I started preseason end October. If I get a sore or stiff hip as a result of flying overseas I might struggle [at the start of preseason]. It's like, are you kidding me? The first game isn't till March/April, and I had an opportunity to go overseas and do some stuff with underprivileged kids, and I'm thinking about my stupid hip wanting to make sure I get under 12 minute 15 for my time trial on the first day back. Are you kidding me? I'm a grandpa 'cause it's just kinda so regimented, so structured. We get checkpoints every two weeks: fitness test, skinfolds (sighs), bloody checkpoints.

Sam sounded disillusioned with football. All the sacrifices he needed to make seemed too much for him. He did not understand why the club needed to have total control over the players. Sam bitterly told me about how inflexible he found life at the club:

My sister was getting married in Europe and wanted to plan a wedding for June, July, and I'd gotta play. She was like, "can you ask your coach if you can come?" It's like, "No way, are you serious? There is no way they'll let me go." I didn't even know if I wanted to fly over to Europe. It's a day to fly over to Europe, and a day to get back. In the middle of the season, there is no way you could do that. How could I play after that?

At this stage in his career, it seemed that Sam was starting to think about life without football. Even though Sam was disillusioned being at the club, thinking about not being a footballer made him feel anxious. Who would he be if he were not the footballer? Was being Sam enough? Would he be disappointing his family?

If I'd stopped all of a sudden, I would feel like I am letting them [his family] down. I would expect dad to be like, "I always knew you'd give up." It's tough 'cause



that's what you are. What would it be like if I decided to have a year off (laughs)? Coaches would never allow it, but you think about it, but you would never do it. It's who I am. It's what I identify with. If I didn't [play football], there's nothing else that I see myself doing. I'm not happy just being a person and having a family, like that isn't enough. I wanna have that other aspect. I wanna look in the mirror and say "I'm an athlete." If I didn't have that other side I wouldn't feel complete. I would feel like I am missing something.

Sam sounded like he was mentally trying on how it would feel to stop football, but he did not seem ready to be just another person. Sam needing football meant he had to find a way to cope with the stressors and the restrictions that were part of the life. He started to think that maybe his dad was right, and maybe he was not tough enough to succeed at the club. Sam resolved to keep trying to toughen up.

Halfway through the following season, Sam hurt his back in training. As usual, he did not tell the coaches about it, but during the next match, his back started to deteriorate:

I aggravated it [his back] in training, and then in a game it took a heavy knock, and that was it. It's probably my fault . . . Yeah, I was hiding it from the coaches, playing through it [and] it just developed into something bigger than it started. It wasn't as though I had one incident, and it just went bang. It was acute [sic]. It wasn't getting better, and I thought I'd be right to keep going. I mean it started as just an aggravation.

Sam could not train through the pain, so the club doctors sent him to a specialist. The specialist was honest with Sam about his chances of playing AFL again:

He sat me down and said, “Look, you could have the surgery, but it isn’t going to guarantee you will get much better. You could play 5 games; you could play 50; you could play 150 games; you might not play at all. It’s [the surgery] no guarantee.” The downside was that the surgery could make it much worse. Coach was really trying to make me get the surgery, but the surgeon said, “It was less than 50% chance of playing again.” At the same time, there was a player at X [different football club] who had had a very similar injury to me, and his surgery didn’t help him at all, and he was a genuine superstar. He couldn’t play even after surgery. He could hardly walk after it. I walked out of the surgeon’s room, and I just cried, cried, and cried in the car.

Sam’s surgeon suggested that there were some new physical therapy treatments that, given time, might help his back. Sam’s decision was difficult, surgery or a lengthy period of rehabilitation with neither option guaranteeing success. The coaches told Sam to have the surgery, and he might be playing before the end of the season, but even the surgeon would not know until he operated if Sam would play again. Sam thought about it for a few days and decided against the surgery. “I thought at 24, my back’s worth more. I’d rather change my dreams than go through with the surgery and it be a disaster. That’s why I made that decision. It was so tough at the time.” Sam went back to the head coach and told them his decision; the head coach was not happy. The nonsurgical approach would take longer to rehabilitate than surgery. Additionally, there was no way of knowing how his back was going to recover until several months into the physical therapy program, but with surgery Sam would know straight away if his back was going to be okay. One week later, the head coach spoke privately to Sam. He asked Sam if he would reconsider his decision regarding

the surgery, but Sam did not want the surgery, and he tried to explain to the coach that he would rehabilitate his back as quickly as he could. Sam thought, at the longest, it would take a year to be back to football fitness. The coach let Sam start his rehabilitation, and he made substantial progress, but it was slow work. Few of the coaches or players at the club talked with Sam, and the players who did speak to him told him he was crazy not having the surgery.

At the end of the season, all the players were going through their yearly reviews with the coaching team. When Sam went in to his meeting, he felt nervous. He knew the coach was angry with him, but because he was making some progress with his back, Sam thought his position at the club would be safe. The head coach told Sam that his services were no longer required. Sam was devastated. He knew he could rehabilitate himself without surgery, but the club would not support him. Sam left the club that day and never returned. Only one player got in touch with Sam to try to offer some comfort. Sam's playing days were over; the club would not support him if he did not do what he was told. None of the other clubs would employ him, because they did not know if he would be able to fix his back. When Sam told his family, he thought they were disappointed that he had not been tough enough to remain in football. His dad said nothing. Sam's years of being a footballer were over.

### **The Coaching Years**

Sam felt stupid. He should have realised that he was replaceable when he chose not to get the surgery. He thought about going back to the surgeon and asking him to perform the surgery, but now he would have to finance the operation. He knew there had been times at the club when he was desperately unhappy, but he was not ready for his football days to

be finished. Sam had wanted to be a big-name player, and not be finished up at such a young age. Sam thought about his time in the AFL; he wondered if he had put a target on his back at the beginning of his career by complaining about the training and asking questions about how the club dealt with players' injuries. Now he wished that he had kept his mouth shut. He had gone from being a professional footballer to being just another ordinary person, and he struggled to get through each day:

It was a real struggle. I didn't think dad would help. I thought he would think I was still weak, but he and mum surprised me. Some days, one of them would stay with me; I couldn't even get out of bed. I didn't know how I'd get through it.

Slowly, Sam started to cope with the transition. His family helped him through the dark periods without judging his decision about the surgery. Sam's dad talked about recognising how hard Sam had worked to play football, and of how proud he had been of Sam when he started to take the hits, but his dad began to think the cost of being a footballer was excessively high, and he worried about his son. His dad said, "There comes a time when you need to look after yourself, and not compromise your beliefs." When Sam had started to fall apart, his family were there for him. His dad, finally, was giving Sam the support he had always needed and wanted.

Sam continued to try to rehabilitate his back on his own. The more mobile he became the more his mood lifted. He still had days when it was a struggle to get out of bed and manage day-to-day tasks, but those days were becoming fewer. Sam enjoyed learning about his body. He decided to go to university, and he spent the next few years of his life in education, but he missed the rollercoaster of sport. He decided to try coaching, but he felt tentative. What if he was not tough enough to be a coach either? Sam started to work with a

youth soccer club teaching young players about training stress and recovery; he wanted to show players how to get the best out of themselves without ruining their bodies. Sam told the soccer players stories of when stress had affected him physiologically and psychologically. Sam used his junior club coaches' words and talked about how athletes' bodies got stronger during recovery. He taught players about the benefits of training smart and standing up for yourself and your mates. His soccer team was performing well, achieving unexpectedly good results, when he got a call from an AFL head coach. He told Sam that he had heard good things about his coaching and wondered if he might be interested in coming to the club to talk about a potential opportunity. Sam was afraid to go back to football. It had taken a long time to stop hurting when his coach had terminated Sam's contract, but he still craved the excitement of elite sport. He decided to talk to the coach.

When he walked into the club, the environment felt familiar. Sam was on edge, but he could feel the excitement in the club. He could see the instructions written on the board regarding the club's next match and longed to be involved again. The head coach wanted Sam to work with the team, because he liked the way Sam had played. Sam tried to be honest with the head coach, and told him if he were going to be involved with the team then he had to be able to run the performance side without pressure to overtrain the players. He wanted to develop individual training programs for players and not just work off a generic plan. Sam told the head coach that he wanted to use the sport science he had learnt to monitor player's stress and recovery to help them perform throughout the season. The head coach listened and then promised Sam autonomy to develop the fitness programs at the club, as long as it was successful. He said that Sam could be integral in changing the

culture of the club, but he warned Sam “change takes time. Implement your ideas slowly.” Sam thought the coach recognised that football training could be different from the no-pain-no-gain approach that he had experienced. He readily accepted the job and started to plan for the upcoming season. “I was so excited. I would never have thought I’d have gone back to AFL. When I got there I really thought I could change things.” Sam spent time watching how the players trained, and learning the systems the club used. He wanted to implement his new training regimes at the beginning of the preseason, but he tried to heed the head coach’s advice and started slowly. Midway through preseason, he realised some of the players and the coaches were not open to even the smallest of changes that he had started to apply. Sam explained:

It had been a very poor culture with the do-more-work-harder culture, and if you break, then fine we will just get someone else in to replace you. Then, with the change it is difficult. It has to go very slow. A lot of players were probably finding it hard to go from the harder, harder, harder approach, to the enough is enough approach where we think about recovery and actually try to build it into their programs. It was hard for the players, and the coaches to deal with that.

At the beginning of the season, Sam had explained to the coaches and players that he wanted to develop a healthier club to help players reach and stay at their best for the season. He knew some coaches and players were not interested in this approach, because although the training programs meant fewer injuries, it also left players with smaller fitness gains during preseason. Some of the senior players began to worry and started to do extra training at home:

X [senior player] definitely goes for extra runs, my friend saw him out running in his neighbourhood. I don't think the players realise that it's [training] managed now. Y will come to me and say, "I need to do more running. I need to do more." I'll say, "Why do you think you need to do more running?" He will say, "The coaches have mentioned that I need to do."

Sam had known it would be difficult to change the culture, but he had thought the head coach spoke for most of the coaches and that they were keen to be change the culture. Sam was finding out the hard way the coaches were not all of the same opinion. Sam kept trying. He thought if he persevered he might be able to build a cohesive coaching team, but some coaches chose not to tell Sam about the players' training:

Some players say to the boxing coach, "I wouldn't mind doing another twenty minutes of boxing." He'll [the boxing coach] say, "Yeah, alright," not realising that the player has already done an extra twenty minutes of kicking and tackling or something else. It's that grey area not everyone is in the loop with the information. Those individuals [players] are young and think they can handle anything, but we see it with the senior players too. You see it with colds and niggling injuries, and you just see them getting generally run down.

Sam had asked the other coaches to train the footballers at specific intensities to allow the fitness team to monitor the players' training loads. Most of the coaches did not think they should have to do anything Sam asked them to do and complained about it in front of the players. After a few months at the club, Sam knew the other coaches were still in charge. He gave me an example:

I had a player who was returning from a shoulder injury. He was due for a return to the VFL interstate, and before we flew, we tried a new way of taping his shoulder. I asked one of the coaches to take him outside and just kick some high balls at him to see if he is comfortable with his tape. By that stage, I had gone inside to do a warm up with the main group. That coach went to one of my assistants and said, “Look, how hard can I really work him?” My assistant said, “I don’t know what’s been discussed you have to ask Sam.” This player was playing the next day in his first game back, and didn’t need any more stress on his body. The coach chose not to come and speak to me, and decided to do twenty minutes of repeat speed high intensity efforts with the footballer. He [the player] tore his quad the next day at the game. He shouldn’t have been working legs. That’s an example of, “we think it will be worth doing the extra work.” Then he gets injured and bang that player’s season is over.

Sam had tried to explain to the players and coaches why he collected data on players, and he showed them the science of what he was trying to achieve. Unfortunately, the players and coaches ignored Sam:

They [players] think they can run through walls, but they can’t and they need to listen to understand that. We have so much information on every player. We have everyday data monitoring. We have historical data. It’s easy to show a first-year player, now here is a player who is an absolute superstar, and for the first years of his career when he did this [trained too hard] and kept doing it he ended up having to get shoulder surgery. When he stopped and listened, he improved [his] fitness without injury. He made it to the seniors and now is a superstar.



Sam tried running a workshop with his colleagues to talk about the stress that coaches put on players. He discussed the limited feedback, an absence of reassurance, and not feeling good enough. Sam told the coaches that these stresses led to players trying to prove they could run through brick walls. One coach had said, “But that’s what I want to see, can they get through that wall?” Sam tried to explain that the players performed better when they felt secure and happy at the club, but most of the coaches did not agree with him; they wanted “to keep them [players] on their toes and keep them hungry for it [being selected to play].” Sam was starting to feel that he was in a fight with no chance of winning. This feeling was horribly familiar.

When he had agreed to coach the club, Sam had thought if he could get the coaching staff on-board the players would follow. Sam knew the coaches were responsible for developing the never-say-die mindset and the no-pain-no-gain attitude, but he thought he could show the coaches the benefits of an open and honest environment:

If he [player] is thinking that the head coach is thinking, “He is mentally weak, or that he doesn’t train hard enough,” then he is going to do everything he can to prove the complete opposite. They [players and coaches] don’t understand that it is detrimental. I have a player who is coming back from an ankle reconstruction that happened in Round 2. He spent most of the year in rehabilitation. He played 4 weeks in the VFL where he rolled his ankle again. This kid is like an absolute genuine talent. He has had three years at the club, [and] he’s had surgery on his elbow [and] had a shoulder and an ankle reconstruction. We are trying to manage him to just play games and get any extra bits of fitness from working hard in games. He is just too fragile for this stage [finals football]. He comes to me and says after

playing his first AFL game back, “I need to do more running,” and I said, “Well, why is that?” He said, “I need to get fitter.” I tried to tell him at this point in the year, he is not going to get much fitter, and it [trying to get fitter] could be detrimental to him being able to play matches. He says, “The coaches told me I need to be fitter.” I told him he was jeopardising his chance to play in a final, and he said, “The coaches don’t think that. If they see me doing more running I’ll get in the team.” I know he has been doing extra running on his own. I’ve told him he shouldn’t. He is not looking so good, I saw him limping off the track.

Sam spoke with the head coach over the off-season and voiced his concerns regarding the change in culture. The head coach reassured him that the coaches would come round if he persevered, and he reminded Sam that his strength as a player had been in his determination and perseverance. The head coach suggested that Sam let the other coaches do their own training with the players, and then Sam could alter the fitness training intensity accordingly. Sam was frustrated:

Everything has its place, but they [coaches] think I don’t like the players training hard, and the players are told I don’t like it. So they are told, “If you want to do more training don’t tell Sam; whatever you do just don’t tell him,” which is an absolute nightmare. Yeah ... culture problems. We have a system that the coaches are supposed to tell me and the other performance guys what each player has done physically, how long and how hard a player has worked if they have done specific stuff with them, so we can monitor it and work with the data for each player. Some of the coaches never give us any information. Now, I am not even allowed to ask

the coaches for that data. If a player doesn't perform or falls over I don't know the answers [to] why that has happened now.

Sam felt powerless again. Why could the other coaches not see he was trying to improve how the footballers performed? Sam talked about one player who struggled with his kicking. He explained that the other coaches seemed to bully him to try to get him to improve:

Rather than trying to do everything we can to help the guy kick better like get a biomechanical analysis, foot and gait pattern, muscle strength analysis, [and] kinetic chain to understand what is affecting his foot drop. Instead of working on that, the coaches just say he is a terrible kicker, and he gets ridiculed for it. He is supposed to get better. How is he supposed to do that?

Sam was reliving his playing career again, except this time he was part of the coaching team driving the players' insecurities. Sam worried about the pressure on some of the young players. He told me about one player the head coach had been ready to delist, but he persuaded the head coach to let Sam try a different approach. The head coach allowed Sam 6 months to work with the player:

X is a very good athlete, but he has had a number of recurring soft tissue injuries this year. His MT might be that he has been taken out of his normal environment, and he is not coping with his new status as a player. Every time he goes home, everyone wants a piece of him. I think for him, MT might be to separate himself from that, focus on the club, and deal with his home situation without it affecting everything else. That would be mentally tough for his situation. The club want to drop him, they gave me 6 months to turn him around, if I hadn't he was gone. I said

to him, “I don’t want you to play for the rest of the year. I realise you are not playing good footy. I want you to go away for 6 weeks, and sort it out. You have a place here. We start again in 6 weeks.” Before that, he wasn’t achieving targets for any of his training; he is now. Something’s changed for him. I think the change is his attitude. For me, that’s MT.

Sam began to feel that he might be starting to make a difference at the club, but it was a long arduous process. He began telling me about MT in the club. Sam thought that MT was not about pushing through, taking the hits, and playing injured, but the coaches and players did:

It’s [MT] a term that isn’t used correctly in our environment. Twenty-five minutes into the last quarter of a grand final, and you are completely bugged. Do you stay on at the detriment of the others ‘cause you can’t push through it, or do you say to the bench that you have nothing left? At the moment, I think our guys would stay on . . . they feel they should be mentally tough enough to push through it. In reality, the team thing, and actually the mentally tough thing to do, is to get some fresh legs out there. Someone who can run hard until they [fatigued player] can get back out there. I don’t think our guys could do that at the moment.

The other coaches used MT to determine if a player was good enough to play, and players who could not prove they were tough enough did not last long. The ways in which the coaches deemed a player was mentally tough enough left Sam feeling cold. Sam explained how he differed from the coaches:

To put your head over the ball or not, it’s a very quick choice. There’s peer pressure on it too, because if you don’t do it the commentators will re-show it. If you show

fear in this game, it's exposed . . . but you have a choice. I would say that's [if you put your head over the ball or not] a tough decision because there is an outcome for both. One is potential humiliation, and the other one is potential physical injury, but in the constraints of our game, by putting your body on the line, which is a common, common component of this game, the perception is that it's [risking bodily harm] the mentally tough decision. The other one is mentally tough because you are actually putting yourself in a humiliating situation. Within the confines of our game, mental toughness would be defined as putting your head over the ball. I see the flip side [not putting your head over the ball] as being mentally tough. I think it's probably mentally healthier [for a footballer], in the confines of this game, to put your head over the ball (shaking his head).

When Sam reflected on his decision not to have surgery on his back, he thought he had made the mentally tough decision. It would have been easier to succumb to the head coach's wishes, but he had made the tough decision not to conform. When Sam talked to the players, he tried to tell them that standing up for what they believe in was mentally tough, not just doing what they are told. Sam encouraged the players to trust him telling them that they could speak confidentially to him without fear of repercussion. One player, whom Sam was close to, talked about retiring. Sam encouraged the player to choose the best path for his future regardless of the football club:

It got to the point that he rang me and said, "Can we have a coffee? I need to talk to you about something." Basically he wanted to talk to me about the fact that he was thinking of retiring. We sat down, and he said, "I am sick of coming to training in so much pain. Every day I wake up, I can't move. It takes me ages to get it [back

and neck] moving. I come in to training and act like it's fine [and] keep hiding it from the head coach. I do try to ignore it; I really, really do, but in reality, all I am trying to do is please him. In reality, nothing I can do anymore is going to impress him. If I keep up this risk I could end up in a wheelchair." For him to say that, I think that's mentally tougher than to keep going and end up broken.

Sam told the player to weigh up all his options, and to think about himself first and the club second. The player decided to retire at the end of that season. The head coach was furious with Sam. The player was a great footballer for the team, and the head coach was angry not to get another season out of the player. The head coach berated Sam in front of all the coaches. He told Sam never to discuss a player's retirement without checking to see if the player was worth keeping. Sam despaired, the only person on his side had been the head coach, but now he had lost that support.

The following season no matter what Sam tried, he could not get the head coach's support back. Sam started to think that perhaps his ideas were wrong, and to be a successful in football one had to be able to push through injuries and put the team first. At the beginning of the season, he encountered one situation that reassured him of his original views. The mum of a young player had suddenly become seriously ill. The coaches had a meeting to decide if the player could go home or should stay at the club. Sam explained:

The club let him go back to his country town, but X [the player] is a great young player, good talent, but his mum could have passed away at any time. It's a very difficult experience for a young kid to handle. The club gave him 2 weeks off training, [but] he had to come back and play for a game though, and he had to have finger surgery during that time too. He came back and tried to concentrate on

football. He was a mess. This kid, his mum nearly passed away or on the brink of it; he is away from home. He is on his own, not the best for his performance, and they wonder why he is not so focused on football.

Sam was angry the club were making the young footballer play when he obviously wanted to be at home with his family. Sam chose not to step in to support the young player; he did not want to anger the head coach any more. The player returned to full-time training after his 2 weeks away, but his mum died soon after. The head coach gave the young player another few weeks to deal with his loss before returning to play senior football. The player could not play well when he returned, so he got dropped from the seniors. Sam had agreed to drop the player. He felt ashamed of himself. He knew he had done the wrong thing. The young player had looked to Sam for support when he returned after his mum's funeral, but Sam had not been there for him. Sam had gone against his principles to try to ingratiate himself with the head coach, and now he was too late to provide support for the young player. Sam vowed never to conform again.

When Sam had returned to football, he thought he could change the club culture. He did not want to be a part of a culture that instilled fear and insecurity in players. Instead of changing the culture, he felt that he was becoming part of it. Sam knew he could not be successful sticking to his principles, and he knew he had to conform to the clubs ideas or leave. When I interviewed Sam he was trying to decide if he should keep fighting for the players or if he should look after himself. Sam asked me what I thought he should do. He was desperately looking for some reassurance that he was right and the coaches were wrong. I could not advise him one way or the other. I said that he needed to follow

whatever path could let him sleep at night. He laughed, and replied, “It’s been a long time since I have been able to do that.”

Our interview came to a natural end at this point, but it looked like Sam was struggling with his situation. I could see that he wanted to make a difference for the players, and he wanted to prove he was tough enough to make it in football. Sam knew he was on his own in his fight to change the culture at the club, and I did not know if his self-belief would handle “failing again.” A few months after our interview, I received an email from Sam saying that he appreciated me listening to him, and that being able to talk about his experiences had helped him make a decision about leaving the club on his terms. He had left his current club, and was going to start afresh at another football club. In his email, he sounded hopeful, which was something that I had not heard from him during our interview.

### **Discussion**

Although I have written Sam’s story from a coach’s perspective, various coaches (and footballers’ stories about coaches) contributed to the tale. Researchers who examine MT generally report positive characteristics, but when I interviewed the participants who made up the coach’s story it seemed that they experienced a different version of MT than the one available in research literature. I found listening to the alternate version uncomfortable. I wanted to understand how MT could reduce the susceptibility of OT by buffering stress, but the more I listened to stories of MT that made up the coach’s tale, the more it seemed that trying to be mentally tough caused stress.

The coach’s tale focussed on the pressure players and coaches feel to conform to a pathogenic culture in the name of MT and highlight the repercussions for footballers and coaches when they do not, or cannot, conform. In the next section, I will compare how the



definitions from the coach's tale relate to the published literature. Following this section, I will present a discussion reviewing the environments that influenced the coach's perception of MT and how his behaviour with regard to MT influenced his stress/recovery balance.

### **Mental toughness Definitions**

When considered in light of MT definitions from the published literature, most of the coach's story reflects situations in which he was not mentally tough. The coach in the tale had not been able to, "cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer," (Jones et al., 2002, p. 209) either as a player or a coach. In the playing years, the tale depicted an individual who could not cope with the generic training or competitive matches without sustaining injuries or upsetting his balance between stress and recovery. He had not coped well with the style of living that footballers enjoyed, because he yearned for more flexibility with fewer checkpoints.

Comparing the coach's tale to commonly cited definitions of MT, the coach in the story was not mentally tough. In regards to the definition forwarded by Clough et al. (2002), the participants who made up the coach's story had not been "sociable and outgoing" (p. 38). The story encapsulated numerous times when the coach struggled to socialise with both footballers and friends. In light of Middleton's (2005) definition, the coach in the tale did not have unshakeable perseverance towards achieving his goal of being a footballer or a coach. The young coach knew he could not continue as a player and as a coach and persevere to change the club culture as well as maintaining his mental health. In this respect, for the coach in the story, not being mentally tough was healthier than being mentally tough. Also, in comparison to Gucciardi et al.'s (2008) definition, the

coach's tale indicates that he could not "overcome any obstacle, adversity, or pressure experienced" (p. 278). During his years as a player, the coach tried to overcome everything in his path, but the pressure of trying to prove he could deal with everything left him tired, overtrained, and disillusioned.

### **Junior football**

The junior football years reflected a period when the participants who made up the coach's tale learnt lessons about MT, stress, and recovery. The initial lesson at the junior club was that hard work led to success. When the young coach started to gain attention at the club, it was because he pushed excessively hard in training. During this time, the coach in the story epitomised many characteristics of MT: work ethic, perseverance, motivation, focus, and physical toughness. In this story, the coach realised that working harder than all the others players in the team did make him stand out. When he outperformed the other players, the coaches rewarded him with attention. At this stage in his career, the coach in the tale demonstrated many characteristics of MT, but these characteristics are the same ones that drove him to overtrain. At the junior club, the coaches inadvertently reinforced OT behaviours and gave contingent dispersal of approval when he pushed himself hard. Richardson et al. (2008) suggested that when coaches reward athletes for pushing hard in training, athletes could associate pushing hard with rewards and so be driven towards OT in an attempt to gain rewards.

When the young coach was able to rehabilitate quickly from injury, he got attention from coaches for being able to play sooner than expected. Gucciardi et al. (2008) described recovering faster than expected as "one of the most common behaviors displayed by mentally tough footballers" (p. 276). Nevertheless, Budgett (1998) identified that returning

to sport prematurely after injury increased the risk of OT. In this tale, the coach learnt that to get attention from the coaches he needed to show this mentally tough behaviour and rehabilitate faster than expected. The junior club coaches gave the young coach in the tale attention when he recovered, not when he was injured. In the coach's tale when, as a young player, he was injured, he was left on the outer circle and generally ignored. He learnt that when he was injured he was not important, worthy of love or approval, and so he realised that he needed to rehabilitate quickly and consequently he began OT. Richardson et al. (2008) identified the interpersonal influences of reinforcement of OT behaviours, and contingent dispersal of love and approval, as risk factors for OT.

When the young coach in the tale began to lose his ability to perform because he was OT, the coaching staff tried to help the young coach find balance. The themes of training smart not hard, resting when injured, and recovery is when your body gets stronger, are not currently included in the MT literature. The times when the young coach was able to stop persevering when he needed recovery, and adjust his goals to his situation, and not sacrifice friends outside football, were the times when he performed consistently. The junior club coaches appeared to extoll the benefits of balance for the wellbeing of their athletes. Similarly Kellmann (2010b) suggested that the first step towards balance between stress and recovery is made, "when coaches can acknowledge that athletes have non-sport lives, can create an environment where athletes can express themselves, and do not punish them for being tired " (p. 297). The coach in the tale learnt that by pushing several MT characteristics to the limit, he could not maintain his stress/recovery balance, and this led to his performance deteriorating.

### **Playing AFL**

The MT characteristics described in this study, and the current MT literature, have several similarities and differences. The participants who made up the coach's story identified a number of characteristics that were similar to the published research, but this story provided details of the damaging consequences of demonstrating these MT characteristics on players' psychological and physiological wellbeing. In the following section, I will discuss characteristics that are similar and characteristics that appear to deviate from the published research.

The description of the MT characteristic of self-belief appears to be different in this study in comparison to the current literature. Jones et al. (2007) described subcategories of belief as, "having the belief that you can punch through any obstacle people put in your way," and "believing that your desire or hunger will ultimately result in your fulfilling your potential" (p. 250). Gucciardi et al. (2008) used the following representative quote for self-belief, "confidence not only in their own physical football abilities but also in their ability to push through and overcome any obstacle and challenge that might present to them" (p. 269). In the coach's tale, when he was playing AFL there was an expectation that he should have the belief that he should be able to overcome everything in his path. In many ways, trying to live up to the mentally tough descriptions of self-belief added to his stress of being an athlete. When the coach in the tale could not overcome every obstacle, he learnt to pretend he could, and this led to him OT. In this study, it seems that self-belief in one's ability to achieve by pushing through and overcoming any obstacle led to the loss of the coach's balance, because he had to try to prove he could overcome anything, when the reality is that no one can overcome everything.

The MT characteristic of self-awareness that Gucciardi et al. (2008) reported was described as “being able to recognize and understand the obstacles, challenges, and pressures involved and accurately self-assessing your individual performances” (p. 272). In the MT literature it appears that having self-awareness means that players do not look for feedback on their performance because they have the ability to carry out their own self-assessment. In the coach’s story, it seems that self-awareness is not included as part of MT. The head coach did not want his players to be self-aware, because he wanted the coaches to maintain power over the footballers by having the players rely on them for feedback. The autocratic coaching style, which is an OT risk factor, of the head coach kept the players controlled, insecure, and desperate for approval. The players found the head coach difficult to approach, and there would be no discussion regarding training or performance; the coach’s word was final. Participants who made up the coach’s tale learnt that their own self-assessments were worthless. In this study, it seemed that the participants who made up the tale needed to rely on the coaches for information regarding how they performed. The only feedback that players received appeared to be negative, and if footballers had not performed well the feedback was nonexistent. Noblet and Gifford (2002) identified lack of feedback from coaches as a source of stress for Australian footballers, which in this story was clearly the case. In the coach’s story, the stress induced from negative or nonexistent feedback appeared to lead to an increased need for recovery. This need for recovery would be seen as being mentally weak because footballers should be able to handle and cope with stress.

The perception of the MT characteristic of control in this study appears to be a bit different from the published research. Jones et al. (2007) stated that “remaining in control

and not controlled,” (p. 250) was a characteristic of MT. In his playing years, the coach was not encouraged to feel in control. He had to conform to the head coach’s idea of how a footballer should play and disregard any perceived individual strengths and, instead, focus on what the club coaches perceived as the right way to play football. The senior coaches at the club systematically stripped away any control the players felt in their environment. The few times the coach in the story tried to control his environment (refusing to continue playing getting pain-killing injections to his hip for the remainder of the season), the head coach punished him (by being dropped to the reserve team for longer than his rehabilitation period). During his playing years, the coach in this story had little autonomy over his training, his playing style, or his body. Taking on the characteristics and behaviours of mentally tough athletes meant that participants became just bodies doing what they were told to try to get selected. Richardson et al. (2008) suggested that athletes are at a high risk of OT when:

selection at the elite level is based on a Darwinian principle of survival of the fittest, especially where there is a large pool of athletes training at high levels, allowing coaches to simply keep pushing them harder because there will always be those that can handle the training without getting injured or overtrained (p. 54).

### **Coaching AFL**

During the coaching years, the coach in the tale tried to change the image of MT in the football club from “bash and crash” to looking after your body and pushing hard *within your limits*. He tried to enforce the idea that having a life outside of sport could take some pressure away from football and everything that came with it. These ideas are not prevalent in the published MT research.

The coach tried to persevere to change the club culture, but he found the challenge of altering the behaviour of the majority of indoctrinated coaches and players insurmountable. The soccer players Coulter et al. (2010) studied described the MT characteristic of resilience as “persevering through adversity both in and out of soccer with “bullet proof” determination to stay focused” (p. 705). The coach in this story did not persist with “bulletproof” determination. When he realised that he did not stand a chance to change the football culture he was working in he gave up to preserve his own sense of MT and wellbeing.

The coach in this tale attempted to build open, trusting relationships with his athletes and tried to encourage discussion about the whole of the athletes’ lives, and not just focus on football. These MT development strategies have been the topics of recent research. Gould et al. (2011) suggested that having a strong, trusting relationship with the coach characterised by having open lines of communication, discussing many aspects of the athlete’s life, not just sport, and focussing on developing a long-term relationship could aid MT development. The culture of the club was not conducive to these MT development strategies. The head coach was unhappy with the coach in the tale when he listened to players in a holistic manner and when he tried to “put personal and athlete development as a priority over team success,” (p. 177) as Gould et al. (2011) described. Gucciardi et al. (2009) identified that coaches helped develop MT when they viewed players as people, and not just a body performing on the pitch, but in this study, the head coach punished the young coach when he tried to view players in a holistic light.

The participants who made up this story indicated that MT in the football club had similarities to much of the research, but the stories of how players demonstrated MT

highlighted the dark side of MT and the potential for psychological and physiological damage in trying to be mentally tough. The times when the coach in the story was happiest represented the times when he did not give up his own values and beliefs to prove his MT in sport. From this study, it seems that the ideas of MT being about pushing through injury, never being affected by adversity, and managing pain are prevalent in football, but trying to demonstrate these characteristics comes at a cost. It appears that being mentally tough, or trying to be mentally tough in this environment, represents living with and managing SRI and viewing OT as a way to prove you are working hard enough.

For the participants in this story, MT represents training smart, not excessively, having a life outside of sport, viewing athletes in a holistic light, taking time to fully recover from injuries and fatigue, and being able to stand up for yourself without fear of recriminations. For the coach in this tale, his values were not similar to the values promoted in the football culture in which he played and coached.



## **CHAPTER 7**

### **STUDY 3: INTRODUCTION AND METHODS FOR TWO CASE STUDIES IN MENTAL TOUGHNESS**

The results from the first two studies of the present research indicate that individuals involved in the AFL view MT in a variety of ways. Athletes suggested that characteristics of MT such as coping with stress, pushing through injury, taking on criticism, handling good and poor performances, and managing distractions were necessary to be successful in Australian football. A number of characteristics identified as mentally tough in my second study were similar to risk factors in the OT risks and outcomes model (Richardson et al., 2008). For example, in the coach's story (Chapter 6), participants identified that footballers displayed MT when they played through injuries without letting pain affect their performances, but Richardson et al. suggested that playing through injury and pain was a maladaptive response to SRI, which could potentially lead to OTS.

To gain a richer understanding of the role of MT, I employed a longitudinal case-study design. Menard (2002) suggested that for this type of design researchers essentially collect and analyse data from the same individuals on more than one occasion and usually over a relatively long period of time (e.g., a football season). Using a longitudinal study allowed me to highlight and identify intra-and inter-individual differences and how thoughts and feelings about MT and OT might change over time. Gucciardi and Gordon (2011) suggested that "asking the same individuals the same sequence of questions at regular intervals is considered one of the most reliable and rigorous means of assessing developmental changes in psycho-social constructs" (p. 242).

This chapter contains the methodology for the data collection and analysis of two AFL players' personal stories, obtained through in-depth interviewing, regarding their experiences of MT and SRI over a competitive season. The two chapters following this one contain the complete case studies. The aim of Study 3 was to gain a clearer understanding of the role of MT in stress/recovery balance throughout a competitive season.

## **Method**

### **Participants**

Three elite male footballers currently playing in the AFL participated in this study. The length of time playing elite football ranged between 2 to 10 years. The age range of participants was 19 to 28 years old. I have identified further information about the participants, such as playing history, career pathway when deemed relevant in each case study. Throughout the case studies, I used pseudonyms to maintain the confidentiality of each participant, and I modified any potentially identifying information (e.g., injured body part, location where the individual grew up). In each case, the participants were full-time professional footballers playing at the highest level in the AFL.

### **Design**

I based this research on a case-study design, which investigates an issue within the distinct contexts of two or more cases. Stake (2000) described this approach to research as a *collective case study*, stating that interest lies in both what is particular to each case and common to all. In addition, Botterill and Wilson (2002) suggested qualitative descriptive case studies would enable researchers to understand the complexities of OT and underrecovery. This part of the thesis involved conducting a series of individual case studies of MT and SRI in three elite footballers (reduced to two for space considerations).

Yin (2003) suggested that conducting a series of individual case studies makes the research more robust than a solitary case study. Yin (2003) explained that case studies are appropriate for examining events when one cannot precisely manipulate behaviour. A longitudinal case-study design is a tool to monitor changes naturally in MT and SRI for the participants involved. My aim of this study was to follow three footballers throughout a 12-month period to investigate how players described and demonstrated MT and how being involved in the football culture affected MT. I also wanted to gain an understanding regarding how characteristics of MT could positively and negatively affect SRI and OT behaviours.

### **Interviews**

For information on my semi-structured interviews, please refer to the methods in Study 2.

### **Procedures**

After the Victoria University Faculty of Arts, Education, and Human Development Human Research Ethics Committee granted approval for this study, I contacted five footballers who had been involved in both of my previous studies. I selected these particular footballers because they had different viewpoints and experiences of MT and SRI or were at different stages in their careers. I explained to each player that this study would comprise five interviews, one during preseason, three during the competitive season, and one at the end of the season. One footballer declined to be involved at this point. The other four footballers agreed to continue and gave written consent before beginning the study (see Appendix I). One footballer decided that, after two interviews, he could not commit

the time to the study and withdrew from further participation. I thanked the player for his time and offered him a debriefing session.

The three players completed their initial interviews within 8 weeks of the start of preseason training. The initial interview consisted of building rapport and discussing feelings, beliefs, behaviours, and experiences regarding MT and SRI. As previously mentioned, during the interviews players talked about their own stories regarding becoming footballers, managing their lives being elite athletes, and coping in the AFL system. The three interviews during the competitive season focussed on how each player was currently dealing with life within and outside of football, what situations they were handling, and what was helping or hindering their abilities to perform during the season. During the interviews, players discussed their weekly performances and identified any situations, behaviours, and cognitions that facilitated or debilitated first, their wellbeing, and second, their abilities to perform at training and during matches.

I conducted interviews with one player over an 11-month period and a 14-month period for the other two players. I interviewed one player for the fourth time at the beginning of the off-season, and we had our final interview at the beginning of the following preseason. I conducted another player's final interview during the following preseason instead of the off-season, and the third player had his final interview as planned. During the final interviews, I asked the players to reflect on their thoughts and feelings regarding stress, recovery, and MT over the previous season. I conducted the interviews for two of the players in the offices of Victoria University, and one player preferred to meet in a café near his home. Interviews lasted between 40 and 160 minutes.

At the end of the study, I sent a copy of each transcribed interview to the footballers and followed up with an email to check that the information presented in the transcripts accurately represented the interviews. In my emails, I communicated that I was happy to change any part of the interviews if they did not feel comfortable with the transcription, or if they did not feel what was recorded accurately represented their thoughts and feelings. Two of the footballers replied that they were happy for me to use the data, and one player did not reply to my email. I debriefed each footballer thanking them for their participation at the end of the data collection period.

### **Data Analysis**

All interviews were transcribed verbatim and I reviewed them several times to gain familiarity with the content. Through these reviews, I coded key features of MT and SRI for each of the athletes and attempted to use these codes while writing up each interview. I tried to be mindful of my previous study when reviewing the interviews to elaborate on previously mentioned themes of MT, OT, and SRI. My aim was to tell each athlete's story without interfering excessively. I used my field notes as I re-read the transcripts to augment the analysis process. Throughout this process, I tried to put away my ambivalent feelings surrounding MT and SRI, and instead, I tried to listen to each athlete nonjudgmentally and empathetically. I managed to maintain this stance for the most part when interviewing and analysing the data. When my story and my ambivalence got in the way, I tried to take a step back to understand what each footballer was trying to say in their attempts to educate me about their perceptions and experiences of MT, OT, and SRI.

I chose to omit one case study for two reasons: the footballer had not returned my email to say that he was satisfied with the information in the transcripts, and the omitted case study had significant overlap with Ethan's story (Chapter 9).

## CHAPTER 8

### STUDY 3: JOE'S YEAR: THE ENCULTURATION OF A ROOKIE

At the beginning of this study, Joe was starting his second year at the club. He had finished the previous season on what he described as “shaky ground.” The club selected Joe when he was 18, and he felt that a lot was expected of him, but at the time I met him, Joe had failed to perform to the requisite level. I asked Joe to be involved in this study because all of the coaches (interviewed in my second study) indicated that Joe was not performing well at the club potentially due to SRI, and one coach mentioned that Joe was amongst the mentally weaker players in the team.

When Joe arrived at the club, he struggled to make a good impression, and he felt his football skills were at only a basic level. Joe had started to play football at a late age after initially playing rugby league at school. It was only after a disagreement with his rugby league coach that he decided to try his hand at football. Joe explained that although he did not have the technical skills to be a good footballer, a number of clubs were interested in him, because he had the physical stature to perform a specific role in a team. Joe was surprised he had been a high draft pick, because when he had compared his skills with many of the other draft camp players he thought he had no chance of selection. Since arriving at the club, Joe played in the reserve team never quite managing to make it into the senior squad. At the time of interview, Joe's contract was due to finish at the end of the season; he needed to prove himself worthy of a new contract this year.

During the study, I interviewed Joe five times: once during preseason, three times during the season, and once the following preseason. The interviews did not occur at regular intervals, because it was hard for Joe to commit to a time. I did not want to pester

him if he did not get back to me after a few phone calls and emails. I had planned to complete our last interview after the season finished, but as soon as the season was over Joe seemed to disappear. I phoned and emailed him, but after a few weeks I thought it best to leave it up to him to get in touch. Joe contacted me during the first week of the following preseason, and we agreed to have our last interview a few weeks later. Of all the players I met and spent time with, Joe appeared to go through the biggest changes in his attitudes towards football (and life).

During our first interview, it took a considerable amount of time for Joe to relax and talk about his experiences at the club. He seemed to think he had to be careful regarding what he said during our interviews. For example, I moved in my seat when Joe was talking, and he immediately stopped what he was saying and asked me if he should be quiet and not say things like that while the digital recorder was on. I tried to reassure him that I was only moving to get comfortable, and as I had explained on the phone, and at the start of the interview, no information would be available to his club; the information was *only* for my research. It seemed, despite my clarification, he was worried that I was not trustworthy. Even with his concerns, Joe appeared to start to trust me, and as the interview progressed he opened up about his experiences at the club. Nevertheless, each interview would start in a similar way, with Joe telling me he was happy at the club enjoying his training and teammates. I would try to remind him subtly that everything was off the record, that there were no right or wrong things to say, and that I was interested in how *he* was doing and what was going on for *him*. I found that, with the exception of the first meeting, interviews with Joe lasted much longer than those I did with other participants, because when Joe eventually opened up about the difficulties he was facing he seemed to want to talk. At



times, our interviews strayed far from MT, OT, and SRI, but Joe's willingness to discuss what seemed like debilitating anxiety felt more of a necessity than following the predetermined themes of my interviews. As in my second study, by trying to listen to what the athlete wanted to talk about I gained rich detailed information relevant to my study.

### **Preseason Interview**

Our first interview took place during Joe's second preseason at the club. He called it his first *proper* preseason. The previous year he had not been able to complete the full preseason training, because he had to move to the city, find accommodation, and settle in before starting at the club. Joe had missed almost two months of training, so the coach told him to train with the rehabilitation group. When he arrived at the club, he went through a rigorous week of fitness testing, which resulted in the coaches telling Joe he needed to get fitter. Joe had worried about not being fit enough and vowed to work hard to impress the coaches. Joe mentioned that he thought preseason training last year had not been enough to improve his fitness levels, and he attributed his poor performance in the previous season to his low fitness levels:

It's 'cause I didn't do a full preseason. I didn't get that proper training in. I did heaps of extras, but I couldn't get fit enough last season. I started off playing ok, but then dropped off at the end of the season, 'cause I wasn't fit enough.

Joe talked about how he was working much harder now than he ever had before, and insinuated that he was trying to become the player the club wanted him to be. Joe repeated this statement numerous times throughout the interview. It seemed important for him that I understood he was working harder than last season. When I acknowledged that Joe was working hard, he seemed to relax and tell me more about his thoughts, and he

mentioned that he thought he had worked hard last season. It sounded that until he was able to relax, Joe said what he thought the coaches at the club wanted him to say. His coaches continually told him if he could get fitter he would be able to play better, but when Joe elaborated on last season, it sounded like it was anxiety, more than fitness, affecting his ability during matches:

When I train I feel relaxed and more switched on, um, not nervous. I feel all mixed up on game day; everything is going through my head. It's all mixed up, and sometimes I get stomach aches. I just hate it. I tried to pretend I wasn't playing, that it's just training, but it doesn't work. I tried going out for a walk; I tried watching footy, not watching footy, but I dunno. Sometimes I was so up and hyped, like my heart was beating so fast I felt like I was going to pass out before I went out there. Then, as usual, I played like shit.

Joe was clearly upset when he talked about his performances last season. He thought he should be able to perform at the AFL level, because other players appeared to manage their nerves and perform well:

Some players just can do it. I need to work on it, train harder, but I dunno if that will make it better. Some players can play better in matches than in training. I dunno how they do that. It's like they can just switch it on. I feel less switched on. Like, how do they get right for it, and I can't? They can just do it right. They do everything that the coaches want, bloody mental toughness. They [coaches] go on about it all the time.

Instead of letting Joe tell his story, I asked him what he thought about MT. He gave me an example (Ethan in Chapter 9) of a player who he thought was mentally tough:

He's what I'd call mentally tough. He just keeps running, plays well again and again, goes in for the hard tackles, and just keeps getting up. He is amazing. I dunno how he does it. It looks easy. Some people just are really naturally able to perform, but not me.

It sounded like Joe felt that he did not measure up to the other players in the club. He continued by explaining that he was trying to copy Ethan, but Joe was not finding this task easy:

I am trying to be like X; he can keep going every day. I try to train as hard as him. I see him hang around the club all day training. He is mentally tough. He can keep going longer than anyone else. He always pushes through. He's confident and positive. He works heaps harder than anyone else, and [he is] happy about it. I wanna be like that. I try to train like that, but my legs are full of lactic acid, [and] I just can't run, and I say to myself keep going, but I can't.

It sounded detrimental for Joe to try to be like Ethan. At this point in the interview, I slipped into *fix it* mode trying to reassure him that it was okay not to be the same as everyone else. Once I had finished my reassurance, Joe continued his story talking about how he felt regarding his performance:

I just wanna play a good game; that's all I think about. I just get really angry. I hate it. I get all depressed and that. I don't take my depression, I mean my anger, out on anyone if I play a crap game. I just get embarrassed to talk to the players afterwards. I had to play with a schoolboy team to get better last season. If I don't perform I'll have to do that again.

Joe was embarrassed with his technical ability even though he had only been playing football for a short period. It sounded like the threat of having to return to “a schoolboy team” put pressure on Joe to improve. I asked Joe what he did to alleviate the pressure he was feeling, but he explained that he was not able to do the things that he used to like to do to relax:

Here I do nothing. I just sit at home playing X-box on my own. I've got nothing else to do. I don't have friends here just the boys at the club. It's just so frustrating. The club don't help, because I'm not playing seniors. They just leave you to get on with it. It makes you think though, is it all worth it? I should be at home just being happy, instead of being an AFL player.

Joe was obviously struggling to cope with his new role as a football player, and part of the problem sounded like loneliness. The club had initially put pressure on him to move in with a supporter family, but Joe had dug his heels in, and because he was 18 the club could not force him to live with strangers. He sounded lonely living on his own, although I could understand his reluctance to live with a supporter family.

Joe mentioned a number of times in this interview that the coaches would not spend time working with him, because he was not playing seniors. It sounded like Joe wanted reassurance that he was on the right path to be successful at the club, but constructive feedback was not forthcoming. I asked Joe if anyone at the club knew how he was feeling, and he replied that no one talked about feelings at the club; the only thing talked about at the club was performance. He mentioned that he was getting a little help from one coach and a few teammates. Joe explained:

Every week we watch a replay of the game, and they point out the stuff . . . I'm not doing. I know that, but I can't seem to help [it]. I can't stop it, can't stop doing it. I don't know what it is. They just say "try to prepare better." I don't even know what they [coaches] think of me, if I am doing enough.

Joe's feedback incorporated instructions explaining only what he was doing badly with no instructions on how to improve. The uncertainty regarding what the coaches thought of him played on Joe's mind, and he mentioned it numerous times as though trying to see if I knew what the coaches thought of him. It sounded like Joe desperately needed to know if he was good enough. The club's coaches told Joe and the other new players at the beginning of their first season that once they proved their commitment to the club then they would get one-to-one coaching. Joe recognised that one-on-one assistance would help him improve his technical skills, so he was working hard to demonstrate his commitment:

The club want me to want to be here, and I try to prove that I do wanna be here, but it's a massive change, and I can't help but (pauses), oh, I do want to be here at the club. I miss my mates, and it's so boring here. [It] can't get much worse. I've done my year, and I've showed I'm committed, like, I don't go out. They don't want me to go out at night, so I don't. I've done everything always wanting to learn things, and I train really hard. I do all the extras, but I don't know if it's enough.

Joe sounded miserable. Desperation seemed to creep into his voice when he mentioned how much he wanted to be at the club, as if he was trying to persuade himself. It seemed like Joe felt he could never do enough to impress the coaches. I asked him to elaborate on what he meant by doing all the extras:

I do so many extras like ice baths daily, and I try to run extras every week . . . I'll go to the local gym to do weights. I go to a local football club to play and train with them to get my game sense. I watch AFL games, so I can see how I am supposed to play. I hate not doing the extras now.

Joe's extras were not purely physical training, but also technical and tactical, but with no mention of recovery. To try to improve, Joe spent hours each day watching old football matches to develop his understanding of his role, "I've gotta do everything, all the extras. I need to try to figure out what I am supposed to do in X [his playing position]. The more I can do now [preseason] the better it's gonna be this season." Joe was doing all he could to try to be successful at the club. He was performing the extras the coaches wanted him to perform and altering the way he lived his life to prove his commitment.

I asked Joe what his family thought of all the difficulties he was going through to become a successful footballer. Joe explained that his family thought he was happy. He mentioned that his mum would be "pissed off" with him for not telling her how hard it was at the club. I asked him about his family relationships, but he was not keen to talk about them beyond what he had briefly mentioned. He said numerous times, "It's good, 'cause I'm making the family proud." Towards the end of the interview, we started to talk about how different it was for him living in the inner city compared to his beachside home. It sounded difficult for Joe to talk about this particular change in his life. "I don't like it here. It's confusing . . . it's hard. I don't want mum to know it's like this. I said I would make it so I need to, but it's just shit here." Joe seemed to think he needed to be successful in football to make his family proud (especially his mum) and gain his coaches' and his family's respect. During our interview, Joe had several moments like this one where I felt

that he let down his barriers and talked about his struggles, but those times did not seem to last long before his barriers around his family were back in place.

I found it difficult not to offer Joe solutions to his problems, because I felt he needed support, which was not available from the club or his family. When he talked about his loneliness, I found myself offering possible solutions, “Has your mum visited? Why don’t you let your friends come and see you?” rather than remaining in my role as an interviewer. This move from researcher to helper is something I struggled with throughout our interviews, and I am sure that some degree of countertransference was present. I took on the role of nurturing, caring mum-type figure, and Joe seemed to become comfortable opening up to me, which may explain why the remainder of our interviews each lasted longer than two hours.

At the end of this initial interview, I thought Joe was beginning to overtrain, through trying to copy his mentally tough role model. Additionally, I thought Joe was motivated to overtrain because the coaches had told Joe if he were fitter, he would be able to perform better. The coaches gave no explanation as to how being fitter could help his prematch anxiety. Joe recognised that the successful players at the club completed all the extra training advocated by the coaches, and he was learning that to stay at the football club he had to do what the other players did.

## **Interview 2**

I met Joe for our second interview five weeks into the competitive season. At the start of the interview, Joe seemed to be having trouble thinking clearly. He answered my questions with “I don’t know” numerous times shaking his head and looking lost. He

stumbled through his answers often pausing and losing his train of thought. It took almost 45 minutes before Joe seemed to be able to talk coherently about the past few months.

During preseason training, Joe had sustained a groin injury, and he could not complete the full preseason training prior to the season starting, but he was almost back to full mobility by the time we met. Joe had found trying to rest and recover during his rehabilitation difficult. “Having the osteitis I had to stop training. I felt I was losing fitness. I still feel I am losing fitness, ‘cause I didn’t get to do as much as the others.” I asked him what had caused his injury. Joe explained, “It’s a bit stupid. It’s the new guys that get this, but I guess ‘cause I haven’t played long, and I’ve done heaps of kicking to get my skills up. I guess that probably caused it.” I asked why it was stupid, and he replied, “I’m not a first-year player. I’m not supposed to get that. I don’t want them [coaches] to think I can’t handle it [preseason training].” Joe sounded embarrassed that his body had broken down with a first-year player’s injury. I wondered if Joe’s extra training had played a role in his overuse injury, but before I could ask him, he launched into telling me how much he loved preseason training:

Preseason was hard work, a lot of pain, but it was good. I love a lot of that type of stuff. I would go to training [and] get thrashed for a few hours then be totally dead for the afternoon. It was ridiculous, but it was good. I needed it.

Joe sounded like he had something to prove when he suggested that he needed the thrashing; he added, “I know I’m gonna get better from it. It’s the only way. I am fitter now than before.” Joe thought he might have impressed the performance coach with all his hard work. The previous year he had not been able to do that. “He’s [performance coach] hard.



He doesn't take soft excuses. He doesn't take no for an answer, but that's good. I dunno if I made the impact. I tried, but he's hard."

I asked him why it was important for him to impress the performance coach. Joe replied, "I need to be known as someone that's going to be hard to beat." The competitiveness of the football environment meant that Joe was continually battling to prove he was better than, or at least as good as, his teammates:

It's hard in an environment where everyone is good at everything. I do the extras, because it's the one way that I can get ahead of them. Every time I can, I do a bit of extra stuff. I do a bit of handball, extra kicking, but mostly weights.

In the first interview, I thought Joe completed the extras because the coaches told him he needed to get fitter to perform better. Now he sounded like he was starting to enjoy how the extras made him feel:

You get addicted to the pain of training a bit. I always do extra weights. I like being in real good shape. I try not to abuse my body. Sometimes I try to ignore that need to do more. I still feel like I need the extras all the time, (laughs) that keeps X [performance coach] happy.

I was interested that weights seemed to be Joe's favourite extra, because he constantly mentioned that his technical skills were his weakness. Joe told me his reason for carrying out extra weight training:

I am bigger than most of the guys, and if the bigger man goes down they [players and coaches in his club] are going to talk about it. I need the bulk, so I don't go down as easily. I know I've gotta beat these guys whatever way I can. They are five, ten years older than me, but they still wanna get me.

It sounded like Joe did extra weights to fend off the other players in his team. I asked Joe how he felt knowing the other players wanted to take him down. He replied:

I sorta get scared. I get that feeling they are out to get me . . . I don't like it. Like, when I have to do one-on-one drills I feel like, um, chucking up. I don't want to get hurt. When we are doing contact drills I know they are coming to get me. I end up getting that same nervous feeling, same as before games. I'm not a soft person; I know that, but I always get that feeling, 'cause I don't wanna get hurt.

Joe was fearful about his own teammates hurting him in training drills, because he was bigger than the other players. It was hard to imagine this big muscular guy in front of me being physically scared of anyone until he started to talk about how the training drills made him feel. He seemed to shrink as he talked about it. It was clear that Joe's fear of his teammates drove him to train harder.

Joe had mentioned that he was still getting the same nervous feeling before games, but now he was nervous before training too. It sounded like becoming fitter this year had not helped his anxiety prior to a match:

I still get stomach pains from games . . . The pain in my stomach just kills . . . I can't think. I hate it. I make myself feel like I'm just going through the motions, and I don't care. Then I play shit, 'cause I don't care, but at least I don't get the stomach pains and the head thing . . . Sometimes I try to pretend like it's just training, but I'll still play like crap. It's [stomach pains, inability to concentrate] just weakness. I hate it so much. I wake up during the week, and I am able to run hard [and] lift weights well. Every time before a game I wake up so tired. I don't know why. I hate it. I think to myself, "Is it really worth it?"

Joe was dealing with his anxiety by trying to shut his emotions down. His coach told him to watch how the good players performed and copy them. Joe tried to emulate the successful players, but he felt worse about himself because he could not perform well by trying to be someone else. I asked him if he ever approached game day without stomach pains and a dizzy head. He replied:

Nah, not really, but, um, when I can play well . . . it's when I know I am stronger than them. That's when I don't care about any of the players and coaches saying stuff. I wouldn't even know that they are saying stuff, because I am that focussed. If I am . . . playing shit, I pick up on those sorts of things, and I can't get into the game. Then I can't think, and my head goes. It's so frustrating. I just can't think. Then I'm just buggered. I can't run. I can't kick. I am just shit.

Joe elaborated and explained that when he was playing reserves he performed well because he knew he was “bigger, stronger, and better” than the reserve players whom he felt “kinda looked up to me.” When Joe was playing well in the reserves, he inevitably got selected to play for the senior team. Then he struggled to perform because he did not feel “bigger, stronger, and better” than the senior players. I asked him if anything else was different when he performed well. Joe talked about one time the head coach had been in charge of his performance:

I played under our head coach [for one game]; he is so intimidating. If he said “jump off a bridge,” you would jump off a bridge, but that game I was so focussed and switched on it was ridiculous. So, that made me think I don't think it's the pressure that makes me feel sick, but I don't know.

I asked Joe to explain how he felt during the game when the head coach was coaching him.

Joe replied:

It was scary 'cause I didn't wanna let him down. Every time I was off [the ground] he told me who to hit, where to mark, and who to kick to. There were so many instructions it was hard to keep it together, but (laughs) I kinda think I had, like, so many things to do and remember that I forgot everything else. After the first quarter I didn't think I was playing well, but he said "that's over, you can still impress me." So I tried.

It seemed that when Joe was receiving constructive instructions he could perform without debilitating anxiety. When he was playing under his normal coach, the coach continuously yelled at Joe, because he was not doing what he was told to do. The constant criticism coupled with a lack of reassurance added to Joe's stress. Joe knew that many of the players improved with this type of coaching, but he was frustrated that he seemed to get worse when his coach was shouting. His normal coach told Joe it was because he was mentally weaker than the players who could improve with criticism.

When Joe had started at the club, he had realised that he was a bit different from the other players at the club; for one thing, he was not as passionate about football as every other player appeared to be:

I always wanted to play professional sport. It didn't matter what, but, um, . . . I don't know if I love the game. I like the game, but I never grew up loving it, not like the other boys. I used to really like the game before I came here, but, um, I don't know. It sorta wears off a bit.

Joe could not understand why the players loved football so much. “It’s just football. I try to be like them—football, football, football, but I wanna surf and hang out with my proper mates at home. I can’t. Kinda feels like I am in prison here.” Joe was sounding weary of life as a professional footballer. He missed his friends, and the freedom that he had prior to becoming a footballer. I asked Joe what his family thought of how he was feeling.

They don’t know, so they are happy for me. They think it’s just what I want to do.

It’s so frustrating, because mum’s got X [a chronic debilitating illness], so she doesn’t really, um, doesn’t follow the game really. Yeah, the family is really happy for me. I don’t talk to them really. Mum doesn’t need it.

This was the first time Joe had mentioned his mum having an illness, and he clearly did not want to cause her any worries on top of the stress she was already facing.

Trying to manage anxiety, loneliness, and mounting pressure from the club to prove his worth, seemed to be taking its toll on Joe. I asked Joe why he was still trying to make it as a footballer when it was clear, at this specific point in time, he was not enjoying being at the club. He replied laughing, “That’s mental toughness isn’t it? Keeping going even when you don’t wanna.”

During this interview, Joe seemed more anxious and under pressure than in our first interview. It was clear that becoming fitter had not helped his prematch anxiety, and his performance at the club was inconsistent. As Joe walked away from this interview, I thought he was beginning to question his motives to stay in football. He was lonely, and there did not seem to be too many places where Joe could get help. I wondered if he would get through the rest of the season.

### Interview 3

Our third interview took place midway through the season. Joe had played mostly for the reserve team with a handful of call-ups to the senior team. On paper, it sounded like Joe was starting to break through into a senior team role. As was our pattern, it took a while for Joe to finish telling me what he thought he *should* feel and start to talk to me about what he *did* feel. This time, even when he was trying to tell me that things were going great, he sounded half-hearted. When Joe let his guard down, his posture changed noticeably, he looked dejected, tired, and lost, and he began telling me how much he was struggling at the club. For the first time in our interviews, I thought Joe might quit football. Previously, I thought he had been unhappy, but this time it sounded like he had lost his will to continue:

I want to stop playing footy and get on with my life. I reckon I've wasted 2 years. I could be in my second year at uni. That's really depressing. I'm getting upset with it now. I am getting over it. I just don't know if I want to play AFL anymore. Like all these little injuries are getting me down now.

I asked Joe to tell me more about the little injuries. I thought it was probably a good starting point for what was going on for him. "My groin was bad at the start of the year, and then my quad, and then my quad again, then my knee. Now I've got a cold, had it for weeks [I'm] sick of it." I asked Joe why he was experiencing so many injuries and illnesses. He laughed, saying "too much training, not having enough [fitness] base to do the hard stuff. My body is telling my head 'we have a problem.'" Joe was able to do a little bit of rehabilitation, but mostly he trained with the senior team. He explained:

It's different during season, like in preseason when you are injured you rehab.

During season you don't get that; it's crazy. I had to keep playing with sore bloody

everything. They [coaches] got mad at me 'cause I couldn't do it [play well while sore]. Like I could do it, but I didn't wanna. What if it got worse?

I had not expected this response from Joe. I thought he would try to do what the other successful players did and play injured. Joe continued:

It's one thing trying to get properly fit when I'm a bit sore. You know you can get over it, and it [soreness] hardly gets in the way. It's another thing that I'm in so much pain like I can't even sleep at night. Guess it's just another way that they [coaches] can tell me that I'm not tough enough (laughs sarcastically).

Joe sounded angry that the expectation of the coaches was to play disregarding any pain. He knew some of his peers played injured and hid injuries so they could continue playing, but he did not want to do that:

Some of the other boys, because they are so close to playing in the senior side, will pretend not to be injured. You know they are really in pain, but they want a game and won't let anything stand in their way 'cause it might be their only chance. If I'm injured I think I should just tell someone. I don't wanna get worse. Coach is like "don't be soft." But, when I'm really sore or ill, I play shit. I hate it. Every time I am sick, I play crap when I am forced to play. If I had the choice, I would pull myself out. Coach is like, "It's just a cold. Take some pseudoephedrine." I don't see it that way. Like I can't run. My lungs hurt and stuff like that. I am buggered. There's no point in playing.

It looked like Joe's attempts to impress the coaches were failing miserably. Joe began talking about how he did not care if he impressed the coaches anymore:

I probably had one of the worst training sessions last week. The coach was going nuts at me for doing stuff wrong. I am just so tired, but yeah that was pretty depressing in front of everyone. He just goes off at you for doing stupid things like stuffing up a drill or something like that. I had been trying so hard, but then I just wanted to get out of there. I'm sick of it.

Joe looked close to tears when he recalled the humiliating training session.

Although he talked about leaving the club, thinking about not being good enough and having to return home having failed to find success as an AFL player was uncomfortable.

Joe had no idea if he was going to get a new contract at the end of the season, and Joe found the uncertainty difficult to manage. He talked about some of the other players at the club who might get delisted:

There are a few players that look like they are going to be delisted, and they have been in the system for six years. What are they going to do now? I just feel sorry for them. Like I don't want to be like that. I think I'd rather go now.

I was starting to realise how much pressure Joe was feeling being a young man away from home, without support, and having no idea if he was doing a good enough job to continue at the club. Joe sounded like he was starting to prepare himself for the possibility that he might be delisted:

I'm thinking, yeah, I'm just taking a backward step in my life. I'm not used to this [not knowing where he stands], and I don't like it. I don't wanna spend years of my life and get nothing. I'd rather go home now and not waste any more time. Yeah, I could go home, surf, hang out with my proper mates, go to uni, [and] just be happy.



Joe sounded like he was trying to persuade himself that leaving the football team was a positive step for him. It seemed as if he was preparing himself for bad news. He started to talk about his day-to-day life as a footballer:

I live in a feral area. I don't wanna live with the other guys. I've been broken into twice this year. I can't afford to move out. I've got no money. You don't get paid much until you play for the seniors. This . . . is just shit. I just want to go up to them and say, "I want to quit now."

Joe had never mentioned financial concerns before, and I asked him if this had been an issue for him throughout his career at the football club.

Yeah, I thought I would get more after my first year, but it's still the same. I am always battling at the end of the week for money. I wanna go out for lunch sometimes, and I can't. I don't like looking poor or like I have nothing.

Joe sounded bitter that the club were not paying him enough to live the life he wanted. Joe had come from an affluent family, and he had gotten used to having things when he wanted them. I thought it must have been a big change for Joe to come into the football environment where he could not afford the things that he had always been able to acquire. Again, I asked Joe if his family knew about the difficulties that he was going through. Joe replied:

They think I'm happy. They don't know what a crap environment I'm in, like not knowing anyone and no money. I don't really talk to them about that. I tell them footy is going alright and all that kinda stuff . . . I don't think they would care if I stopped. Well, mum might, but not really. I'm embarrassed. I don't want them to know I live like this.

I understood now why Joe did not let his family visit him, because he would be embarrassed if his family saw how he was living. Even though he was still at the football club, Joe felt he was failing, and he did not want his family to know just how difficult life was for him. I asked Joe what his mum would think if he gave up football, and he replied, “I dunno, as long as mum thought I’m happy it’d be okay I reckon, um yeah, I think that.” Joe’s answer was full of uncertainties, and I was unsure if he fully believed what he was saying. I asked him what his dad would think, and he said, “dad wouldn’t care.” As always, Joe steered the topic away from his family. Throughout our interviews, he was uncomfortable discussing his family, and generally gave vague answers and quickly changed the subject.

Our conversation moved to the extra training that he did. It sounded like Joe still wanted to be able to do his extras, but he was too tired. He had stopped most of the extras:

I don’t wanna watch one more game of football ever, but I miss my own stuff. Like I miss going for a run without anyone shouting at me to go faster. I always get these little injuries now. I never used to get them.

Joe’s motivation to impress the coaches and beat his teammates in the training drills was waning. It sounded like he missed the escape his extras gave him. All the little injuries upset him, because the coaches used the injuries as an excuse to tell Joe that he was not tough enough. Joe thought the training at the club was too much, and was the cause of his injuries.

It’s mental. X [performance coach] says “No excuses” but we train 6 days a week all through the season. We are getting smashed every single day. Like you wake up after a match and you have to go and do recovery at the club and have all the

meetings. Then the next day you are training again. They [coaches] wonder why at the start of the season they [the team] dominate. The last few years we have dominated the first ten games or so, and now we are playing crap. It's only going to get worse for the rest of the season. It's from overtraining all the time. I'm over it.

Joe's loss of motivation was evident. "I never used to think like this, I reckon it's . . . too much. I'm sick. I'm injured. I reckon my body has been run down. I just can't be bothered." Joe sounded in need of a holiday. I wondered if he would make it to the end of the season. It was obvious that he was reaching his breaking point, but he still had not proved himself at the club. Elaborating on his concerns, he said, "some people really love footy, but I don't anymore. I don't do it for the love. I'm not sure why I'm still doing this."

As Joe and I finished this interview, he laughingly said, "Maybe see you next time." I left the interview feeling that I should have done more, and I had to keep reminding myself that I was not there in a helping role, but I hoped someone else would be.

#### **Interview 4**

Joe and I met again close to the end of the season. A few days prior to our interview he had signed a 12-month contract at the club. Joe had hoped to be elevated onto the senior list, but his contract was for a development player. Joe said it was like a "we aren't sure you're good enough, but we're giving you one more chance," contract. The new contract seemed to be helping him feel better about being at the club. Joe laughingly mentioned that if he had not been offered the contract then this interview might have been similar to the last "depressed" interview. He explained:

I was so miserable. I can be a bit pathetic sometimes. I wanted to go home. I was saying, "I can go home, go back to uni, and be with my mates; it would be better,"

but I was kidding myself. I want to stay here. When he [head coach] offered the contract, he told me everything I need to do. I reckon it's gonna be, um, good. I wanna make it happen.

During the contract meeting, Joe's head coach had been extremely clear about where Joe stood in the club and what he needed to work on:

The head coach said, "You have talent, but you need to work on your attitude." He wants me to stop thinking about, um, forget about everything before a match, and be better than that. I guess he's right, they [stomach cramps and fuzzy head] aren't gonna kill me, and if I keep trying I'll get over it. He said "go home at the end of the season, [and] think about how you would feel if I hadn't given you another chance. Think about how failure would feel." He wants me to put that feeling into training next year.

Joe needed someone to believe in him, and any reassurance, no matter how small, helped his confidence. The head coach's words regarding going home sounded like he was trying to motivate Joe via a fear of failure. I wondered how that would affect Joe's time at home. Even though Joe sounded more hopeful, he looked exhausted, and he seemed to slip in and out of his *I want to be a footballer* attitude:

It's what I want, yeah it's um, aw, you know how it is. I wanna be happy. I don't, I don't love football, but . . . I wanna love it, like I really, really wanna love it. It'll be good being here next year (smiles sarcastically). I wanna be here. I was thinking about telling mum [if he had not been offered a new contract] and she would say "That's fine," but she would have been disappointed and my mates, so yeah.

Joe was still trying to avoid letting his family and friends down. Joe had never mentioned how hard this year had been to his family or friends, and he was clear that they did not need to know.

The new contract meant a slight financial improvement for Joe, but remuneration was not close to the level of the senior footballers. Joe slipped into sounding resentful about the other players being paid more than him, “Why are we not all paid the same? We all do the same job. Like yeah,” but then he seemed to control himself by saying, “I reckon I need to get over that too.”

Joe talked about the things he needed to improve on next year. The head coach had given him clear feedback regarding what he needed to do to become successful, which seemed to ease Joe’s anxiety. “Coach gave me a list of things I need to do. It’s good, ‘cause I can get working on them.” The list included many technical skills that Joe needed to improve on, but the head coach told Joe he needed to work on being mentally tough and stop feeling sorry for himself. I asked Joe what he thought was meant by being mentally tough. He explained:

I can be mentally tough. When I have to be mentally tough I am focussed and do all the training. I just run through the pain. If I’ve got niggles and pains I just run through them. I just keep pushing. If I get hit I just get straight back up, and all that stuff.

I asked Joe if he was able to be mentally tough now. He replied, “I can be, but I don’t wanna be now. I wanna rest.” I asked him to explain what happened when he was not mentally tough. “Not being mentally tough, then I just don’t do it. I don’t do all that crap (laughs). I relax and recover. I don’t play when I feel like shit. I don’t push myself till I

throw up.” I felt at this point in our interview Joe’s new attitude was slipping. I asked him what motivated him to do “all that crap.” He grimaced and suggested that if he wanted a career in football, then he needed to do all that crap, “it’s the same as the drills, putting your head over, [and] taking the hits. I need to get over it, and just do it.” Joe explained that he needed to gain the approval of his teammates and coaches:

I need to show my teammates that I can put my body on the line. Everyone does it.

If you don’t do it, it’s pretty soft, and you are going to be looked on as soft. I don’t want the perception of me being timid or something like that. If someone doesn’t do it, people say, “Did you hear about this?” I don’t want them to say that about me.

Now that Joe was staying at the club for another year, he needed to impress the rest of the team, which meant demonstrating how tough he could be. Joe laughed when he told me that he had finally succumbed to the head coach by agreeing to live with some of the other players. I was surprised Joe had agreed to this new living arrangement. He had been adamant that he did not want to live with other footballers or a supporter family. Joe’s coach had told him living with other players would help him to cope better and help his loneliness. The club were organising the house for Joe and the other players, so he did not even have to think about it. I wondered how Joe would adapt to having less control over his own environment. Joe rolled his eyes a number of times when he was talking about moving in with the other players mentioning “big brother would be watching.” He joked that he would have to teach the other players how to use a knife and a fork. I was not sure if Joe was positive about the changes or if he just did not have the energy to fight it anymore. He seemed to have started to conform to what the football club wanted by living with other

players, being grateful that he had a contract, and vowing that next year he was going to work harder.

Joe talked about feeling happy to be going home, he said, “Can’t wait to get back to my life.” I wondered if he might struggle coming back to football after a month at home with his family and friends having the freedom to do the things he loved doing. After his break at home, there would be greater expectations on his young shoulders, but this time he would not have any separation from the club.

Joe and I finished up at this point, and I thought that Joe knew to be successful as a footballer he needed to start fitting in at the club. It appeared that no matter how hard he had tried, he could not fit into the club by trying to do things his way. Although Joe was exhausted, he sounded hopeful about the following season. Being offered a new contract seemed to reassure him that he was worthy of a position at the club. I thought the feedback the head coach had given had been significant for Joe. Without any feedback or reassurance from the coaching staff, Joe had found his anxiety harder to manage this season, and it was affecting his ability to focus and perform in matches. The head coach reassured him that he could get over it. Joe seemed to be avoiding thinking about next season when he said, “It’ll be ok; I’ll deal with it then.” He just wanted to get through the last week of the season and go home.

### **Interview 5**

It was a month into the following preseason by the time Joe and I met up again, and this time Joe looked healthy. In previous interviews, he had looked increasingly exhausted, and at times as though he had the weight of the world on his shoulders. This time he seemed to saunter into the café. Generally our interviews started with Joe telling me how

great things were, and then this attitude would slowly slip as he began to talk about how tired and miserable he felt. This time the *footballer mask* seemed to stay on, and it did not seem like I could break through the persona that Joe was displaying. Perhaps this time there was no mask to get through.

We started to talk about the off-season. Joe had found it difficult to slot back in to his old life at home. Family members kept telling him how he was making them proud, which made Joe feel like a bit of a fraud. When he went out with mates, Joe got most of the female attention because he was a footballer, and this resulted in upsetting Joe's friends. Additionally, even though it was off-season, Joe was not allowed to surf or play rugby in case he got injured. One of his friends accused Joe of thinking he was better than them, because he was a footballer. These events had culminated in an argument with his best mate. Although they were talking again, the friendship sounded strained. The argument had spurred Joe into thinking about his head coach's words, and he began contemplating how it would feel if he had returned home a failure. He did not want that to happen, and he started to think that maybe he had changed and his old life was not a good fit anymore.

Returning to the club after the off-season was easier for Joe than in previous years, because he had not felt able to slip into his old life at home. Moving in with other players changed things for Joe too. He said it was good having the other boys to talk to, "because they understand what it takes to be a footballer." Joe elaborated:

Like there is no pressure from them [housemates] to do things. Like at home my mates don't get it, but the boys I live with get it. It's all about football; we all know that. It would be weird if one of them wanted to do those other things [surf, play rugby].



Sharing a house with other footballers also meant that he could live in an area that he liked. Joe appeared to be embracing the changes, and he hoped the players he lived with might help him perform better at the club. “It’s good for me. We watch footy together now. They help me with what I need to do for my position. It’s better now.” It sounded like Joe finally had some support at the club.

Our conversation turned to training at the club. Joe frequently mentioned how much he enjoyed preseason training. This time he talked about how much fun he was having being one of the bigger guys. In previous years, he had thought being one of the bigger guys was a disadvantage, because the other players always wanted to take him down. This year it was different, “I’m not the only big player now. Two of the rookies are big too. It’s good, ‘cause I’m not the target. Like I’ve done my time, now it’s someone else’s turn to prove themselves.” I asked Joe to clarify what he meant by not being the target. “Well, the new rookies, the big ones, are the players the boys wanna take down. It’s not me anymore.” I asked Joe how he felt about being the target in the previous year. He replied, “It’s good. It helped me to toughen up. It’ll help them.” It seemed like Joe had adopted the club’s ideals that players have to go through adversity to toughen up. I thought everything Joe had gone through over the last year would mean he knew how awful it felt to be the target, and that he would not condone that behaviour. I asked him how he felt now that he was one of the players who could bully the newer players (I used the word “bully,” and I am sure my values burst through. I regretted using the word immediately).

It’s not bullying. It’s gonna help them. Like if I hadn’t had it like that I wouldn’t be here now. I wouldn’t have got a contract and been lucky enough to still be here. I

wasn't tough enough last year. I know I need to be harder, but the new players they'll need to learn from it, same as me, or they won't last.

During this interview, I felt like I was interviewing the new improved *footballer Joe*. The misery and anxiety that accompanied the previous season was not apparent. Now he was one of the boys. I struggled with the new Joe; he sounded happier, but he seemed different. Our conversation felt stilted after my clumsy question. Usually during our interviews, our conversation started awkwardly becoming progressively more comfortable as Joe opened up, and I took on the mum role. This time our conversation did not reach the comfortable phase.

I tried to move the conversation to a more relaxed topic, but Joe obviously sensed the change in the atmosphere and seemed to want to talk about the change in him rather than my obvious attempt to redirect the interview:

Look, it's different now. I'm going to try to be a footballer. I love the training. The younger boys are told, "Look at Joe; he went through it [being a target], and look at him now." Coach told me that I might get a senior role for the team if I can start performing well. To do that, I need to be a footballer. I wasn't before, but home is not who I am now. I am now being a footballer.

I was surprised at Joe's awareness. He sounded mindful that he had to try to take on board the club's philosophy. I think Joe noticed my confusion with his changed attitude and wanted to clarify what he was doing. I felt as if he was trying to explain that he needed to have this footballer face on to be successful. I acknowledged what he was saying, trying not to judge any changes he was making.

Our interview continued much in the same vein, with Joe talking about how good it was to be back at the club with players who understood what it took to be a footballer. I asked Joe if he thought he was mentally tough now. Joe laughed as he answered:

I am now. I've toughened up. I can take the hits like the rest of them now. I want the new boys to look up to me and try to train as hard as me. I know I can do it. I can beat them. Last year I was shit. I need to not let myself go there again.

I asked Joe to reflect on last season and how he felt about it. Joe took his time before answering. He looked to be weighing up his thoughts about the previous year. Usually, Joe blurted out his answers:

It was tough, but I needed it. Like, I dunno why I didn't do what the club wanted me to do. It would have been easier for me to have done it their way, but I thought I knew better. I won't make that mistake again.

Joe was trying to adjust to being part of a football team and not an individual doing things his way. It seemed that Joe had let go of his individuality and was conforming to the team.

Our interview ended at this point. Joe thanked me for listening to him last season. "I must have seemed pathetic . . . but I always felt better after talking to you." I wondered how Joe would feel walking away from the final interview. He clearly thought that he was mentally tougher now. I was not sure if Joe had become mentally tougher, but by conforming to the club, I could see he felt accepted and worthwhile. The indoctrination into the cultural imperatives of MT seemed almost complete.

In spite of Joe's efforts to transform into what he thought of as a mentally tough player, Joe became one of the players that he had not wanted to be. Three years from the

season in which these interviews took place, the coaches decided not to renew his contract and he was delisted. Joe had played for the senior team a handful of times each season over the past 3 years, but had never managed to perform consistently for the senior team. At the end of his fifth season, Joe's football career was finished.

### **Discussion**

Writing Joe's case study was challenging. I struggled at times to represent him without sounding like a disappointed parent. During our final interview, I felt our relationship changed, and a month after that interview he emailed to ask to meet up. When I met with Joe, he wanted reassurance that I did not think he was a bad person, and that I did not think he had sold out. I worried that during our last interview I had made Joe feel bad about his choices, which was never my intention. I did try to reassure him, but I was not sure he felt comforted in the end.

Joe's case study, although similar to aspects of both the footballer's and the coach's stories in Study 2, provided rich detail on the process of how an athlete attempted to gain acceptance into a sports team club by trying to become mentally tough. Joe's second year at the club represented a make-or-break time for him in football. At the end of our interviews, Joe realised that football was bigger than him and to be successful he had to do things the football club's way. The main themes of Joe's case study appear to be conforming to the cultural norms in sport, MT development, and MT characteristics. I discuss these themes in the following sections and, where relevant, I identify similarities with OT risk factors.

### **Mental Toughness and Conformity**

Elite sport lends itself to a hierarchical organisational structure in which the head coach holds most of the cards, and athletes can be mere pawns. Board game metaphors

aside, it seems like many athletes try to impress their coaches and take on their ideals to succeed in sport. In some sports, the only way to succeed may be by internalising the coach's, club's, or sport culture's philosophy on what needs to be done to make it to the top. Hughes and Coakley (1991) argued that in sport, coaches, commentators, and sport publicists reinforce the norms of the sport ethic, which includes aspects similar to MT (e.g., persevere until goals are met, define adversity as a challenge, make sacrifices and subjugate other experiences generally associated with growing up, be all you can be in sport, play with pain). "In many cases, strict conformity to these norms becomes the basis for acceptance onto a team and a measure of status among athletes themselves" (Hughes & Coakley, 1991, p. 308). Joe's case study represents an athlete who does not initially conform to the cultural ideals of his football club, and finds that being different than the majority of his teammates does not lead to success.

During our first interview, Joe seemed to have taken on board the club's ideals regarding MT. He discussed MT as persevering regardless of the obstacle, pushing through pain, sacrificing his body, and completing extra training. The coaches and players at Joe's football club reinforced the idea that these characteristics and behaviours are evidence of being mentally tough. Joe's initial idea of MT fits with the published literature (Bull et al., 2005; Fourie & Potgieter, 2001; Gucciardi et al., 2008; Jones et al., 2002, 2007).

During our fourth interview, Joe talked about not having to "do all that crap" when explaining that he was too tired to be mentally tough. Throughout our last interview, Joe reflected on his previous season explaining that he was glad of the adversity he experienced, and he reflected on being a target, in particular, as a good thing, because it toughened him up. Consequently, Joe viewed his earlier behaviour as being "a bit pathetic."

He sounded like he had conformed to the club's ideals and regarded the period when he felt vulnerable and emotional as pathetic, and he viewed the abusive bullying as "good for him." Hughes and Coakley (1991) reported that, "through positive deviance people do harmful things to themselves and perhaps others while motivated by a sense of duty and honour" (p. 311). They went on to explain that in sport, behaviours that might not be acceptable anywhere else are often encouraged and not viewed as deviant, but are often extremely harmful. The culture that Joe was in appeared to condone many harmful behaviours (e.g., ignoring pain and performing, being thankful that his teammates hurt him, when he inflicted damage on his new teammates he became one of the boys). The abuse that the players went through appeared to be a normal part of football, and the club taught footballers to be thankful for going through the adversity. If players could get through their time being targets then they would be mentally tough. Richardson et al. (2008) suggested that the hierarchical nature of sport often means that the sport accepts high levels of abuse of athletes often leading to dysfunctional coping strategies as was evident for Joe when he became the abuser to "help toughen up" the new players. Richardson et al. (2008) identified in an interview with a sport psychologist that:

We in sport . . . have come to accept a high level of abusive behaviors that we would not, for example, accept in the classroom. . . . In sport we have normalized, I feel, an emotionally abusive environment, and we have just accepted it" (p. 80).

When Joe was the target for the other players, it seemed like he was talking about a situation in the schoolyard, and other kids were picking on him because he was bigger than they were. Now he had become the bully, because in the football culture bullying was

accepted (and expected) behaviour. The unique environment of professional football, in this case, represents a setting where abuse is the norm.

### **Mental Toughness Development**

During Joe's career at the club, MT development was the term used to rationalise abusive behaviours. Recently researchers, when reviewing MT development, have indicated that a tough training environment where athletes experience adversity and physical pain can help develop specific characteristics of MT. Gucciardi et al. (2009a) suggested that pushing athletes to the limits of physical pain during drills, and simulating the pressure and anxiety of competitive matches helped develop MT. One way Gucciardi et al. reported in which coaches' hindered MT development was the fostering of an easy training environment, because the easy training environment did not expose footballers to experiences crucial for MT development. Similarly, Thelwell et al. (2010) suggested that the experience of adversity positively influenced MT development with both positive and negative experiences influencing MT. Weinberg et al. (2011) proposed that coaches facilitated the development of MT attributes of performing under pressure and building self-belief by implementing a tough physical conditioning program. One factor consistent in the published research (Butt, Weinberg, & Culp, 2010; Connaughton et al., 2008, Gucciardi et al., 2009; Weinberg et al., 2011) is that although a physically tough environment, with coaches who do not accept excuses and push athletes to their physical limits, appears to develop MT, the environment needs to be positive and confidence building— not negative and punishment oriented. Joe's experience deviates from the published research at this point; the training environment that helped build Joe's MT seemed to centre on fear, insecurity, and decreasing confidence.

Throughout the interviews, Joe changed his opinions regarding extra training. He initially thought the more training he could do then the better he would be, and when he got injured it was because he was weak. He tried to model a mentally tougher player's behaviour and carry out as many extras as possible, but Joe failed to maintain the intensity that the senior player could because Joe's body was not used to training at the level of a senior player who had been in the system for many years. At the club, it seemed that the coaches expected all the players to train at the same level, with little regard for individual differences. The coaches wanted footballers to emulate the fittest player, and they encouraged players to train as hard as the hardest worker in the team could. If a player could not train as hard as the rest of the team, then they would undergo humiliating analysis in front of the team. The consequences of such comparisons can be detrimental. Brown et al. (1983) stated that athletes who compare themselves to successful others who train at high volumes, which are beyond the athletes' own capacities, increase the risk of OT. By frequently drawing on the fittest player as a role model, the coaches set unrealistic expectations, which, for Joe, increased the pressure he felt, and his risk of OT. Nevertheless, in the club, the players' embraced doing the extras, striving to meet the goals of the coaching team.

The head coach told Joe if he could get fitter, he would be able to perform better than he had previously. Butt et al. (2010) reported that fitness allowed athletes to push harder and cope with adversity during stressful situations, which are two aspects of MT consistently identified in the published research. Weinberg and Butt (2011) suggested, "it does appear that being in good physical condition is considered a prerequisite for displaying mental toughness" (p. 218). Although the coach had told Joe if he could get



fitter he would be able to perform, at the heart of Joe's performance issues were feelings of insecurity, inadequacy, loneliness, and anxiety. These feelings, coupled with an uncertainty of whether he would have a football career at the end of the season, made it difficult for Joe to perform regardless of how fit he could become. It was clear that Joe struggled with anxiety. He described both cognitive and somatic components of anxiety when he explained how he felt on game day. Numerous interventions exist that can help manage anxiety, but the club coaches suggested that mentally tough athletes just needed to get fitter and be better by just *getting over it*.

When Joe was injured and sick his opinion on completing the extras changed. Joe did not want to play injured; he wanted to recover and play when he felt good, not lousy. When Joe felt fatigued and demotivated, he did not want to perform the basic training, never mind the extra training that the coaches expected him to do. When Joe realised that his career was contingent upon adhering to the club's principles regarding doing the extras, Joe decided he had to conform to the club's ideals. Hughes and Coakley (1991) suggested that two factors could prompt overconformity to the sport ethic; one appears relevant to this discussion:

The likelihood of being chosen . . . for continued participation is increased if athletes overconform to the sport ethic (i.e., coaches praise overconformers and often make them models for other athletes; furthermore, coaches often accuse athletes of lacking hustle, effort, and caring, and athletes can only prove hustle and effort through unquestioned conformity to the sport ethic) (p. 311).

When Joe returned to the club after having time at home, he was back on board with doing the extras, training as hard as the hardest working player was, and knowing that he

had to play while injured. Joe explained that his career depended on conforming to the club, which seems similar to the description of overconformity Hughes and Coakley presented above.

### **Mental Toughness Characteristics**

One characteristic in the literature identified as mentally tough is being able to sacrifice aspects of life for one's sport. Coulter et al. (2010) identified "*resisting peer and social pressures . . . especially during late teenage years and the early years as a young professional that can distract and draw a young individual away from the dedication required to succeed*" (p. 708) as a situation that demanded MT. Joe stopped doing many of the things that he loved such as surfing, playing rugby, and going out with friends to try to prove he was committed to the club. By resisting doing things that Joe liked to do, his focus became so narrow that all he had in life was football. His anxiety levels increased because his life revolved around football. Kenttä et al. (2001) identified that out of 287 young athletes, 37% reported staleness, and 42% of the sample reported having no other interests besides their chosen sport. Joe did not have family or school to provide any distractions from football. In addition, at the club, coaches actively encouraged players' lives to centre on football. If sport or training becomes the only opportunity for social interaction, then young athletes may develop narrow identities, which can be fine when their performances are going well, but can lead to stress and anxiety when failure or injury are present (Winsley & Matos, 2011). The club encouraged Joe to develop an identity that revolved around sport. When Joe talked about not knowing why he was still involved in the football, I thought it was because he had nothing to go to outside football. The club had become everything; he was unable to participate in other sports in case he got hurt and could not

play football, and he had to adhere to strict rules when he tried to socialise (making going out not much fun).

Joe became increasingly isolated, making his focus on his performance excessive. Being able to develop multiple aspects of identity may provide an outlet to the stress related to professional sport (Coakley, 1992) and reduce the importance of a good performance for maintaining self-confidence. Joe did not have any outlet and seemed vulnerable to becoming entrenched in the pathogenic culture of his club. As Joe appeared to *live, eat, and breathe* football, it was hard for him to see that the bullying environment prevalent in his team was not the norm in life outside of football. It seemed to make it easier to indoctrinate young players when they were reliant on the football club to make them feel good about themselves.

Joe's club culture seemed to represent many values that lead to abuse. The limited concern for the athletes coupled with a win-at-all-costs attitude that permeated the players and coaches meant that individuals felt pressure to conform to the club's ideals, loosely defined as MT. Richardson et al. (2008) identified:

The problem with the mental toughness concept is that it implies a head-down-go-as-hard-as-you-can-and-close-off-everything-to-reach-the-desired-end [type of approach]. It's a problematic and simplistic concept. We need to throw it out and start working from a point of view of what kinds of behaviors are helpful for someone who wants to achieve excellence (p. 96).

There is no doubt that the idea of MT can be used as a way to motivate and help athletes perform to their best. It is also clear that MT lends itself to being an umbrella term under which athletes are driven towards conforming to the sport's cultural ideals. In many

cases, conforming to those ideals may lead to stress, injury, and OT along with anxiety and depression for those who try but fail to be mentally tough enough.

## CHAPTER 9

### STUDY 3: ETHAN'S YEAR: THE MENTALLY TOUGH OVERTRAINER

Ethan first came to my attention during Study 1. At the end of the two data gathering periods, I gave players time to write down any information regarding their thoughts about SRI, OT, and MT. During the first occasion Ethan wrote, "I think about footy a lot outside the club and sometimes feel the need to do extra at home." Ethan had also written about OT. "I always train and play as hard as I can without overtraining." During the second data collection occasion, Ethan was injured; he mentioned his "emotional stress due to the injury" and that he was working "really hard on his rehabilitation." These statements indicated that Ethan might have an interesting story to tell.

During the interviews with coaches for my second study, I asked them which player/players in the team came to mind when they thought of mentally tough players. Although the coaches had different viewpoints on MT, each coach mentioned Ethan without hesitation. Ethan stood out at the club because of his fanatical attitude to football, and each coach highlighted his exceptional work ethic and applauded his mentally tough attitude.

When I contacted Ethan regarding participation in my third study, he happily agreed to take part. We met five times: Once in preseason, twice during the competitive season, once during off-season, and our final interview was midway through the following preseason. At the beginning of this study, I intended to interview Ethan three times during the competitive season, but circumstances beyond my control led to our interviews being later in the season and spilling over into the following preseason. During each interview Ethan was sincere, considerate, and genuinely interested in my study. He openly talked

about his struggle to maintain balance between training and recovery and his tendency to be a bit of a perfectionist. Ethan often laughed self-deprecatingly when he described his “obsessive-compulsive traits.”

During the season in which we met, Ethan was a regular player for the senior team. He was in his ninth year at the club; he had been playing regularly for the senior team for 5 years and had been in the leadership group for 3 years. This season was the first time as a senior player that Ethan had experienced an interrupted preseason due to injury. He had sustained a back injury during off-season training. He suggested this injury was from pushing himself too hard in training and following a training program that built up too quickly. The interviews follow Ethan’s struggle to manage his back and additional injuries throughout a competitive season.

### **Preseason Interview**

Before I met Ethan, I prepared myself to meet a rough and tough footballer. His reputation preceded him. Players and coaches described him as the toughest, hardest-working player in the team. He could take the hits and keep running; nothing appeared to stop him. During our first interview, his shy and unassuming demeanour surprised me. From the first interview, he seemed at pains to try to answer my questions at length, but he never backed away from a topic. On many occasions, he displayed a self-awareness that I did not expect from the toughest player in the team.

Ethan told me about his transition from country boy to elite athlete. Ethan grew up in the country with a supportive sporty family. During his childhood, Ethan’s family encouraged him to take part in many sports and did not put pressure on him to excel.

Instead, Ethan's parents encouraged him and his siblings to see things through and to do their best no matter what they faced.

Ethan's passion for football developed at a young age, and he loved training hard. Ethan reaped the benefits of his hard work when, at a young age, an AFL team recruited him. He talked about being motivated to be successful to make his parents proud, but never suggested that parental love was contingent upon his achievements.

At 17, Ethan moved to the city to start life as a footballer while finishing high school. Moving away from home, finishing his education at a new school, living with strangers, and trying to prove himself at a new football team made it a difficult first year. I asked him if he had ever thought about giving up. Ethan gave me a look as if it was incomprehensible that I had even asked that question. He had never considered giving up on football. He laughingly said, "There's no football team in X [home town]." Ethan said, because he had been able to overcome the difficulties of his first year away from home, he knew that he could deal with trying times ahead:

I know I can get through hard times away from family after that year . . . I knew from an early age that I wanted to be successful in football, as well as being brought up well by my parents. Those two mixed in together was how I got through it really well.

Ethan could rely on his family to give him support without judgement whenever he needed it. Ethan said that his parents would always be there to support "their boy." Even with his family's support, Ethan's journey into professional football was not an easy one. He struggled to break into the senior team during the first few years at the club, but Ethan was able to use his frustration to motivate himself to work harder, "It spurred me on to keep

hammering away and earn the respect of players, not to whinge, but just get on with the job.” He made this statement passionately, and it seemed important that he could work hard without complaining. Ethan kept training hard to try to get the coaches’ attention, but it was not until his third year that the coaches selected him to play for the senior team. His debut had not been spectacular, and he spent most of his third and fourth years at the club yo-yoing between the reserves and the senior team. Ethan talked about how frustrating he found the situation, because he seemed to get a chance to play only when another player was injured. Ethan talked about what the head coach said to him:

He’d always spin bullshit to me on the phone saying, “you’re playing reserves again, but if you have another good game you’ll play next week.” He’d always give the same guys another opportunity, and I wouldn’t get a game. Every week I was on the phone to mum and dad really upset. “I can’t handle this; he keeps feeding me bullcrap.” It was hard. I was young at the time. He saw all my weaknesses and didn’t see my strengths, [but] I wasn’t going to give up on my AFL career.

Again, when the situation was difficult for Ethan he could rely on his family for unconditional support. Ethan had asked the club to trade him to a different team during the off-season, but, because he had not made much of an impact in AFL, no other club was interested in him. At the beginning of the new season, the club appointed a new head coach who admired Ethan’s work ethic. Ethan viewed the change in coaching staff as an opportunity, which motivated him to keep fighting to gain a position on the senior team:

I’d just keep on fighting and fighting. I don’t like to be seen as mentally weak. I used to love watching Rocky movies, and I kinda feel a bit like him. I’ve never said that to anyone before, but I really liked watching him and his character. He was up



against the odds, and he came through and won. I like that, just beating all the odds. In my early years, I was down and out, [and] people had written me off. I was always in the [media] lists of who was going to get delisted at the end of the season, but that spurred me on. You know those people that doubted me; they shouldn't doubt me, because I know I'm strong. I'll get what I want . . . It spurs me on a bit sticking it up those people who did doubt me.

When Ethan was talking about his doubters he sounded angry, and even a bit vengeful. It seemed that Ethan had taken their opinions personally and could not let the criticism go. Ethan told me that it did not matter how many times his critics write him off; he knew he was a good player.

Our conversation moved on to MT, and I asked Ethan to describe the construct. He replied, "I think just never giving in is mental toughness. There's a saying at the club, 'failure doesn't cope well with perseverance' . . . I like that saying. I think that's mental toughness." I asked Ethan if he thought footballers could be too mentally tough. Could a footballer persevere too much? Ethan replied unequivocally:

No, I don't think you can be [too mentally tough]. No, that [MT] gives me my edge and helps me perform. It helps me stay focused. I like being known as mentally tough, nothing's going to break me down . . . It can give me an edge on players, not only opposition, but at training too. You're going to have to play very well or train really well to beat me, because I'm going to be there in the mind the whole time.

Resilience and being mentally tough is a big thing for me.

Ethan wanted the other players to know that he would do everything he possibly could to beat them. It sounded like Ethan needed to be the toughest, hardest-working player in the

team. I asked Ethan why he had chosen this path for his football career. Ethan said he knew that he was not as talented as many of the other players. He had found his way to stand out from the other more talented players was by working excessively hard and playing tough football. “I had talent, but I didn’t have the super, super-talent that some kids have got where they can just get through sometimes. I knew that I had to take a different path to get me through.” Ethan elaborated on the things that helped him to stand out from the players he thought were more talented than him:

I don’t have any fears out on the ground. It sort of comes from the competitive side . . . just wanting the ball and doing anything to get it. Whether there’s someone bigger in front of me, I want the ball more than that person. I know my teammates get a real buzz out of me throwing myself across someone’s boot.”

Ethan obviously recognized that he gained admiration for playing this type of football. Playing tough football helped Ethan feel confident about keeping his position in the team. He explained, “There’s always new players wanting your position. I think that’s why I do it [train so hard]. I’m getting a little bit more relaxed as I get more comfortable about where I am in the team.” Ethan had gone down the path of training excessively hard, and now that he was becoming secure in his position on the team, he was trying to listen to his body and learn that he did not always have to train more intensely, or hit harder than everyone else in the team. Changing his pattern was still difficult for Ethan, because being the last player to come off the training track at the club made him feel good. I asked Ethan to explain what thoughts went through his head when he was performing extra training:

It’s just that little man in the back of my head that tells me that I have to do something extra. I’ll have to do it [whatever training has popped into his head],

because I've thought of it, and I think it's the right thing to do for me to get to where I want . . . I'll just do it even if I'm tired.

It seemed that Ethan struggled to control the little voice in his head. He needed to do the extra training. He worried that if he ever did not do it he would be, "letting the others go past him." Ethan sounded aware that he was starting to need additional time to let his body recover after training:

I know that recovery is important . . . I know it . . . Yeah, I still have to relax a bit.

I've just got to control myself . . . I have to get people to remind me sometimes. I know it [recovery] works, and I am getting better at it.

Even armed with the knowledge that recovery was beneficial, it was hard for Ethan to change his excessive training habits. His superior fitness and tough football ability also meant Ethan had a certain status within the club. All the players and coaches benchmarked their performances against Ethan. All the players I had interviewed mentioned Ethan as the player they wanted to beat in training. He loved being the player others aspired to be like. He seemed to thrive on managing a workload that others could not.

This preseason was different for Ethan; he had a long-term back injury that meant he could not "thrash himself constantly in the gym." This preseason he had to work on maintaining his ability instead of improving it. I wondered if OT had anything to do with his injury. Ethan explained:

I've got bulging discs in my back from off-season. That was from pushing really hard as well. That was another lesson for me to learn. I was doing everything within the guidelines, but I was probably going a bit heavier than I should have been, especially in the off-season. That was another good lesson for me to learn.

I asked Ethan if OT had resulted in other injuries throughout his career. Ethan talked about OT being at the root of most of his injuries—numerous stress fractures, an ankle injury, a shoulder injury, and now his back. Although his injuries seemed to be partly down to training too hard, Ethan struggled to hold himself back. He began talking about his current back problems:

The back was a real overuse sort of injury. It sort of taught me that pushing too hard is silly. I've read a lot on overtraining. I know I should be doing that; not overtraining, but I just can't help it sometimes . . . I wanted to do everything to make sure that I had a good preseason, but not really listening to my body enough to think "stop and get this checked out." In footy culture you sort of don't want to be known as a whinger. Everyone gets sore. Everyone get niggles. It's probably a macho sort of thing like "I'll be right." With those sorts of things you push through them.

Ethan had pushed through and the result was a serious back injury. He mentioned that this off-season in particular it had been hard to stop training, because he had not wanted the season to be over:

If you go so far in finals [a 4-week period after league matches when the top eight teams battle it out to make it to the final premiership match], you want it to keep going. You don't want it to stop. Sometimes you keep going and going in the off-season and not bring your body down or have some down time. I've done that so much in the past, and I've got through until now when I hurt my back. That taught me a lesson. It's just the beast within, I suppose.

It sounded like Ethan had always managed to complete the extra training without any serious consequences, until now. Ethan's injury required careful management until the off-season when he could spend time letting it recover. The doctor told Ethan that his back would not get better without time away from football. The injury also meant an interruption to the loading phase of preseason training, and Ethan had never had an interrupted preseason. For Ethan, preseason training set up the whole season, which helped him feel more confident that he could keep his position in the team. As our interview ended, I wondered how Ethan would feel during the season without his usually strong preseason performance. I was not sure if Ethan would manage to hold onto the lessons from his injuries and give his body time to recover, or would he slip back into his old OT habits?

### **Interview 2**

When Ethan and I met again, the competitive season was well underway. Ethan and his coaches were pleased that he was performing more consistently than last year. I asked him how his body was coping with another competitive season. He replied that he was finding it "harder and harder as each week goes on to get my body right." I asked Ethan for clarification:

Every week you get a few different corks and bumps . . . some take a bit longer than others to get rid of, um, to try and shake with extra treatments. My back issue still lingers a little bit. I suppose that is the one that is really a little bit harder to shake. I'm pretty right on top of that doing extra pilates to get that right. It's just trying to get extra treatment that sometimes can take a mental toll on you. Knowing that you are racing against the clock to get your body 100% right before the game starts.

Doing the extra ice baths and icing, [and] getting up [during] the night, especially when it's cold, when you just want to sort of relax and take your mind off things. Managing a chronic injury during the competitive season sounded like it took up a lot of Ethan's time:

I find it hard to take my mind off things at the best of times. You need, um, some downtime . . . [when you are injured] you are constantly thinking about your body, trying to get it right. Your mind is always ticking over, I suppose. It's just staying on top of it during the week and having to constantly think about it.

It seemed difficult for Ethan to switch his attention off football even without an injury, and trying to do enough recovery at home made it impossible for Ethan to turn his football focus off. Ethan had now been managing his back and completing the extra recovery at home since the beginning of preseason training, which was almost six months ago. Ethan began to tell me about the little things he had to do to protect his back:

I can't do as many groundballs. I have to change my weights program . . . I have to make sure my posture is good. I can't go to the gym and thrash out weights. I have to think about my back all the time, but it's not affecting my performance on game day.

It seemed that this preseason Ethan had a different focus. Instead of becoming the fittest player in the team, he had to maintain his rehabilitation to ensure he would be able to keep playing. I asked Ethan how his back felt after a match. He replied:

Some weeks it pulls up better than other weeks. Some weeks I might have done a lot more groundwork for some reason and . . . it pulls up a bit stiffer. You obviously want to try to improve yourself and do a personal best and stuff like that in the gym,

[but] the game is the most important part of the week. That's what I have to get my back right for. So, it's not doing a personal best during the season for your weights. It's about doing a good solid weights session with good posture ready for game day. All Ethan's time and effort this season were going into getting his body ready to play on game day. It was clear that he still wanted to achieve personal bests in the gym, but such goals were not realistic this season. It sounded like Ethan was coming to terms with a new way to train. He mentioned that he had a problem with his back, when he had started to fall away from his new training pattern:

I had a small flare up, as I got away from doing the basic things. I have to stay on top of it 100% of the time. I can't fall away from . . . not doing too many ground balls and too much extra work after training. I was getting away from that a bit. So again, a little injury reminded me. My body does that to me sometimes; it's good. I have been doing a bit of reading on bulging discs, and I think once you have bulging discs, you are always going to have them. It definitely did scare me. When I flared it back up the second time that really shook me up, because I thought this was going to keep happening.

After the second flare up Ethan recognised the severity of his back injury, and realised that if he overdid his training he was not going to be able to play football. He had no choice but to listen to his body now. Ethan continued to talk about this season, and it seemed that looking after his back was taking a toll on him:

I just feel a little bit heavy in the legs. I am starting to think about that more, because in the past I would just try and work through it, and think that I would be able to get through it. Sometimes you just need to freshen up the legs a little bit.

Stay off the legs and no running, 'cause the 2 hours on the weekend is what's most important. I try to drill that through my own head.

Ethan was working hard to come to terms with the necessary changes in his training pattern, because he realised his body was struggling during the season. This was new territory for Ethan, being able to recognise his body was struggling and increase the amount of time for recovery:

That's another good positive for me, starting to recognise those things [heavy legs].

The data has shown me from the GPS [global positioning system] that when I am fatigued my power output just drops right away . . . If I am feeling good, my performance will be a lot better.

Ethan seemed to be winning his OT battle, but he had to work hard at reminding himself that he needed recovery. He clearly understood that when he was OT he could not perform to a high level, but it still sounded difficult for him to maintain a healthy balance between training stress and recovery.

In our first interview, Ethan had talked about the confidence he got from carrying out his extra training, "That [doing extras] gives me self-confidence going into games each week knowing that I've done everything that I possibly could." I asked Ethan how he was managing to balance his desire to do extras with the knowledge that he needed recovery:

I can control it more now, but in the past I couldn't control it. I just would keep going. If I didn't do that extra thing, I would be annoyed that I didn't do that extra little bit to try and improve. It's the way I think (laughs); it's hard to explain. My mind tells me to do it, and I just do it. No matter how I was feeling in the past, my mind would just say, "I think you should do this," so I'd just do it. There wasn't a



point where I didn't do it. I would always do it. I didn't want to know, if I didn't do it, what that sort of feeling felt like. It's just like the little man on your shoulder telling you that you should do it, and I think that would be best for you. If I am thinking it, then I should do it. I don't want to feel the disappointment in myself once I go home knowing that I didn't do everything that I could.

I asked Ethan if he had ever not carried out the training that the little man in his head told him to do. He laughed, shaking his head saying:

I've always done it. If I didn't I'd think about it the whole time, and I reckon I would eventually do it in the backyard. Seriously, I would think about it and think about it, "Why didn't I do it?" Eventually I'd do it. Then I can relax for the rest of the day. If I didn't do it I'd think about it. I've always done it (laughs).

Ethan was self-deprecating when he was talking about having to do the extra training; he commented that his partner thought he was "obsessive-compulsive." Ethan's injury this season seemed to be helping him manage his desire to carry out extra training.

Ethan started to elaborate on an issue he had talked about in our first interview: his limited natural talent. He did not think he would be in the AFL if he had not worked himself so hard. "The only reason I am still here is because I've worked a lot harder than them [more talented players]." Ethan knew hard work was integral to his success, but he seemed to understand that the result of all that hard work was an OT pattern that was hard to control, and now, as he got older, he had a habit that could jeopardise the remainder of his career. Ethan knew if he could get more balance with his body he would last longer in football, but he had taught himself to enjoy getting "hammered" at the club, and now trying to train at a moderate intensity felt wrong.

Ethan began talking about how he wanted to feel at the end of his career:

I don't want to have any regrets once I've finished. I want to be satisfied ... and know that there's nothing more that I could have done. I hear guys say, when they retire, there's nothing more they could have done, but I actually think "have you done everything?" There are so many little things that you can do, and I try to cover most of them. I want to be someone who can say that when they finish.

It seemed that feeling the need to do every little thing to be successful conflicted with Ethan's need for more recovery. It sounded exhausting having to do absolutely everything possible to be successful. I wondered how the constant pressure to do every little thing affected his relationships outside of football. Ethan explained that his family and friends understood his "perfectionist tendencies," and accepted him that way. Ethan had chosen to have people around him who accepted him without judgement or criticism. At the football club, he portrayed the tough footballer image, but outside football, he recognized that he needed to be *Ethan*, and his partner allowed him to be himself:

I am lucky in finding someone [partner] like that, because I know we [footballers] can be pains in the arses. We are pretty highly strung. The emotion of elite sport (laughs) it can take a toll . . . and strain relationships. When you are injured and losing, it's pretty hard not to take it home. I take it home and think about what I could have done more. I take it really bad. She actually lets me be me a lot of the time.

When he talked about his relationships outside football, Ethan obviously felt accepted and able to be himself without fear of repercussion for displaying emotions. His partner enabled him to be single-minded in his pursuit of success. As our second interview ended, I felt

admiration for Ethan. He had worked tirelessly to become a success in AFL, and now he seemed like he was beginning to adapt the way he trained to increase his longevity in the game he loved. There were never any questions in the club about him training hard enough, because he was the role model for training hard, so now it seemed like he could reduce his intensity and play with more balance without criticism from the coaches.

### **Interview 3**

When I next met Ethan it was close to the end of the season. Ethan's team had only three matches left before finals football commenced. Prior to our interview, I had heard that Ethan was injured, but I did not know the extent of his injury. Ethan arrived on crutches, moving slowly, and looking as though he was in pain.

Just over a week before our interview, Ethan had damaged his knee during the last quarter of a match. Throughout the season Ethan had been playing well, looking after his back with his new balanced approach, until the last few matches before the injury occurred. He mentioned "two of the last . . . games I had down games a bit, not beating my opponent as much as I would have liked to."

When Ethan had sustained his injury, he was struggling to perform well again, but he had been pleased that even with the injury he had played out the rest of the match:

My knees have been historically bad. I twist and sprain them a lot, so the ligaments are very weak. I just went up for a marking contest during the game and came down on one leg . . . and sort of twisted a little bit as I landed. I, um, broke some cartilage . . . I got up after that marking contest and went to take off again, and it felt quite crunchy. I thought I may have jarred it and tried to run it out... I ended up coming off for about five or six minutes and got it checked out by the physios and the

doctors. I was sort of running up and down the boundary, and the adrenalin was still pumping, so I was able to get back out for the last five or six minutes and play out the quarter. Yeah, I wasn't moving at 100%.

I wondered if continuing to play for the rest of the quarter had damaged his knee further, but Ethan did not think so, "It's hard to know, but yeah, I'm pretty sure the damage had already been done in the marking contest when I came down on it. No, I don't think there was more damage done." The following day Ethan went to hospital to get scans and X-rays, which led to surgery that evening to try to repair the damage.

I had the operation on Monday night and didn't go back to the footy club until Thursday . . . On the Thursday, Friday, and Saturday I was on the bike just rolling my legs over in a brace and doing upper body weights, and just handling the footy a little bit. Then I had Sunday off. Monday, I threw the crutches away. Everything was going really well, did a bit, oh you know, did what I was supposed to do by the physios and doctors, and Monday night it started to get a little bit sore again. When I went to bed it was okay. I woke up on Tuesday, and all of Tuesday was a shocking, shocking day. I could hardly walk on it at all. I'm back on the crutches again now. I'll just keep pushing on to get back out there to play with finals coming up soon.

The way Ethan said "did a bit, oh you know, did what I was supposed to do" made me wonder if he may have pushed harder than he was supposed to. Ethan continued to talk about his injury, and I did not want to interrupt him to ask for clarification. He talked about how happy he had been throwing his crutches back in the medical bin.

It was a good feeling throwing them back in the crutches bin, and I made a big deal of it, but, yeah (laughs). I had to pull them back out [the following day]. It was a bit of a slap in the face, but I had to get back on them, because it was sore yesterday.

Ethan had never experienced such a backwards step in his rehabilitation before, and he had gone to ask the medical team why it was happening. Ethan felt reassured when the doctor told him the pain was normal and reminded Ethan that he always managed to heal much faster than anyone ever expected.

Ethan seemed desperate to be healthy enough to play football again, and he set himself a goal of playing the following week. Our interview was the day following taking the crutches back out of the bin, and Ethan was not be able to put any weight on his injured limb. I could not understand how Ethan thought that he might be able to play the following week, but he was determined. He started talking about the stress of getting his body healthy in time, and he looked upset. I asked Ethan what was upsetting him most about the injury:

Aw, just the thought that I'm not going to get there. On Monday, all I was doing was walking without crutches, and I stepped it up on the bike a little bit. How am I going to run, and twist, and turn, and find the footy, and try and beat my opponent in the game? I couldn't see it happening. The physio told me that people that have had this procedure are nonweight bearing for 6 weeks. I'm trying to play in 2 weeks.

Ethan had always returned to full training before the medical staff thought he could, but on this occasion he did not look so confident. Regardless, he was spending every waking minute trying to get his knee better.

If I have a spare hour, I whack on— there is a machine called a game-ready, and it ices and compresses the joint. I slept with the game-ready on at night [Monday]. It's programmed to turn on for half an hour and then turn off for an hour. It is the best way you can recover from training. I've got the wobble board to do proprioceptive work. If I am just sitting at home, I've got the game ready on, or I've just got [knee] up and trying to reduce the swelling. I'm always thinking "how I can get it better?" I'm eating foods that are high in iron and taking glucosamine, really strong ones, and doing all the right things with my diet. I am constantly thinking, "What can I do to get me out there quicker?" Those sorts of things, so leaving no hour spare.

Ethan seemed to be going down a new path in his quest to play finals football, and instead of working excessively hard at training, he was putting all his energy into recovering. I asked Ethan if he was tempted to downplay his injury, as he had before, to play finals football. He took a moment to think before answering:

Maybe if it was a different sort of injury, I don't know an example, but this knee is quite serious. Losing cartilage wherever is very, very serious. It doesn't grow back the way it was the first time . . . I don't want to break any more of that strong stuff away, because I know it ends a lot of guys' careers. I've played with guys that just haven't been able to deal with the pain of bone on bone in their joints. They end up giving it [football] away because of that. I want to end the game on my terms or if the club tells me that, you know, um, that I'm not required anymore. I don't want injury to finish my career. I realized that very quickly after I've done this knee. It sort of changed my mindset [to] not do more damage to it.

Ethan recognized the severity of this injury, and he was working hard to listen to his body, but Ethan was desperate to play finals football. He would do anything to become a premiership player. I asked Ethan if he felt any pressure from the club to rehabilitate quickly. Ethan responded that there was “a little” pressure:

There is a little bit [of pressure from the coach]. It’s in the back of my mind. I know that the coach wants me out there. He’s speaking to me every day and . . . *frustrated* is not really the word, but he was quite concerned that I had a bad day yesterday. He knows that we are racing against the clock. I suppose, yeah, there is a little bit of pressure to get out there. I’m not going to do anything silly . . . I don’t want to do any more damage than necessary. He’s [coach] very good with the guys. He’ll push them to their limits, but in the same breath he is smart about the guy’s bodies, and he won’t do anything untoward to them to force them to get out there and play.

Ethan held an important position in the team, which helped him feel secure at the club. I was not sure if Ethan would still have felt as if he did not need to “do any more damage than necessary” if his position on the team had not been secure. I mentioned to Ethan that he sounded more confident about his role in the team than he had previously. He replied:

I’m not cocky, but I am confident. I can tell by the way I speak to X [head coach]. He says, “Are you going to be right for the match?” I can sense if I am right to play, then I will play. I consider myself a senior player now, and a regular in the team. I’ve earned that spot for quite some time. I believe I deserve my spot in the team.

Ethan knew the team needed him, and it seemed that believing he had earned his position in the team meant he did not need to hide the severity of his injury and could rehabilitate with only a little bit of pressure.

I asked Ethan how he was managing at home with his injury. He had previously mentioned that he was difficult to live with when he was injured. Ethan had been able to be as upset and angry as he wanted to be at home for a set time, and then he laughingly mentioned how his partner had told him to “‘snap out of it,’ in a supportive manner.” Ethan’s partner, friends, and family played a big part in getting him through the difficulties associated with having an injury. He did not want to “be a sook” at the club, and so to enable him to put on a brave face with his teammates he used his external support network, who did not judge him, if he felt upset. He was comfortable enough in their presence that he could just be himself:

It’s very important to have your own . . . support network, because they see you when you are probably at your lowest. You try to be upbeat as much as you can at the footy club. You are not the only one with injuries at the footy club . . . What’s the point in moping around and looking like a sook if other guys are dealing with things themselves and in their lives? I just suck it up [and] get on with it, and try to do the best I can to get out there as quick as I can. There is no point in moping around, because they won’t care at all so just get on with it.

Ethan chose not to display any vulnerability at the club. He portrayed a tough image by demonstrating that he could manage his rehabilitation in record time, without displaying any negative emotions. Ethan only let the tough guy image drop when he was at home with his family and friends.



Our conversation drifted back to his knee injury. He had mentioned feeling tired prior to hurting his knee, but he did not think that fatigue had contributed to his injury:

I know fatigue can affect, um, can cause muscle injuries, and if you are not careful it can cause joint injuries . . . You can get hit from some angle and not be aware of it, because you are not concentrating or thinking properly at the time. . . . It can definitely have an effect. How much I am not sure. There are ways and means of getting around those sorts of things if you are not feeling that well. There are certain things that can pick you up that the doctor can give you.

I asked Ethan for more information on what kind of “ways and means” could get around not feeling well:

Things like Sudafed, you are allowed to take them in certain doses. Yeah, just pills and things like that, caffeine supplements that can boost you up. With heavy legs and feeling fatigued going into a game that’s going to happen at times during the season. You just have to screw your guts up at times and try and work, work through those things. They’re long seasons, and you’re going to be feeling tired at . . . but you have to be stronger in the mind than to concede to that and push through it. That’s the way I approach it.

We talked about how pushing through and not conceding to feeling tired could potentially have a detrimental effect on players. Ethan thought that “it certainly can, but not for me this time.” Ethan was adamant that players would only be successful in football when they found ways to perform while managing fatigue and injuries. I wondered why footballers have to play fatigued and injured to demonstrate their commitment for the game.

It seemed the expectation of every footballer was to manage pain while performing well.

We talked more about Ethan's injury and his expectations of himself to recover:

E: People are off their feet for 6 weeks [with this injury]. It makes you realize that we push our bodies to the absolute maximum . . . to get the most out of ourselves, and [that is] the price you pay for absolute success. Some guys say that they would give their right leg to win a premiership, and that's what I'm basically doing (laughs).

S: Is it worth that much?

E: Yeah it is. It is. That's what I play for, and I'd say probably 85 – 90% of guys play to play in premierships. If I never played another game again, I would be a wreck for quite some time, but I would be a premiership player. That's what you want at the end of your career. But, yeah, it's the price that I am willing to pay.

S: Sounds like a big price.

E: It's a cruel world sometimes (laughs). Like I said before, it's just, just how much you love it. It's what you did as a kid. You do anything you can to get out there and play. I would be very surprised whether there would be many guys that would come out of AFL without some sort of lingering injury later in their life, and I know I am going to be one of them probably. You don't sort of think much about it at the time; you just do whatever you can to play. You will probably regret it a little bit later, but it's just the passion that you have to play. It's hard to put that fire out when you are playing, yeah.

At this point Ethan indicated that he needed to finish the interview, because he had to get back to the club for some treatment. During this interview, I thought the severity of

Ethan's injury, in conjunction with managing his back injury, was making Ethan realise that he needed to look after himself. At times during the interview, Ethan's desire to play football was so strong that he lost sight of the balance he was trying to maintain. When he lost that balance, all he could think about was getting his body to a point where he could manage to play football; he had no concerns regarding any further damage that he might inflict on his body. Ethan knew that if the doctor said he was okay to play, no matter how much pain he was in, he would play. At the end of the season, the coach told Ethan he needed to undergo reconstructions for both of his knees. The surgery would enhance the stability of his knees, which meant there was less likelihood of another knee injury the following season. Ethan thought that going through two knee reconstructions and managing the bulging disks in his back was a worthwhile price to pay, if he became a premiership player.

#### **Interview 4**

When Ethan and I met for our fourth interview, he was 5 weeks into the off-season. Again, he arrived on crutches but looked less mobile than the last time we met. When he sat down he immediately organised himself so he could have both legs elevated. Ethan had undergone reconstructive surgery on both knees with his first operation a few days after the club played their final match, and the second reconstruction 2 weeks later. The first surgery repaired the damage from his injury during the season, and the second surgery was a preventative measure. He had spent the previous month immobile on the couch. Now that he was moving around on his crutches, Ethan hoped that the hardest part of his rehabilitation was over.

Ethan began by talking about the end of his last season; he was proud of himself for only missing two games after sustaining his knee injury. I could hardly believe Ethan had played AFL less than two weeks after our previous interview, but Ethan had worked tirelessly at his rehabilitation to play finals football:

I really did work hard at trying to get back as quickly as I could. I am pretty proud of only missing two games with the injury that I had. I didn't leave any time to waste and that kept my mind occupied.

Ethan had done everything in his power to rehabilitate. He had left "no stone unturned." This diligence included asking his partner to sleep in another room so he could have the game-ready machine on throughout the night. Ethan did not think he could have done anything more to get the all clear from the doctor to play those last few matches. I asked Ethan if he would have played without the doctor's clearance.

The physios and the doctors have the final say [if he is fit enough to play]. If you put your hand up and say, "Yep, I think I'm right to play." If you're not physically passed by the medical staff then you won't play, um, the majority of the time.

That's the thing; players will always put their hands up all the time to play. You just want to be out there. The coach will sometimes push you a bit. He'll want you to play as well.

Ethan put a lot of pressure on himself to play, so the coach did not need to apply much to get Ethan performing. He started to talk about managing the inevitable pain that came from playing football with a serious injury:

There were certainly times, like before the first match back . . . it was still sore during the week. Training that week, I had to take . . . painkillers to get through

training. I was getting through, and I was rapt [enraptured] to know that I was going to be playing. I suppose that took my mind off the pain a little bit.

Ethan had mentioned that he regularly got pain-killing injections to help him play when he had an injury. I asked him if he had used injections to help him play during the last few matches of the season. He replied:

They [physios and doctors] weren't going to play me if I needed an injection. I just took some oral painkillers, and that took the edge off a little bit. When your adrenalin and your blood start pumping you sort of forget about it. You get caught up in the game . . . you just want to forget about it a little bit.

The doctor did not want him to do any more damage to his knee, so Ethan had to play and manage the pain. Regardless of the pain, Ethan had played the last few matches of the season:

Once you're out there [playing a match] there are no excuses for injury, and I knew that. That's why you sort of have to forget about any niggles that you've got. The coach doesn't care. He doesn't have sympathy for you. If you put your hand up to play and you're playing, [then] you need to go flat out 100%. As good as it is playing, I was pushing through a little bit.

"Pushing through a little bit," was Ethan's pattern. After his back injury, Ethan had talked about trying to listen to his body. When he damaged his knee, he was worried about doing more damage so he limited how much he pushed through, but it sounded like the lure of trying to become a premiership player had been too much temptation for Ethan. In those last matches, he pushed hard through the pain ignoring the signals his body was sending him:

The first couple of days after games it [knee] would pull up a bit stiff and sore. It took me a little bit of extra time to get back to the training week. That was probably for the first two weeks. After that, I sort of tried to push through that little bit of stiffness and soreness and get my legs going as quick as I could during the week. It is so important to do that, especially at finals time when it [match intensity] steps up another gear. You need to be feeling fresh.

Ethan talked about having second match blues. He had found getting his body to feel good enough to play was difficult for the second match. Ethan had been excited to play the first match, and he had been running on adrenalin managing successfully to ignore his pain. After the excitement had worn off, he struggled to perform the following week:

You get through a game, all the training that you've tried to do in your rehab just doesn't compare [to playing a match]. Then with a short week, 6 days, and being stiff and sore in my knee and my body from that game it took me a bit longer for the next game. I was going in a little flat and tired. I wasn't able to recover from the game as well as I could of if I was match fit. I wasn't really match fit. I lost a bit of match fitness obviously missing two games [while knee injury was healing].

When Ethan talked about losing match fitness, I was surprised that he felt two weeks was enough to lose his conditioning for matches. Ethan had been more concerned about his decreasing match fitness than about damaging his knee further.

Having missed the 2 weeks and not having the physical conditioning, that was probably the doubt, not doubt, but the worry that you have on your mind that you might be off a couple of yards and you might let the team down a bit.

It seemed that Ethan consistently put the club's needs ahead of his own, and this time was no exception, "the club is bigger than the individual. The club's success is the ultimate thing that you sort of worry about."

I asked him what his family thought about how he prioritised the club's needs over his body's needs. Ethan laughed and replied, "mum and dad always understood that. It's one of the risks that come with playing professional sport. So many good things come from the sport, so they've [mum and dad] never once said to me to stop." Ethan's partner thought a bit differently and wanted him to be healthy after his football career:

She wants me to be able to take the kids down to the park . . . and not go down in a bloody wheelchair. It's just part of the game I guess. It's just the passion you have for the game. No matter what anyone told me, unless it was life or death, I'd never stop playing. It's all I've done since I was a little kid, and so many great things have come from playing the sport. There is nothing anyone else can say to stop me anyway.

Ethan had always known there was a cost to being successful in football, and as he had previously said he was willing to pay that price to keep playing the game he loved. Unfortunately, for Ethan, his club had not been successful and at the end of the season, his club were eliminated one-step away from the final premiership match.

Ethan began to talk about his surgeries. Following the end of season, players could have some time to engage in activities that the club did not usually permit: socialising, eating regular food, having a few drinks, and generally letting off steam. This year Ethan had been immobile on his couch immediately after the season ended. He talked about his struggle getting through his convalescence:

After the second one, I was going insane. I was just lying on the couch. It's supposed to be your off-time, being able to go out and do things that you can't do during the year . . . instead, I was stuck at home lying on the couch. It was three or four weeks for both knees, but it seemed like longer than that. It was hard.

Ethan mentioned having a few tantrums, but felt that he had coped well. He had not expected his teammates to offer support after the surgeries. "I heard from a couple of teammates, but they are off doing their own thing as well. I certainly didn't expect them to come around or anything." Ethan had his family and friends to help him deal with his recuperation. I wondered if Ethan's limited support from his teammates was because the other players thought he did not need support because he worked hard not to show any weakness when he was at the club, or whether the club culture meant that footballers were not supposed to need emotional support.

Usually at this time of year, Ethan would have started his off-season training. "At this stage, I would be running four or five times a week, and trying to get as fit as I can." This year, however, Ethan had managed only to get off the couch a few days prior to the interview. I asked him how he felt being in this position knowing that he could not start proper off-season training. It sounded like Ethan was trying to be positive about his situation:

Having both my knees reconstructed, it's forced me to build up my season slowly. I am forced to build the chain of my body up properly instead of going slap bang into off-season, and preseason, and then hurting my back like I did last year. I guess being injured is forcing me to be smarter. Hopefully, I've learnt some good lessons.



Ethan was still trying to view his injuries as educational. He talked wistfully about training, “I want to be out riding, and swimming, and running, and running, but I think there are other areas that I can improve on while I can’t do that . . . It’s hard for me to control.”

Ethan seemed to be working hard to be positive about his rehabilitation, but I wondered if he was putting on his tough face, as he did at the club. I asked if he was tempted to try to do a bit extra to get better sooner. He laughed when he answered:

I was told off the other day by the physio, “Don’t do that. You are progressing yourself too fast.” I have to listen to what they say. They have dealt with these sorts of injuries before, and even though it’s feeling good something might not be healed properly. I will listen to them, but you always want to do that little bit extra.

Ethan knew that knee reconstructions were serious operations and they would take time to heal. “I’ve never had knee reconstructions before, so I have to listen to every professional in their area to know what’s right. I’ve got to listen to them.” Ethan had to restrict himself to be able to play again, but knowing that and being able to do that were two different things.

During the off-season, the club had replaced their performance coach. The new coach seemed to have made an impression on Ethan, and he had listened to his new coach’s explanation of balance. The new coach was working hard trying to explain how important recovery was, and this time Ethan appeared to be listening:

I’ve been told it for many, many years, but I’ve never really listened. That comes from people who have experienced it before . . . and they’ve reaped benefits from having some downtime so why won’t it work for me? I am willing to give it a try.

Well, I've got no choice anyway I have to do it, but I am truly, truly believing that it [recovery] will help me (laughs).

Ethan began to talk about how he thought he would manage to catch up to his teammates.

It's going to be hard. I won't be able to start jogging, and they [the other players] have started that now. I'm going to be a few months behind them. The performance coach doesn't believe that it will take me as long as most guys, with my endurance base, to get back. He said we will be able to top up sessions and do little bits extra here and there, to get me back to that point.

The new coach seemed to be helping Ethan's worries regarding his fitness by promising Ethan that when he recovered he could do some extras. The reassurance was enough for Ethan to allow himself time to recover properly. As we wrapped up our interview, it seemed that Ethan was turning a corner with his balance of stress and recovery. Getting older, in combination with his back and knee injuries, made him realise that he could not sustain excessive training and play tough football any longer; he needed to find a new path.

### **Interview 5**

Ethan and I caught up again in the middle of the following preseason training. He had completed his rehabilitation and was back to full training with the senior team. Ethan's rehabilitation had gone from strength to strength without a problem. "I definitely haven't had any major hiccups in the way that they [his knees] have both healed up."

Unsurprisingly, he had worked hard at his rehabilitation program to recover as quickly as possible. Once Ethan had become mobile, he had gone on holiday with his partner. Ethan talked about how he managed to incorporate his rehabilitation into his vacation.

We'd get up pretty early in the morning, 6.30/7.00 and do 2 hours in the gym before we would even do anything. To the normal person [that] sounds ridiculous, but I knew it was going to help me get back to training quicker. . . . I made the effort of getting up earlier and making sure I could get it [rehab training] done. The whole time I was over there, I started my own training. I started three or four weeks before I had even come back [to the club].

It sounded like Ethan had used every opportunity to complete his rehabilitation early. As always, Ethan had returned to training faster than expected:

I wasn't supposed to be playing until the following week, but I played a practice match last Saturday, so I am at least two weeks ahead of where we thought I would be. I'm not pushing (laughs). They [physios] have cleared me to play these practice games, because I worked so hard at my rehab early on. I'm still not quite 100%. I'm sort of about 95-96%. Once I get all these practice matches out of the way, I think I'll be back to 100%. It's sort of taking it day-by-day, week-by-week, sort of thing with everything, my training, my treatments after training, my ice machine at home, the supplements that I am taking, and my diet. Everything has gone towards me recovering quicker and me being able to do more of the preseason than we'd first thought.

Ethan sounded like he had done everything possible to recover quickly to allow him to complete the bulk of preseason training. Even though he was almost back to full fitness, instead of being ahead of all the other players in the training drills he was in the middle of the group, but he talked about being happy with his progress:

It was sort of hard [not being at the front of the group], but I had some pretty serious work done, not just one, but two knees completely fixed. I'm not a bozo. I realize that I need time to heal. I was doing a lot of cross training. I knew I wouldn't be a long way behind [the other players] . . . I progressed very quick with the running, a lot quicker than they thought. My knees were responding really well to the running, and the treatment [ice machine and game ready machine at home] I was getting afterwards was allowing me to back up session after session. It didn't really play on my mind [that] the guys were out there and ahead of me.

It sounded like Ethan was maintaining his balance at the club. Ethan started to talk about his rehabilitation, because he had decided to focus on enhancing his recovery rather than training at the upper limits of the program. By using this approach, he had returned to full training much faster than expected. His confidence was starting to build again— perhaps partly due to his ability to recover quickly. He wanted to prove to his teammates that he was still at the top of his game:

I wanted them [teammates] to think, “How is he 2 weeks ahead? He is back up with the main running group, leading runs, and doing all that sort of thing. How is he doing that?” That was sort of my goal over this preseason.

Ethan seemed to need his teammates to be in awe of him and see him as the example of how to rehabilitate quickly. He was motivated to recover quickly to make his teammates proud of him:

I just love the club so much. I love the guys that I play with. I love the team. I would sort of do anything for those guys. I guess maybe knowing that, you know, they are proud of me in a sense for getting through what I've been through.

We talked about why he wanted the other players to be proud of him, and Ethan mentioned that he needed to set an example of the right way to behave when one is going through a tough situation like rehabilitation:

It's more for guys to realize that I've had two knee reconstructions, [and] if someone else has an injury don't whinge and mope about it, get on with the job. Look how fast you can come back into the main group. I guess it sort of spurs me on to be an example to other guys.

Ethan seemed to be setting up unrealistic expectations for the rest of the team. He felt he could motivate his teammates to rehabilitate quickly if he could demonstrate how fast he returned to training after the surgeries. I thought one of the reasons Ethan was able to concentrate fully on his rehabilitation was because of his external support network that rallied around him and facilitated him doing everything possible to rehabilitate. I did not think many of Ethan's teammates had this nonjudgmental support. I reflected on an interview that I carried out with a young player for my second study. The young player had explained that if another player had rehabilitated quickly without any issues, then every player should be able to do that within a similar period without complaining. If a player took longer to recover from an injury or illness than expected, he would face questions from the club about his ability and commitment. I asked Ethan if he felt his quick recovery put pressure on his teammates. He replied:

It's more as a leader to set an example [for] other guys. Preseason is so important to a whole team's setup. I haven't missed this preseason, although I've had these two major operations. If I can do it, there's hope for guys who have surgeries at the end of next year, [and] that it's not going to ruin their seasons. We're all going to be one

team together, and everyone is going to be fit and healthy, and we are going to have a great season.

Ethan thought he was an asset to the team by working as hard as he did. I was not sure if he realised the pressure other players felt to achieve similar feats. He thought he motivated the team and gained respect because of his hard work. Ethan started to talk about the importance of respect in the team:

To have the respect of your teammates it's just about number one on a personal level. It's a bloody hard game. . . . To get respect, it's a hard thing to get, because you have to grind your body, push yourself, be strong in the mind, and get through every day. Then you have to do that year after year after year. Some guys can't do that and can't handle that. Some guys are just happy to float through and get by. It's probably a 50/50 split [in the club] with guys who are pushing for perfection and then guys who go in and out of the system; they get found out. I reckon there would be a lot of guys who would leave the game with many, many regrets. Those guys with the regrets I doubt would get the respect from the players they played with. So I think guys should push more.

When Ethan made this statement, I felt a bit confused. I thought when he talked about learning the lessons of his body and trying to recover that his opinions were changing. When he said that he thought "guys should push more" it sounded like Ethan could only see one way to play football. He thought a player only gained respect from the footballers in the team when he showed he could grind himself during training and sacrifice his body for the team. I asked Ethan why his teammates respect was so important for him:

Anyone who was ever asked about what sort of a player I was [would say] that they respected me as a player, and I could sleep easy and, you know, be happy with my kids and family knowing that I had that respect when I was playing, and that guys loved to play with me out on the ground. Sometimes, that can drive you during training or during a game when you are finding it hard.

Our conversation moved to reflecting on the previous season, talking about what he had learnt about himself over the last year. Ethan suggested that his injuries had taught him important lessons:

I think the [knee] injury taught me a few things about myself. I allowed myself to, um, when I was sort of rushing to get back [to play last few games of the season] I rushed back within the limits. I didn't go outside the boundaries or do anything that I wasn't supposed to do. I took that approach again [after his knee reconstructions]. With my back, I guess I've learnt it's more important to look after it. Yeah there's a certain point, and I push it to that point, but I never sort of go over that now.

It seemed contradictory that Ethan thought that players should push through more, but that he felt that he should look after his body and not go over his boundaries. I asked him if he thought he had changed over the year. He replied, "I have definitely changed in that [recovery] aspect for sure. I have definitely learned from my experiences in sport with my body, and I am a lot smarter now." Ethan thought he could control the *do more* voice in his head now. He explained:

You've only got one body to use. I've seen many teammates in the past have to retire because of their body. It's unfortunate because they still have the burning

desire to play, and you know they've got unfinished business, but their bodies just can't go on anymore, no matter how physically fit they are.

Ethan told me a story about an older player who was reaching the last years of his career, but he seemed to be getting better with age. The footballer trained hard constantly to prove he was still as fit, if not fitter, than the younger players were. He was desperate to keep playing, and he thought that this season he might become a premiership footballer. During the preseason, the footballer sustained a serious injury, and within weeks his football career was over. The player was distraught, but Ethan used this lesson to remind himself that he did not want to end up in the same situation:

That clicked something in my mind. You've really got to take good care and push it to that line, but sort of don't go over it. Definitely, I took my back for granted. As a young fellow, you just thrash your body to try to be the best that you can. As I am getting more experienced and older . . . I realize that's [his body] what is out in the field producing for you in the game. That's what I have learned.

We started to discuss other ways in which he thought he had changed from the first interview. I reminded Ethan that he had suggested MT was about being able to thrash his body, take the big hits, and keep going regardless of how the training feels. I asked Ethan what he thought MT was now, "Yeah, I guess the thinking of more is better [has changed]. You know, my mental toughness will always be there, but it's just sort of a different sort of toughness, I think." I asked Ethan to elaborate on what he meant by, "a different sort of toughness."

Oh, it's just a smarter toughness. I'll never back down if someone tells me to do something. I'll do it and want to do it with gusto, but within certain parameters. If it



is going to affect my body for the long haul then you sort of have to work out what's the best way to go about it rather than just going straight into it full steam ahead. So, yeah, I think I have definitely changed in that way. I guess with experience you come to realize where that sort of line is. Sometimes you learn the hard way, and I've certainly done that (laughs).

I thought Ethan had changed his perception of MT; he seemed to think that it was still about being able to do the hard work, but now there were boundaries. I wondered how the change translated to his training at the club. He had previously talked about how he was a perfectionist when it came to his training:

(Laughing) I'm more of a perfectionist now with my recovery. I certainly train as hard as I ever did, but I'm more focused on preparing myself for the next training session. Rather than spending the extra 5 or 10 minutes out on the track . . . I might stretch for 5 or 10 minutes more, or jump in the ice bath, or do something like that so I can back up again for the next training session. You soon realize that the older you get your body can't, um, your body starts to struggle a little bit. I'm only 27, but you certainly start to feel the effects of footy after 9 or 10 years. So that's what I am more of a perfectionist in now. But that super-motivation will always be there, but it's more realizing that it's game day that you worry about more. I think I have, probably in the past overprepared myself.

Ethan explained what he meant by overpreparing himself:

Just those little things where I just repetitiously do so many that I think I'm never going to stuff this [skill] up during a game. I'll keep doing it, and I'll keep doing it,

until I'm nearly exhausted, nearly falling over on the ground doing extras. I guess that's what I mean with that sort of thing.

Ethan would always give everything he could to the club by training as hard as he could to get the best out of himself for the team. Overpreparation was his pattern, and he had trained that way for almost 10 years. The pattern had been successful for him, but now he was realising that his body needed a new pattern, one of recovery and looking after himself. The idea of taking care of himself extended to his understanding of MT, but although his idea of the construct had changed a little, he still needed to feel that others thought he was mentally tough:

I guess mental toughness and being super-strong in the mind is always there. There are just a few little adjustments that I have made with myself to allow myself to produce, [and] to keep producing my best as the years go on. As a young fellow, it is all about pushing, but as you get older, your body cannot just keep doing it. So you have to draw a balance with things. I don't think that makes me any less mentally strong or anything. It probably makes me even more mentally tough being able to find the new balance, and be what I can be. I mean for me it's just being mentally smarter more than anything.

Ethan understood that for him MT had changed throughout his career, when he was a young footballer MT was about pushing hard, but now that he was in the latter years of his football career MT was about finding a balance to maintain his performance. Ethan thought that the core of MT was the same, but with a little tweaking around the edges. He explained that MT was still about pushing through, but within limits:

Push your barrier, to definitely push your barriers, but be smart about those barriers. Don't cross them or don't cross them too often, because you will learn to listen to your body over time. It's not so much that more-is-better all the time now. It's more-is-better, but be smart about being that way. I think, um, be balanced in the way you push your body and use your body. I suppose sort of don't abuse [your body]. Part of being mentally tough is not thrashing yourself when you want to, well not all the time, a little bit is ok.

During our first interview, Ethan had said being mentally tough helped him be successful in football. I asked him if he still thought that MT had benefited him in his career or had it ever hindered him at all. Ethan replied:

Mental toughness definitely helps in the long run, but (pauses) it's the smartness and the way you go about it [that] will define whether it's a hindrance or not. I think I've learnt that. I don't reckon I would be where I am today if I didn't have that fanaticism that I have had over the years. Some guys will get through on their talent and that's fine. That's their God-given right, and they are blessed with that. Most guys, to get to the top, top level have to have that mental toughness to get you there. I'm probably the perfect example of that. I wouldn't be here [without mental toughness]. I've learnt that you can be mentally tough, but realize that your body is your tool. Your body is your tool of the trade, so make sure you look after it and don't abuse it. If you are feeling great, go for it hammer and tongs, and don't let anybody hold you back. But yeah, just be smart I guess . . . Without mental toughness and the way I am, I, um, I don't reckon I'd be here.

As Ethan left our final interview, I thought his opinions had changed over the last year. When I first interviewed Ethan, he did not seem to know any other way to be successful other than *bash and crash*, training hard, and playing tough football. Now, he sounded like he was a player who knew his limits. Ethan's body was beginning to show the signs from years of exposure to excessive training, but Ethan had the awareness to recognise he had to change. I thought this was a big step for Ethan, and I did not think that many people had the ability to recognize the need for change and implement it the way Ethan seemed to be doing.

In the intervening three years between interviews and writing up this case study, Ethan continued to be a regular player for the senior team. As I was completing his case study, he sustained a season-ending injury during a midseason match. The injury required reconstructive surgery, which would again take months of rehabilitation. Since our interviews, this injury was the first serious one Ethan had sustained. It seemed that Ethan had been able to change his pattern to play successfully. Unfortunately, this injury left Ethan on uncertain ground. His contract was nearly finished, and he was not sure the club would sign him up for another year. It seemed cruel; Ethan had paid a heavy price to play football, because in the short period I met with him he had chronic bulging discs, two knee reconstructions and now, one shoulder reconstruction, but he had never become a premiership player.

### **Discussion**

Throughout the period I interviewed Ethan, it was clear that he was motivated to stay in professional sport for as long as was possible. His single-minded pursuit of his goals left me in no doubt that almost any price would be acceptable to continue being a

footballer. At the end of our interviews, Ethan had mentioned that being a participant in my study had helped him to think about his attitude towards training and recovery. In the following sections I will discuss the areas of Ethan's case study that represent similarities and differences to the published research, MT definitions, OT, and MT characteristics.

### **Mental Toughness Definitions**

From the research on MT definitions, Ethan appears to be the personification of the popular definitions. Ethan fits neatly into Jones et al.'s (2002) definition of MT. He thinks of himself as being stronger and tougher than the other players, coping better than his opponents both in and out of sport, and believes he is more confident and in control under pressure than other players. It seems that Ethan would probably agree with the participants Thelwell et al. (2005) interviewed who described MT in terms of generally coping better than one's opponents. Comparing Ethan to the definition Clough et al. (2002) forwarded, Ethan was a mentally tough athlete; he had a high sense of self-belief, an unshakeable faith that he controlled his destiny, and competition spurred him on to train harder.

In Middleton et al.'s (2004a) definition, Ethan clearly has "unshakeable perseverance and conviction towards some goals despite pressure or adversity" (p. 6). Regardless of the injuries Ethan sustained, he consistently displayed unshakeable perseverance and conviction to play football. By using the Gucciardi et al. (2008) definition, Ethan was mentally tough. He demonstrated the attitudes and behaviours to persevere and overcome anything in his path (and do so repeatedly). He appeared to maintain this attitude when he was performing well and not just when he was overcoming adversity, which fits with Gucciardi et al.'s definition

Ethan seems to epitomise the idea of a mentally tough footballer. Nevertheless, throughout the period I interviewed Ethan, his perception of MT changed from being bash and crash, and never give up until you have achieved your goals, to pushing hard but knowing your limitations, and not going beyond your limits too many times without adequate recovery. MT seemed to be an evolving construct during the interviews with Ethan, which lends support to Fawcett (2011) and Andersen (2011) who suggested that MT might be changeable in differing circumstances.

Ethan's ideas regarding MT having its limits is not in keeping with the MT literature. Numerous researchers have posed questions about a potential dark side of MT (Andersen, 2011; Coulter et al., 2010; Crust, 2008, Gucciardi et al. 2008; Gucciardi & Mallett, 2010; Levy et al., 2006, Richardson et al., 2008). Andersen (2011) asked, "Can one be so mentally tough that this constellation of variables might set one at risk?" (p. 81) and went on to suggest that trying to be mentally tough may be associated with psychological damage and distress. The MT literature does not explicitly address boundaries or limits, so far the research regarding MT is more about believing you can, "punch through any obstacle people put in your way" (Jones et al., 2007, p. 250).

Andersen (2011) suggested that "maybe we need to look at MT as a variety of transient, fluctuating and mercurial states of being" (p. 71) instead of trying to identify and define a rigid construct. Ethan's case study clearly displays a shift in his understanding of MT and indicates that MT may be different things at different times dependent upon that individual's experiences, environments, characteristics, and influences.

## **Overtraining**

Ethan would often turn up to the interviews with a cold, a cold sore, or injured, all of which are markers of OT (Armstrong & VanHeest, 2002; Kibler & Chandler, 1998; Richardson et al., 2008). Ethan displayed many risk factors of OT. For example, he expressed a fear of failure, guilt about missing training or not trying hard enough, and a belief that hard work was the path to success (Botterill & Wilson, 2002). Ethan was a perfectionist about training, had an obsessive commitment to training, and possessed an extremely strong work ethic with a high internal drive for success, all of which are characteristics or behaviours of an OT susceptible athlete (Richardson, 2005). Ethan constantly demonstrated a maladaptive response to SRI by pushing through injury, ignoring pain, continuing training regardless of illness or injury, and neglecting recovery (Richardson et al., 2008). The football environment added to his OT risks; he was in a sport with a tough culture that had a history of excessive training, with a constant comparison to other players (Brustad & Ritter-Taylor, 1997; Richardson et al., 2008)

Ethan demonstrated many characteristics of MT throughout the time we met. In the next section, I will identify the MT characteristics he displayed that are pertinent to the discussion on MT and OT.

## **Mental Toughness Characteristics**

### **Work Ethic**

Ethan clearly displayed an extremely strong work ethic; he always worked hard and pushed himself through demanding situations in competition, training, and preparation to reach his goals, which are similar characteristics Gucciardi et al. (2008) reported. Ethan displayed an unbelievable determination to succeed, so much so that he recognised that his

determination to play at any costs had meant he played in pain and probably caused a serious injury. One characteristic of the work ethic Ethan mentioned was his meticulous preparation; he talked about how he used to overprepare. Gucciardi et al. (2008) identified meticulous preparation as “doing everything in your preparation and leaving no stone unturned to ensure that you are prepared mentally and physically (p. 269) as part of the work ethic characteristic of MT. Ethan talked about feeling an overwhelming need to prepare for each match, and this would leave him falling off the pitch with fatigue. It seems that this aspect of MT led to Ethan upsetting his balance of stress and recovery. He talked about working hard to learn about his opposition and perfecting the skills needed to play well against specific teams; this meant he had to carry out extras that were encouraged by the club. Kellmann (2002) identified that physical, social, or psychological stress needed corresponding recovery. At the beginning of our interviews, Ethan did not think his overpreparation warranted any additional recovery, but after he had both knees reconstructed, this attitude changed. Ethan now felt that he had possibly prepared too much in the past, potentially causing him to struggle with his stress/recovery balance.

### **Physical Toughness**

Connaughton et al. (2011) identified three studies (Coulter et al., 2010; Gucciardi et al., 2008; Jones et al. 2007) that included physical toughness as an attribute of MT. Ethan demonstrated many behaviours that displayed his physical toughness that are similar to those represented in the MT research. He pushed himself to the limit (Jones et al., 2007), he played to the best of his ability whilst carrying an injury, he pushed himself through extreme fatigue (Gucciardi et al., 2008), and he pushed through the pain barrier (Coulter et al., 2010). Ethan consistently demonstrated his physical toughness at the football club. He



would always play if the medical staff gave him the okay. Richardson et al. (2008) described playing injured and training through fatigue as risk factors for SRI and OT. Ethan thought he should be able to manage almost any physical pain he felt and still perform well to set an example at the club. On a number of occasions, Ethan had continued training despite aches and pains from injuries that led to the further damage occurring. Richardson et al. (2008) suggested that continuing to train and perform while injured is a maladaptive behavioural response to SRI, which may lead to OT. When Ethan was demonstrating his physical toughness, he was also demonstrating an increased likelihood of OT.

During our interviews, as Ethan recognised that training through injuries and fatigue was not helping him, he attempted to reduce his training loads when he was feeling tired or had heavy legs. Ethan knew that his body would not be able to hold up for much longer if he maintained his imbalance between stress and recovery. By reducing his training loads and not playing injured or fatigued, Ethan was not being physically tough, but he performed at a higher level when he was not sore or fatigued. The idea of balance and enhanced performance is consistent with the OT literature (Kellmann, 2002; Kenttä & Hassmén, 2002; Richardson et al., 2008).

### **Emotional Intelligence**

Researchers have highlighted emotional intelligence and self-awareness as characteristics of MT. Ethan appeared to have the awareness that, for him to be successful at the club, he needed to be able control and manage his emotions. Coulter et al. (2010) identified emotional intelligence as “possessing self-awareness when facing challenges to control and manage your emotions” (p. 706). Ethan demonstrated his emotional intelligence at the club by holding any unhelpful emotions in until he was away from the football club

and around people who did not judge him for showing his vulnerability. Ethan needed an outlet for these emotions, and he had a support network around him that enabled him to express his emotions. The MT research has identified that changing unhelpful thoughts and feelings (Jones et al., 2007), and not allowing emotions to affect performance are integral to MT. Ethan did not sound able to maintain his mentally tough image at the club if he did not have the ability to let his unhelpful thoughts out and vent his negative emotions at home. Ethan seemed to have enough awareness to know that he needed to be able to deal with his emotions, but that he could not show these emotions at the club.

Richardson et al. (2008) reported that a problematic aspect of MT was, “never showing any emotional response, and basically putting up with things” (p. 92) and explained that silencing emotions can be harmful. Not being able to display emotions, or viewing any emotional vulnerability as weakness may increase feelings of pressure for athletes, because they can fear being seen as the weak player in an environment that applauds exhibitions of toughness.

### **Attention and Focus**

Ethan displayed aspects of this MT characteristic, by “totally focusing on the job at hand in the face of distraction” and “remaining committed to a self-absorbed focus despite external distractions” (Jones et al., 2007, p. 251). The most important aspect of Ethan’s life appeared to be football, and he was so self-absorbed in football that he suggested that he would never let anything external to football affect his performance. Nonetheless, Ethan did struggle with switching his sports focus on and off as required (Jones et al., 2002). Ethan carried out extra training away from the club, and when he was injured, he spent every

night doing as much as he could to recover faster. In the club, Ethan gained admiration for not switching his sports focus off.

The coach talked about how Ethan was able to recover faster than anyone else in the club could, because he never stopped thinking about ways to recover faster. Ethan did not engage in other interests in life, partly due to rarely switching his sports focus off. Winsley and Matos (2011) suggested that the development of a unidimensional identity was an OT risk factor for young athletes, because sport became so important when they did not perform there was nothing else to buffer the disappointment. Ethan was absorbed in football to the expense of everything else in his life. Coaches at the club reinforced the importance of putting football first, and Ethan took that idea on board and discarded things in his life that would hinder him achieving his goal. Focussing solely on football was the right way to be successful at the club, but having nothing else in life except football could lead to limited identity in other areas of life and increase his susceptibility of OT.

The coaches and players regarded Ethan as the mentally toughest player in the team, but being mentally tough led Ethan to becoming injured, ill, and learning a pattern of OT. Ethan had taken on the cultural values of football and trained excessively, hiding his pain while performing well, but he was only able to maintain the façade by having an unconditional support network outside football. Ethan displayed characteristics of MT, but not because he could bash and crash through opponents, or thrive under pressure, but because he became what he needed to be to gain success and found a way to be himself away from the club.

## **CHAPTER 10**

### **GENERAL DISCUSSION**

The original aim of this thesis was to investigate if MT might influence perceptions of stress and capacity for recovery in elite athletes with a view to understanding why some athletes are susceptible to OT. By exploring MT characteristics and behaviours and being mindful of OT risk factors, I hoped the research would enable a clearer picture of how MT may help or hinder athletes in maintaining a balance between stress and recovery. As my research progressed, the confusion surrounding the term and the measures of MT made me take a step backwards to try to clarify the role of MT in elite sport. Instead of focussing on specific MT characteristics and behaviours, I asked questions regarding the role of MT and OT in elite sport and listened to the stories of elite players and coaches in the Australian Football League.

In the following sections, I present a discussion on how the definitions of MT produced in this project relate to the current literature. I then compare how my research relates to the literature in terms of MT characteristics, the potential dark side of being mentally tough, and the OT risk factors.

#### **Mental Toughness Definitions**

From reviewing my research project, I get a sense that defining MT is not a simple task. Conflicting definitions regarding MT are evident from my aggregate stories and within the case studies. The footballer's (Chapter 5) story, and initially Ethan's case study (Chapter 9), highlight MT as pushing through pain, taking the hits, never showing emotions, and overcoming adversity, which is similar to much of the previous research (Clough et al., 2002; Jones et al., 2002, 2007; Middleton, 2005), but the participants in the

coach's tale described MT in a different manner. The coach in the story identified MT as training smart, not hard; pushing your limits, but not all the time; and being able to discuss problems. These themes of MT are not evident in the descriptions of MT in the published research, but appear to bear resemblance to some of the potential problems with MT (Andersen, 2011; Coulter et al., 2010; Crust, 2008; Gucciardi et al., 2008; Levy et al. 2006).

My research deviates from the majority of the current published research in terms of how changeable MT appeared to be. Researchers have produced MT definitions that use terms indicating stability (e.g., unshakeable faith, Clough et al., 2002; unshakeable perseverance and conviction, Middleton et al., 2004a), but in Study 3 the MT definitions for both participants changed over the course of the interviews. Ethan initially defined MT as the ability to persevere regardless of the obstacle one faced and never give up, but by the end of the interview period Ethan's idea of MT had changed to encompass recognising limits and having boundaries, and realising that recovery was important. Fawcett (2011) previously voiced the view that MT is changeable. He suggested that, "the term mental toughness may mean something different to different people . . . and is arguably interpreted differently within different situational circumstances" (p. 9), and Andersen (2011) suggested viewing MT "as transient, fluctuating and mercurial states of being" (p. 71). The research in this thesis lends support to the ideas of Fawcett (2011) and Andersen (2011), because in Study 3, MT varied between and within interviewees over the course of 14 months. In addition, results from Study 2 highlighted conflicting interpretations of MT. The fuzziness of MT in this thesis, and in the wider MT research, regarding the description of MT seems to indicate that developing a MT questionnaire may be ineffective. Perhaps no

MT questionnaire can realistically measure everyone's ideas of MT. Developing a measure to monitor a construct that appears transient and fluctuating (and dependent on specific sport cultures) appears destined for failure. The limited reliability observed in Study 1 also lends support to the perception that the construct may not be measurable.

### **Mental Toughness Characteristics**

The MT characteristics identified in this project share similarities to the characteristics in the published research (e.g., self-belief, coping/handling pressure, motivation, tough/resilient attitude, physical toughness), but in contrast to the MT literature, coaches and players highlighted that several of these characteristics were problematic for health and wellbeing. For example, in regards to the MT characteristic of motivation, several researchers highlight this attribute (Coulter et al., 2010; Fourie & Potgieter, 2001; Gucciardi et al., 2008; Jones et al., 2002, 2007; Middleton et al., 2004a) as an integral aspect of MT. Descriptions of motivation in the MT literature include having an insatiable desire and internalised motives to succeed (Jones et al., 2002), having an internal motivation or drive to pursue personal best performances (Middleton et al., 2004a), and having a winning mentality to think in a way that not only motivates one to never give up, but also helps one to overcome fatigue or pain to achieve success (Coulter et al., 2010). In my research, the participants agreed that motivation was important for success, but they identified situations where being excessively motivated became detrimental for performance and wellbeing. Joe's case study identified a situation where players were so motivated to play senior football they would hide any injury or illness to try to gain selection for the senior team. Ethan highlighted numerous situations when he was motivated to be the best in the team and keep in front of his own teammates that he trained

excessively without appropriate recovery, which led to injuries for Ethan. Richardson et al. (2008) reported that being supermotivated can potentially increase the likelihood of SRI. In my thesis, having an insatiable desire, and never giving up until you have reached your goal, or overcoming fatigue or pain to attain victory led athletes to sustain serious injuries and to players OT.

Physical toughness is another example of a MT characteristic that could lead to problems for athletes and coaches. The published research identifies that being physically tough allows players to play through pain, ignore injuries, and push one's body through extreme fatigue to keep performing (Coulter et al., 2010; Gucciardi et al., 2008). These themes were prevalent in my research, each player and coach indicated that being physically tough was an important attribute of MT, but participants suggested that there were situations when trying to be physically tough could be detrimental. Ethan's case study (Chapter 9) was testament to a player who drove himself to perform with pain and fatigue although he knew he could not perform as well (he had evidence from the global positioning system) when he was fatigued. Ethan still struggled to make himself take enough recovery because he felt the need to prove how physically tough he could be. In the footballer's tale (Chapter 5), he demonstrated his physical toughness when he opted for a quick-fix surgery to allow him to play football the following week, which meant he had permanently reduced mobility in his hand. The footballer in the tale happily accepted his inability to hold things with one hand as the price to be a professional athlete. An alternate view came through in Joe's case study (Chapter 8) and in the aggregate coach's tale (Chapter 6). For example, when the young coach was playing football he did not want to continue getting weekly injections to enable him to play a match, because the pain

throughout the rest of the week was so severe that he could not sleep. When he asked the club doctors if he could get treatment to fix the problem rather than mask it, the coaches punished him to teach him to toughen up. It appears from my research that demonstrating physical toughness meant that players had to deal with physical pain and perform well. If a player could not continue playing when the coaching team thought the player should be able to, then they were not tough enough. The traits of pushing through pain and overcoming extreme fatigue were evident in my research, but a theme that arose from the stories and case studies (Chapters 6, 8, & 9) indicated that being physically tough may be damaging to long-term health, and if one is not happy to sacrifice physical health then one is not being mentally tough enough. In this thesis, it was clear that demonstrating some characteristics of MT might come with short- and long-term health consequences.

### **Mental Toughness and Sports Culture**

Comparing MT research to the data from Studies 2 and 3 there appears to be many similarities and differences in the ways MT is considered to be developed. In the following sections, I will compare the results from my research to the published research focussing on the influence of the coach and club environment.

#### **Coach-athlete Relationships**

Several research teams have reported the strategies that coaches have identified to aid MT development in athletes (Bull et al., 2005; Connaughton, Wadey, et al., 2008; Connaughton et al. 2010; Gucciardi et al., 2009; Weinberg et al., 2011), but the data from my research project provided an alternative version of coaches' MT development strategies. The Australian football coaches Gucciardi et al. (2009) interviewed reported that developing the coach-athlete relationship facilitated MT development. Tactics the coaches



identified that helped to establish and maintain positive and supportive coach-athlete relationships included having an open line of communication that related to athletes in a holistic light, not just in terms of athletes' performance. Such supportive coach-athlete relationships were not evident in the aggregate tales or case studies. One of the many examples included when the participants from the footballer's tale (Chapter 5) talked about hearing the coach say that he did not want to know if a player was having emotional difficulties, because he was not there for that. The coach's role was purely to teach him how to play football. Weinberg et al. (2011) suggested that coaches who focussed on creating good relationships and positive environments for athletes instead of spurring athletes on by being tough and negative "was a welcome addition to the coaching literature" (p. 169). In this thesis, coaches and footballers did not reflect similar beliefs that coaches fostered an open line of communication to create a positive and supportive environment, but the theme that appeared most prevalent was one of an autocratic coaching style with players not talking about emotions or vulnerability and instead "copping it sweet." One interviewee cited in Richardson et al. (2008) identified that the concept of MT socialises men to suppress emotional aspects of life, and the interviewee recommended that moving away from identifying emotional expression as being weak or lacking MT would be beneficial for men. In this thesis, the coaches encouraged footballers to silence their emotions and hide vulnerability. The aggregate tales and case studies support the view that the coach-athlete relationship was hierarchical in nature and not an open line of communication to discuss issues in football and wider aspects of life, as the published research suggests.

Gucciardi et al. (2009) identified that a healthy coach-athlete relationship was more likely when coaches committed to maintaining a long-term relationship with athletes. Athletes were more likely to listen to what the coach said when they felt the coach was interested in the athlete over a long-term period. In this thesis, there was little evidence of coaches being interested in encouraging long-term relationships. The participants talked about the coaches ignoring them when they were not playing well or injured and described feeling worthless if they could not play. Several footballers felt the only way to get the coach interested in them was to train harder and perform to a higher standard. The examples given in both aggregate stories and case studies highlight the limited interest from the coach in maintaining long-term relationships, because as soon as players were not useful to the team they would be ignored.

Richardson et al. (2008) identified that when coaches dispersed approval or love contingent on performance, athletes may increase their training to try to continue gaining approval from coaches, and this behaviour increased the susceptibility of OT, illness, or injury. There were numerous examples in my thesis that highlighted coaches' use of contingent attention. For example, Joe (Chapter 8) would not receive one-on-one training until he proved his commitment to the club, and only when Joe adopted the club's values regarding toughening up younger players did he get any attention from the coaches. In the coach's tale, (Chapter 6) the player was ignored when he was not performing well, and one participant from this tale suggested that players were "pieces of meat," and it did not matter what the footballers thought, or felt, or what happened to them physically as long as they performed. The stories in this project reflect limited interest from the coaches in developing long-term relationships with footballers. Researchers have identified the coach as

influential in developing MT (Connaughton et al., 2010; Connaughton, Wadey, et al., 2008; Gucciardi et al., 2009; Thelwell et al., 2010; Weinberg et al., 2011), but the results from this thesis do not provide support for the methods that the coaches used to develop MT identified in the MT literature.

One additional deviation from the current literature in my thesis related to strategies that obstructed MT development. The participants Gucciardi et al. (2009) interviewed reported coaches who overemphasize players' weaknesses, without acknowledging and reinforcing strengths, impede the development of MT. In the footballer's fictional tale (Chapter 5), the player described how, after every match, his weaknesses were highlighted in front of the playing group, as a way to develop his MT. Players' weaknesses were written up on a white board for the whole club to view in a player's first few weeks at a club. Reinforcement of strengths and praise were scarce in the stories or case studies with the exception of times when the player had demonstrated excessive MT (e.g., the footballer's story of the training camp when he had endured days of no sleep and constant threats of attack). Highlighting weaknesses, not strengths, was the strategy coaches used to develop MT in this research project. Clearly, the methods described here are similar to the methods Gucciardi et al. (2009) reported that impeded MT development, but in this project, the coaches used these methods to develop MT.

### **Coach Influence on Mental Toughness**

Playing through pain and performing injured was a consistent theme in my thesis that appears coach driven and has similarities to the published research. The MT research lends support to this cultural norm that mentally tough players can push themselves to the limit (Jones et al., 2007), play to the best of their ability whilst carrying an injury

(Gucciardi et al., 2008), and maintain performance whilst injured, fatigued, or hurting (Coulter et al., 2010). Nixon (1992) reported that 31% of coaches endorsed the view that athletes deserve respect when they play with pain and injuries. In the aggregate stories and case studies, coaches admired players who could play injured (e.g., Ethan, Chapter 9) and punished players who could not (e.g., the footballer in the aggregate story, Chapter 5). The coaches identified players who could take the hits and still manage to get up and play as examples of MT, and they respected the players who would sacrifice their bodies to play for the team in important matches. There were examples in Ethan's case study of the coaches admiring him when he could return early from injury. It is apparent in this thesis that the coach influenced the psychological climate at the club and drove home the message that playing injured is admirable. Many of these themes are prevalent in the research on OT, MT, and sources of stress.

Noblett and Gifford (2002) identified a number of ways that a coach can be a source of stress. Many of these sources of stress are similar to the stressors identified in my thesis. Autocratic leadership, abusive criticism from coaches, coaches being difficult to approach, limited support when playing poorly, and interpersonal conflict with coaches were themes evident within the aggregate stories and case studies. These themes are consistent with risk factors that increased the likelihood of OT. For example, poor coach-athlete communication (Botterill & Wilson, 2002), coach pressure to win and abusive coaching (Krane et al., 1997), and athletes who felt humiliated, denigrated, and verbally abused by coaches (Wrisberg & Johnson, 2002), were identified as risk factors for OT. Brustad and Ritter-Taylor (1997) suggested that coaches influence athletes to overtrain by instigating a more-is-better approach to training and that playing injured is the norm. By endorsing this

work ethic towards training, coaches can facilitate OT in sport. The psychological climate that coaches establish can clearly influence athletes' behaviours with regard to training and recovery. Many of these risk factors are apparent in the coach and footballer stories and share similarities to the ways that coaches described MT and strategies they use to develop MT.

### **Club Culture**

Researchers have examined the role of sports culture in OT (Richardson et al., 2008); nevertheless, sports culture research is not apparent in the MT literature. A subculture exists when a group shares common values and beliefs that distinguish group members from the mainstream of society (Brustad & Ritter-Taylor, 1997). The results from my interviews suggested that the norms, values, and expectations of the football culture influenced how footballers and coaches behaved within the subculture of the football club. An obvious example is from Joe's case study. By the end of the interviews with Joe, he had accepted that to be successful in the club he had to adopt the values and behaviours of the football culture. When the head coach only offered Joe a trial contract, he was driven to adopt the cultural values of MT. Joe's brush with failure increased his motivation to become a footballer. Brustad and Ritter-Taylor (1997) suggested that as a particular identity becomes desirable, individuals demonstrate great commitment to attaining and maintaining the desirable identity. As a way to gain acceptance to the club, Joe adopted the bullying behaviours that had once made him feel sick and drove him to overtrain. Joe demonstrated the behaviours that were acceptable in the club (the ones he had previously considered unacceptable), and he regarded the bullying as a way to help younger players.

The sport culture of the aggregate stories and case studies represents similarities to many of the previously identified issues highlighted in MT research. Levy et al. (2006) identified that injured athletes who scored higher on MT, as measured by the MT18, appraised injuries as less severe, with less susceptibility to reoccur, and they could tolerate more pain than mentally weak athletes. The stories in this research have similar themes to Levy et al.'s research in that mentally tough players dismiss the severity of injuries, which may lead to chronic injury, and are proud when they can play through pain, and these themes seem rooted in the sport culture. From Study 2 and 3, it appears that mentally tough athletes were expected to tolerate pain, and recover faster than other players, and that little things like an injury should not affect mentally tough athletes.

Crust (2008) posed a question regarding if MT was about playing injured, risking damage, or stopping training and competing to seek medical help. In the aggregate tales and case studies, it is clear that athletes who do stop to get medical help are viewed as mentally weak. In these stories, the answer to Crust's question would be that, in the football club studied within my thesis, the mentally tough players do play while injured potentially risking further damage.

Gucciardi and Mallett (2010) suggested that some characteristics of MT (e.g., insatiable work ethic, never accept mediocrity) might lead to an increased risk of OT. In the majority of the interviews for Study 2 and 3, proving one's MT meant overtraining. Overuse injuries were tangible proof that one could train hard enough in this football culture. In the aggregate footballer's tale (Chapter 5), having a stress fracture helped him become part of the group, and in the first few weeks at the club by pushing himself to the limits in the time trials, he got noticed and commended for having the correct type of work

ethic. An interviewee cited in Richardson et al. (2008) identified a number of ways that MT can be problematic, which appear to be similar to many of the themes produced in this research. First, MT becomes defined as never complaining (demonstrated in Chapter 6 when the player asked the coach about altering his training to avoid OT, and he learnt that complaining was viewed as weak); second, tolerating high levels of pain (the footballer in Chapter 6 who was expected to play injured for the rest of the season); third, tolerating high levels of stress (Joe's case study managing his performance anxiety by being told to be better than that, Chapter 8); fourth, never showing any emotional response (Ethan learnt that to be successful he had to hide emotions at the club and only be emotional at home, Chapter 9); and finally, basically putting up with things (in Chapter 6 when the coach realised that he could not win against the football culture and he had to conform or leave) .

Many of these themes are similar to the risk factors and sources of stress identified in the published literature. Pressure to conform to club image, fear of being seen as weak, and a fickle environment were identified as sources of stress for Australian footballers (Noblett & Gifford, 2002). In each story, participants related to these sources of stress and displayed an understanding that they were disposable in the football club. Richardson (2005) identified a number of OT risk factors that bore resemblance to factors that mentally tough athletes were suggested to be able to manage. These factors included pressured team-sport environment with constant comparison to others, a large selection pool of high potential athletes, and sociocultural reinforcement for more-is-better attitudes.

Within this thesis there is a suggestion that the sociocultural influences on the conceptualisations of MT are greater than that of the individual, and MT then becomes whatever the sports culture determines it to be. Applied sport psychology research seems to

have gone down a similar path and focussed attention on the individual in sport rather than to direct attention more broadly at the wider sociocultural influences on the individual (Brustad & Ritter-Taylor, 1997). MT researchers appear to have followed in applied sport psychology's path and housed MT at the individual level. MT themes that were prevalent from this research included more-is-better, play through injuries, never show pain, always give 110%, vulnerability is weak, and football has the highest priority. Within the OT literature, researchers have suggested that these MT themes are risk factors that potentially increase the susceptibility of OT by encouraging a maladaptive response to SRI, illness, and injury.

The original aim of this study was to investigate how MT might influence perceptions of stress and capacity for recovery with elite athletes. To a degree this aim has been met in that adopting the cultural version of MT meant that athletes perceptions of stress and capacity for recovery was influenced by trying to demonstrate MT. Athletes who wanted to show their culturally determined version of MT hid all stress they were feeling and boasted that they did not need much recovery, then limped home to lick their wounds in private. The cultural version of MT appears to colour how an athlete deals with their stress and recovery. MT does indeed appear to influence stress and recovery, but not in the buffering manner that was originally hypothesised. Delving into MT in the football culture meant more questions were raised than answers provided and the void between what researchers have produced in MT investigations and the real life version of MT seems overwhelming.



### **The Researcher in the Research Process**

As I am sure is the case with many PhD students, I finished my PhD with vastly different views than the ones I had when I started. My interest in this topic came from a desire to learn how to become mentally tougher. I started out naively to pinpoint what characteristics of MT would enable athletes to cope in difficult situations and to learn how mentally tough athletes managed stress and recovery without overtraining. On reflection, the motivation behind the aims of my thesis was to understand how to become tougher myself. This PhD represents a difficult journey for me, but I think I have emerged a mentally tougher individual by trying to accept my weaknesses instead of trying to push through and ignore my pain.

I thought MT was about never being afraid, not showing emotion or vulnerability, being able to cope with any situation, and overcoming all adversity, which is similar to the published research. For me, it was (then) unfortunate that it was not natural to display these characteristics, but I always tried hard to promote this image. I would work harder than anyone else could, and compete in sports that others would not. It goes back to high school when I took a subject I hated, because the teacher told the class that girls probably should not be able to do his subject. I hated that subject for the next two years, but I would not give up. MT themes are prevalent throughout my life and generally these themes facilitated successful outcomes, but it was exhausting and disheartening trying to be mentally tough.

As I interviewed participants for my second study, I went through many emotions listening to the MT stories: pity, envy, despair. I absorbed the stories of mentally tough athletes who could manage amazing feats. I felt sorry for the athletes who were not coping,

not being mentally tough enough, but in the back of my head, I knew my story had similarities to theirs.

During the period I collected data for my second study I was pregnant and subsequently became a first-time mum. I did not cope well with the transition into parenthood, but I thought I should be able to. The first year of being a mum was not joyful, but instead it was a desperate attempt to try to pretend I was happy and enjoying this new pathway in my life. Other mums were happy, and I thought I should be too. I felt many similarities to some of the footballers' and coaches' stories, but my experience was in a different setting. In some of the interviews, players and coaches talked about achieving their dreams of being professional athletes or coaches. Everyone around them, themselves included, thought they should be happy, but for some participants their time in football was not joyful either. Even though I shared similarities with the athletes and coaches I deemed not mentally tough enough, I tried to separate myself from them, and instead, identified myself with athletes and coaches who I thought were mentally tough. The more I listened to stories of athletes who seemed to be coping, the more I tried to pretend that I was coping, but the gap between what I could cope with and what I was pretending I could cope with grew larger.

One particular interview became a pivotal point in my thesis, although I did not realise it at the time. While the athlete was telling me his story (he fitted into the needs-to-toughen-up category) he broke down and started to cry. I was having an extremely low mood day, and we started to talk about the difficulties we both had trying to get through a day. We talked for a number of hours, and I think we both left the interview feeling better for having talked to someone that understood the difficulty of low moods and not feeling

good enough. As a researcher, I crossed the line in this interview, and I did not use the data gathered from it, but rereading that transcript made me think about how trying to be mentally tough was exhausting, and for some people, me included, not healthy.

At the start of my second pregnancy, the same low moods began to creep up, and getting through a day soon became difficult. I was looking after my 2-year-old boy, pregnant, trying to keep my PhD going, and not coping well. I spent a lot of time during this period rereading my transcripts of athletes and coaches who were not managing either, trying to make myself feel better about not being the only one not coping. I could not read the stories of the athletes who were tough enough, because I felt weak compared to them. At this point, I asked for some help, which I received from an incredibly patient therapist.

Throughout my PhD, I realized that MT was not what I had thought or hoped it was. When I was trying to be mentally tough, I was pretending, and that pretence put pressure on me to be the perfect mum and the perfect researcher. Now, I think I was being mentally tough when I asked for help, not when I was denying that there was a problem.

When I was writing up my second and third studies, I tried to remain aware of the shift in my understanding of MT. My comprehension of MT changed throughout my thesis, from one of boundless perseverance and enjoying attempting to achieve goals regardless of what one has to do to get there to one of knowing limitations, showing vulnerability, and accepting that as an individual one may not be able to cope better than others with the demands of a given situation. I felt my own beliefs changed because I started to listen to the stories of MT and the problems associated with trying to be mentally tough, rather than my biases and beliefs skewed my perceptions of the stories.

### **Methodological Considerations**

There were a number of positive aspects to the design of this research as well as potential limitations. By using a qualitative approach, I was able to explore in detail athletes' and coaches' experiences of MT and OT. Participants often talked for considerably longer than was originally intended, and it seemed to be therapeutic in a number of cases, although I acknowledge that research is not therapy (but burdens shared is often therapeutic). By using a case study approach, the footballers appeared to feel that there was a safe space to talk even though in Joe's case study it took some time for him to talk freely. Using qualitative research enabled me to delve into athletes' and coaches' stories, which seemed to allow the rich detail to flow from the participants. I found that leaving the interview open for participants to tell their stories meant that each individual could talk without restrictions about whatever they wanted or needed to discuss. It seems that in the MT literature, there may have been a focus on how MT helps athletes perform well, but in this project, I tried to open up the discussion of MT by creating a safe, nonjudgmental space for my participants to talk about their experiences of MT and OT.

One potential limitation was the use of one-off interviews with athletes and coaches for Study 2. In these interviews, I relied on retrospective accounts of MT and OT, which come with the potential for retrospective recall bias. Nevertheless, by using a case study approach in Study 3, I investigated in more detail the experiences athletes were facing allowing me to understand how MT could play in a role in developing or buffering SRI and OT.

In terms of limitations, I chose to interview elite level footballers and not international athletes. Previous researchers have selected participants based on the criteria

of international representation (Coulter et al., 2010; Jones et al., 2002, 2007; Thelwell et al., 2005). Jones et al. (2002) recommended the use of athletes with full international playing experience, but Thelwell et al. (2005) raised a pertinent point:

Such a simplistic criteria [sic] could infer that any individual who had played for their country, even if only once, is categorized as mentally tough, or is knowledgeable about mental toughness. Additionally, there are many occasions where individuals are unable to cope with the demands of international competition, thus, it may be worthwhile exploring the perceptions of individuals who have not played international sport, but have instead maintained consistency over a lengthy period of time at a high level of club competition. (pp. 331-332).

In this study, I investigated Australian football players at the elite level of their sport, but I chose to include footballers with minimal experience at the elite level to determine if MT was different at different levels. Connaughton, Wadey, et al. (2008) identified that MT developed through distinct career phases. My inclusion of participants in different career phases appeared to increase the richness of data due to the variety of experiences.

A potential limitation to this study was the inclusion of players and coaches from just one club, nevertheless two of the coaches had previous experience working at two different clubs, and one player had previously played at another different club for 6 years. The third coach had built his career in a completely different sport and had only spent a short period in the AFL. Reviewing the transcripts, there were no comments regarding the uniqueness of this football club's playing environment suggesting that the information produced from players and coaches in this thesis were not distinctive to one football club.

### **Future Research**

From the information presented in this thesis, it is my hope that researchers continue to investigate MT. It is not my aim to reject the idea of MT; nonetheless, the meaning of MT that is prevalent in the research literature seems to need to include individuality, boundaries, vulnerability, and holding back from excesses. I think research could focus on investigating sport cultures where there is a holistic understanding of MT to compare athlete wellbeing in these sporting environments and sport cultures where the perception of MT is similar to the current conceptualisations. Understanding how these different sport cultures affect athlete and coach wellbeing may enable some understanding of how to avoid the damaging culture of MT and permit a more useful version of the construct.

One only has to look at previous OT and burnout research (Gould, Tuffey et al., 1996; Gould et al. 1997; Richardson et al. 2008; Wrisberg & Johnson, 2002) to recognise that the issues raised in this thesis regarding abuse and bullying exist outside this one club and are probably prevalent throughout many sporting environments. Addressing these issues may only be effective if the contexts, as well as personal dimensions of MT, receive attention. In a team environment where role models are consistently engaging in unhealthy patterns (e.g., playing injured, pushing through pain, hiding emotions), focusing on developing MT characteristics with an attempt to improve performance may be inadequate to address the social pressures that are at the root of the problems. Longitudinal research investigating how sport culture influences perceptions of MT, and ways the sport culture might change, could be a fruitful route to investigate.

I would like to see research investigating the impact of coach education on team and athlete performance and wellbeing using longitudinal research. Coaches are obviously important to the psychosocial climate of a sport team, so monitoring the effects of coach education programs that aim to alter the perception of MT would provide much needed information regarding the coach influence on athlete wellbeing and performance. Monitoring performance indicators throughout a period of coach education may enable developers of MT training programs to move in a new direction.

One additional area I think would be interesting to understand how MT affects athletes would be to interview younger players who have not yet reached an age to become elite athletes. The coach in the aggregate tale learnt about balance in junior football and then relearnt damaging MT and OT in senior football. Investigating how players' perceptions of MT change throughout different stages of their careers may provide information regarding how maladaptive behavioural responses are developed. This type of research might provide information regarding for when interventions regarding stress/recovery balance are most effective for athletes.

Finally, I think a word of caution may be pertinent. Researchers may want to consider the efficacy of developing interventions aimed at increasing most all characteristics of MT that could potentially lead to illness, injury, and OT. Encouraging athletes to play through injury and ignore pain in an attempt to increase MT levels may add to the pressure already felt as an athlete in elite sport. I think rather than trying to teach athletes to keep up with the MT bandwagon, an alternative approach directed at encouraging the expression of vulnerability, and promoting discussion and individuality under the banner of MT may lead to changing the culture of abuse. Perhaps interventions to

teach athletes that being unique is to be celebrated, and maintaining your own beliefs and values is admirable, and that the aim after a career in sport is to be able to take your children to the park, but not in a wheelchair.

### **Applied Implications**

From this research it seems that there is a gap in the current literature with a clear discrepancy between how MT is described in sport psychology research and real-world interpretations of MT made by professional athletes and coaches. The gap between research and reality is important to consider for applied work. Applied practitioners working with teams and individual athletes would benefit from understanding the cultural consequences of being mentally tough. Well-meaning interventions developed to enhance MT may exacerbate existing stress, certainly when research is investigating training programmes for MT by encouraging people to tolerate and push through physical pain.

Applied practitioners may find themselves walking a fine line with athlete well-being and winning performances on opposite sides with the applied practitioner stuck in the middle, employed by the coach, but concerned for the athlete. The thesis describes tales of professional athletes who give up their voices, their bodies, and their lives outside football to potentially have a chance at being an elite athlete. The applied practitioner may be in a situation to moderate some of the sacrifices that athletes think are necessary to become successful.

MT has almost universally been viewed as a positive construct, but in this thesis the dark side of trying to be mentally tough has been discussed. In the real world of competitive sport, the applied practitioner may benefit from recognising that some characteristics of MT may encourage OT and moderate the drive to adopt the cultural ideals



of playing injured, pushing through, and ignoring pain. The applied practitioner may also be able to provide a safe, nonjudgmental environment where athletes are able to talk about their emotions, vulnerabilities, and anxieties and can learn that listening to their bodies is a sign of strength, not weakness.

### **Final Thoughts**

There is no doubt that MT is here to stay; the usage in sport, media, and business is such that the term appears to be endemic. Researchers, however, need to cognizant of the consequences of trying to be mentally tough. The current literature appears somewhat one-sided with only cautions and no published research investigating if current real-world perceptions of MT could be damaging. It would be prudent to think about how coaches and athletes can use the term MT to protect vulnerable athletes and obviate the need to conform to a potentially abusive system.

Brustad and Ritter-Taylor (1997) wrote the following when discussing future directions in the field of applied sport psychology, but it seems that one could swap *applied sport psychology* for *MT*, and that would sound just fine, “Applied sport psychology is still in its formative stages. For the field to advance there must be a willingness to embrace new perspectives . . . and to resist the comforts provided by tradition” (p. 117).

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**APPENDIX A: DEMOGRAPHIC INFORMATION FORM**

First Name: - \_\_\_\_\_ Surname: \_\_\_\_\_

Gender: \_\_\_\_\_ Age: \_\_\_\_\_

Sport: \_\_\_\_\_

Years involved in sport: \_\_\_\_\_

Please circle:

Highest level of competition:      Local      State      National      International

Sporting status:      Recreational      Semi-professional      Professional

## **APPENDIX B: MENTAL TOUGHNESS INVENTORY (MTI)**

Most people would agree that it is pretty easy to determine whether someone is mentally tough or not – you can see it by the way they act in certain situations. What are not so easy to see are the characteristics within a person that contribute to the overall display of mental toughness. By completing the Mental Toughness Inventory (MTI) you will be rating yourself on the various mental toughness characteristics.

This is not a selection test – there are no right or wrong answers.

It is important that you:

- Are honest, and give **your** own views about yourself
- Report how **you** feel about each question RIGHT NOW

Use the eight point scale to indicate how true (like you) or how false (unlike you), each statement over the page is as a description of you. Please do not leave any statements blank.

**TURN THE PAGE TO COMPLETE THE MTI**

When answering these questions please **FOCUS ON YOUR SPORT**

STATEMENT	not like me				like me			
01. I am fully committed to achieving the goals I have set myself.	1	2	3	4	5	6	7	8
02. Trying to do the best I can is what is important to me.	1	2	3	4	5	6	7	8
03. I am good at keeping stress in perspective.	1	2	3	4	5	6	7	8
04. My belief in myself gets me going through difficulties.	1	2	3	4	5	6	7	8
05. I focus on the task without getting distracted.	1	2	3	4	5	6	7	8
06. I feel that I will make some major achievements in this area in the future.	1	2	3	4	5	6	7	8
07. When faced with difficulty I keep working at it and won't accept defeat.	1	2	3	4	5	6	7	8
08. I often gain confidence when I see signs that the opposition is not coping well.	1	2	3	4	5	6	7	8
09. Performing well in this area is one of the most valuable things for me.	1	2	3	4	5	6	7	8
10. I perform well at this level because of my experience.	1	2	3	4	5	6	7	8
11. I turn negatives into positives.	1	2	3	4	5	6	7	8
12. Overall I am mentally tough.	1	2	3	4	5	6	7	8
13. My commitment to my goals is strong.	1	2	3	4	5	6	7	8
14. Doing my very best is what it is all about.	1	2	3	4	5	6	7	8
15. I minimize the impact that stress and pressure has on me.	1	2	3	4	5	6	7	8
16. When things are difficult I still believe in myself	1	2	3	4	5	6	7	8
17. I get absolutely focused on the task, nothing distracts me	1	2	3	4	5	6	7	8
18. I have great potential in this area and I will fulfil it.	1	2	3	4	5	6	7	8
19. I keep working at things until I overcome them.	1	2	3	4	5	6	7	8
20. Seeing the opposition feeling the pressure builds my confidence	1	2	3	4	5	6	7	8
21. I value this as one of the most important things in my life	1	2	3	4	5	6	7	8
22. My experience makes me stronger when performing	1	2	3	4	5	6	7	8

23. When things are bad I try to turn it around into something positive	1	2	3	4	5	6	7	8
24. I excel because of my mental strength.	1	2	3	4	5	6	7	8
25. No matter what, I remain committed to my goals.	1	2	3	4	5	6	7	8
26. To have done my best is the most important thing to me.	1	2	3	4	5	6	7	8
27. I am good at minimizing the effects of stress.	1	2	3	4	5	6	7	8
28. No matter what the pressure I still believe in myself.	1	2	3	4	5	6	7	8
29. I don't get distracted. I keep focused on the task.	1	2	3	4	5	6	7	8
30. I feel that my future in this area will be good.	1	2	3	4	5	6	7	8
31. I keep on persisting until the job is done.	1	2	3	4	5	6	7	8
32. Seeing the opposition not coping as well increases my confidence.	1	2	3	4	5	6	7	8
33. The activity is one of the most valuable parts of my life.	1	2	3	4	5	6	7	8
34. My experience is of great use to me.	1	2	3	4	5	6	7	8
35. I can see positives when things are difficult.	1	2	3	4	5	6	7	8
36. I know I have great mental strength.	1	2	3	4	5	6	7	8

---

## APPENDIX C: RECOVERY STRESS QUESTIONNAIRE (RESTQ-52 Sport)

This questionnaire consists of a series of statements. These statements possibly describe your psychic or physical wellbeing or your activities during the past few days and nights. Please select the answer that most accurately reflects your thoughts and activities. Indicate how often each statement was right in your case in the past few days. The statements related to performance should refer to performance during competition as well as during practice.

For each statement there are seven possible answers.

Please make your selection by marking the number corresponding to the appropriate answer.

Example:

In the past (3) days/nights

...I read a newspaper

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always



In this example, the number 5 is marked. This means that you read a newspaper very often in the past three days.

Please do not leave any statements blank.

If you are unsure which answer to choose, select the one that most closely applies to you.

Please turn the page and respond to the statements in order without interruption.

In the past 3 days/nights

1)...**I watched TV**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

2)...**I laughed**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

3)...**I was in a bad mood**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

4)...**I felt physically relaxed**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

5)...**I was in good spirits**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

6)...**I had difficulties in concentrating**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

7)...**I worried about unresolved problems**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

8)...**I had a good time with my friends**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

9)...**I had a headache**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

10)...**I was dead tired after work**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

11)...**I was successful in what I did**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

12)...**I felt uncomfortable**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

13)...**I was annoyed by others**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

14)...**I felt down**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

15)...**I had a satisfying sleep**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

16)...**I was fed up with everything**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

17)...**I was in a good mood**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

18)...**I was overtired**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

19)...**I slept restlessly**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

20)...**I was annoyed**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

21)...**I felt as though I could get everything done**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

22)...**I was upset**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

23)...**I put off making decisions**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

24)...**I made important decisions**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

25)...**I felt under pressure**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

26)...**parts of my body were aching**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

27)...**I could not get rest during the breaks**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

28)...**I was convinced I could achieve my set goals during performance**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

29)...**I recovered well physically**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

30)...**I felt burned out by my sport**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

31)...**I accomplished many worthwhile things in my sport**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

32)...**I prepared myself mentally for performance**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

33)...**my muscles felt stiff or tense during performance**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always



34)...**I had the impression there were too few breaks**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

35)...**I was convinced that I could achieve my performance at any time**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

36)...**I dealt effectively with my team-mates' problems**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

37)...**I was in good condition physically**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

38)...**I pushed myself during performance**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

39)...**I felt emotionally drained from performance**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

40)...**I had muscle pain after performance**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

41)...**I was convinced that I performed well**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

42)...**too much was demanded of me during breaks**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

43)...**I psyched myself up before performance**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

44)...**I felt I wanted to quit my sport**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

45)...**I felt very energetic**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

46)...**I easily understand how my team mates felt about things**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

47)...**I was convinced that I had trained well**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

48)...**the breaks were not right at times**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

49)...**I felt vulnerable to injuries**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

50)...**I set definite goals for myself during performance**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

51)...**my body felt strong**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

52)...**I felt frustrated by my sport**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

53)...**I dealt with emotional problems in my sport very calmly**

0	1	2	3	4	5	6
never	seldom	sometimes	often	more often	very often	always

Thank you very much

**APPENDIX D: INFORMATION STATEMENT AND INFORMED CONSENT**

**Victoria University of Technology**

**School of Human Movement, Recreation and Performance**

**Information Statement (Study 1)**

**Mental Toughness and Overtraining**

**Statement of Project:**

We are interested in the relationship between mental toughness attributes and overtraining in elite athletes. To study this relationship in detail we would like you to complete two questionnaires and an overtraining checklist. We expect that the general results of this project might be used to assist sport psychologists in carrying out applied work with athletes.

**Procedures:**

We wish to invite you to participate in our investigation on mental toughness and overtraining. The study is part of Stephanie Tibbert's doctoral thesis. You will be asked to fill out two questionnaires and a checklist, which will take approximately 15 – 20 minutes to complete. You will be asked to complete the questionnaires and checklist at three different times throughout this study. These questionnaires are mainly about the characteristics of mental toughness and your current stress- recovery balance. The checklist will gather data on demographics and overtraining. Your responses to these questionnaires will be kept totally confidential. There are no right or wrong answers. Your honesty in answering the questions is important to this study and participants are asked to answer all questions as honestly as possible.

**Important Issues:**

Should you have any questions at any time prior to, during, or after participation in the project, please do not hesitate to ask any of the researchers. Contact details are provided at the bottom of the page. Furthermore, contact details for the Victoria University Ethics

Committee are also provided in case there is a need to address any ethical concerns you have about the procedures or any aspect of the research project.

Please be aware that the strictest confidentiality will be upheld; all information will only be used for the purpose of the investigation; all information will be stored under lock and key and will only be accessed by the investigators. It will also be coded, so that individuals cannot be identified--your name will not be associated with any information provided by you, any personally identifying information, such as your signature on the consent form, will be stored separately from the data. To ensure confidentiality, you will be instructed not to disclose names or other personally identifiable information about others.

Please note that if anything is upsetting you to the point that you do not wish to continue at any time during completion of the questionnaires, you may end the session and postpone it until a time convenient for you or you may withdraw completely without any reflection on you. If you find filling out the questionnaires in some ways causes you distress and would like to discuss the issues with a counsellor, you may talk to a registered psychologist Dr. Daryl Marchant at no cost to you. His contact number is 9919-4035.

Any queries about your participation in this project may be directed to the researchers (Professor Tony Morris, telephone 03-9919 5353; Stephanie Tibbert, telephone 03-9919 4066). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone: 03-9919 4710).



**Victoria University of Technology**  
**School of Human Movement, Recreation and Performance**  
**Consent Form (Study 1)**  
**Mental Toughness and Overtraining**

**Information to participants**

We are interested in the relationship between mental toughness attributes and overtraining behaviours in elite athletes. To study this relationship in detail we would like you to complete two questionnaires and a demographic checklist. We expect that the general results of this project might be used to assist sport psychologists in carrying out applied work with athletes.

**Certification by Participants**

I, \_\_\_\_\_ certify that I am at least 18 years old, and that I am voluntarily giving my consent to participate in the study entitled: Mental Toughness and Overtraining, being conducted at Victoria University of Technology by Professor Tony Morris, and student Stephanie Tibbert. I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the study, have been fully explained to me.

**Procedures**

As a participant of this study, you will be requested to complete two questionnaires and a checklist; together these will take approximately 15 – 20 minutes. You will be asked to complete these questionnaires at three different points throughout the study. The questionnaires will cover the general topics of mental toughness and stress/recovery balance in your sport. Factual information about your age, gender and overtraining will be asked for in the checklist. There are no right or wrong answers to these measures; they just reflect your own experience on the various topics.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardize me in any way. If you find filling out the questionnaires in some ways causes you distress and would like to discuss the issues with a counsellor, you may talk to a registered psychologist Dr. Daryl Marchant at no cost to you. His contact number is 9919-4035.

I have been informed that the information I provide will be kept confidential.

Signed:..... Date:.....

Any queries about your participation in this project may be directed to the researchers (Professor Tony Morris, telephone 03-9919 5353; Stephanie Tibbert, telephone 03-9919 4066). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone: 03-9919 4710).

## APPENDIX E: PARENTAL/GUARDIAN CONSENT

(Study 1)



**Victoria University**  
**School of Human Movement, Recreation and Performance**  
**Parental / Guardian Consent form (Study 1)**  
**Mental Toughness and Training**

### Statement of Project:

We are interested in the relationship between mental toughness and training in elite athletes. To study this relationship in detail we would like your child to complete two questionnaires and a training checklist. We expect that the general results of this project might be used to assist sport psychologists in carrying out applied work with athletes.

### Certification by Participants Guardian

I, \_\_\_\_\_ certify that I give parental consent for my child to participate in the study entitled: Mental Toughness and Training, being conducted at Victoria University by Professor Tony Morris, Professor Mark B. Andersen, and student Stephanie Tibbert. I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the study, are fully understood.

### Procedures

As a participant of this study, your child will be requested to complete two questionnaires and a checklist; together these will take approximately 15 – 20 minutes. Your child will be asked to complete these questionnaires at two different points throughout the study. The questionnaires will cover the general topics of mental toughness, stress, and recovery in your child's sport. Factual information about your child's age, gender, and training will

be asked for in the checklist. Should you or your child have any questions at any time prior to, during, or after participation in the project, please do not hesitate to ask any of the researchers. Contact details are provided at the bottom of the page. Please be aware that the strictest confidentiality will be upheld; all information will only be used for the purpose of the investigation; all information will be coded, so individuals cannot be identified – your child's name will not be associated with any information provided by them.

Please note that if your child does not wish to continue at any time during the completion of the questionnaires, they may end the session and postpone it until a time convenient or withdraw completely and this withdrawal will not jeopardise your child in any way.

Signed:..... Date:.....

Any queries about your participation in this project may be directed to the researchers (Professor Tony Morris, telephone 03-9919 5353; Stephanie Tibbert, telephone 03-9919 4066). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone: 03-9919 4710).



## **APPENDIX F: INTERVIEW GUIDE**

(Study 2)

Background information: At the beginning of the interview, I will ask participants about their involvement in sport and how long they have participated, and how they got started in their sport.

### **Section 1: Mental toughness attributes**

Open-ended discussion of what mental toughness means to the participant.

Sample Questions:

The phrase “mental toughness” is used a lot in sport. When you hear those words what comes to mind for you?

What characteristics of mental toughness, which you have mentioned above, might apply to your experiences in sport?

Probing questions:

Based on the information given, ask participant to expand on their discussion topics.

Follow up questions:

Based on the responses to probing questions, ask for further details on specific topics.

Open-ended discussion of any role mental toughness might have played throughout the early phase of the participant’s sport career.

Sample Questions:

Please tell me about how you initially got involved in sport? Did any of these events or factors affect your psychological or mental development during the early stage of your sporting involvement?

Please tell me something about the influences of family, friends, school or other environments in the initial phase of sport participation, which may have affected your development of the characteristics you mentioned as being part of mental toughness?

Probing and follow up questions will follow to expand on specific discussion topics and to ask for further details

Open-ended discussion of development of mental toughness throughout the middle phase of the participant's career.

Sample Questions:

Please tell me about when you first started to compete in your sport. What factors might have affected your psychological or mental approach to sport?

Probing and follow up questions will follow to expand on specific discussion topics and to ask for further details.

Open-ended discussion of the development of mental toughness throughout the later phase of the participant's career.

Sample Questions:

Please tell me about the changes that might have occurred when you moved to the elite level, especially in the area of your mental approach to sport

Probing and follow up questions will follow to expand on specific discussion topics and to ask for further details.

## **Section 2: Overtraining behaviours**

Open-ended discussion/free recall of experience of overtraining

Sample questions:

Overtraining is prevalent in sport. When you hear that someone one is overtraining, how do you understand what means for the athlete?

Can you describe any experiences you have had with overtraining in your career?

Probing and follow up questions will follow to expand on specific discussion topics and to ask for further details

Open-ended questions focussing on the characteristics of the athlete

Sample questions:

What characteristics in your personality or approach to sport, do you think, may have helped you avoid the problems of overtraining?

What characteristics in your personality or approach to sport may have put you at risk of overtraining?

Probing and follow up questions will follow to expand on specific discussion topics and to ask for further details

Open-ended questions focussing on external influences

Sample questions:

Please tell me about any events or situations, external to your sport that may have influenced your tendency to overtrain in your career.

Please tell me about what sorts of things, which may be beyond your control, bad weather, inappropriate coaching, parental pressure, etc., that might have influenced you to train too much.

Probing and follow up questions will follow to expand on specific discussion topics and to ask for further details

### **Section 3: Mental toughness and overtraining**

Open-ended questions focussing on how mental toughness levels affect overtraining behaviours.

Sample questions:

For athletes, what psychological characteristics, if any, do you think may help to reduce the likelihood of overtraining behaviours

For athletes, what psychological characteristics, if any, do you think may increase the likelihood of overtraining behaviours.

Probing and follow up questions will follow to expand on specific discussion topics and to ask for further details

To finish the interview, I will ask the participant for any further comments on any aspect of the interview. The participant will then be debriefed and thanked for being part of the study.

## APPENDIX G: INFORMATION STATEMENT AND INFORMED CONSENT

(Study 2)



**Victoria University of Technology**

**School of Human Movement, Recreation and Performance**

**Information Statement/Informed consent (Study 2)**

**Mental Toughness and Overtraining**

### **Statement of Project:**

We are interested in the development of mental toughness attributes and overtraining in elite athletes. To study these attributes and behaviours in detail we would like you to tell us about your experience within your sporting career and outside the sporting arena. We expect that the general results of this project might be used to assist sport psychologists in carrying out applied work with athletes.

### **Procedures:**

We wish to invite you to participate in our investigation on mental toughness and overtraining. The study is part of Stephanie Tibbert's doctoral thesis. A number of participants will be asked to take part in an interview where you will be asked to discuss your experiences with sport in relation to developing mental toughness attributes and recent overtraining leading to stress-recovery imbalance. The interview will take approximately 60 - 90 minutes and will be audio taped, confidentiality will be maintained and the tapes will be kept in a locked file cabinet after the interview.

### **Important Issues:**

Should you have any questions at any time prior to, during, or after participation in the project, please do not hesitate to ask any of the researchers. Contact details are provided at the bottom of the page. Furthermore, contact details for the Victoria University Ethics Committee are also provided in case there is a need to address any ethical concerns you have about the procedures or any aspect of the research project.

Please be aware that the strictest confidentiality will be upheld; all information will only be used for the purpose of the investigation; all information will be stored under lock and key and will only be accessed by the investigators. It will also be coded, so that individuals cannot be identified - your name will not be associated with any information provided by you, any personally-identifying information, such as your signature on the consent form, will be stored separately from the data. To ensure confidentiality, you will be instructed not to disclose names or other personally identifiable information about others.

Please note that if anything is upsetting you to the point that you do not wish to continue at any time during completion of the interview, you may end the session and postpone it until a time convenient for you or you may withdraw completely without any reflection on you.

**Certification by Participants:**

I, \_\_\_\_\_ certify that I am at least 18 years old, and that I am voluntarily giving my consent to participate in the study entitled: Mental Toughness and Overtraining, being conducted at Victoria University of Technology by Professor Tony Morris, and student Stephanie Tibbert. I certify that the objectives of the study, together with any risks and safeguards associated with the procedures to be carried out in the study, have been fully explained to me.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardize me in any way.

I have been informed that the information I provide will be kept confidential.

Signed:..... Date:.....

<p>Any queries about your participation in this project may be directed to the researchers (Professor Tony Morris, telephone 03-9919 5353; Stephanie Tibbert, telephone 03-9919 4066). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone: 03-9919 4710).</p>
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## **APPENDIX H: INFORMATION STATEMENT AND INFORMED CONSENT**

(Study 3)



**Victoria University of Technology**

**School of Human Movement, Recreation and Performance**

**Information Statement (Study 3)**

**Mental Toughness and Training**

### **Statement of Project:**

We are interested in the relationship between mental toughness and training in elite athletes. To study these attributes and behaviours in detail we would like you to tell us about your experience within your sporting career and outside your sporting career. The general results of this project might be used to assist sport psychologists in carrying out applied work with athletes.

### **Procedures:**

We wish to invite you to participate in our investigation on mental toughness and training. The study is part of student Stephanie Tibbert's doctoral thesis supervised by Prof. Tony Morris and Assoc. Prof. Mark B. Andersen. All athletes under the age of 18 will be required to gain parental consent prior to commencing this study. You will be asked to complete a weekly checklist, which will take a few minutes to complete, and two questionnaires every 6 – 8 weeks, which take approximately 10 minutes to complete. These questionnaires are mainly about the characteristics of mental toughness and your current stress/recovery balance. Your responses to these questionnaires will be kept totally confidential. There are no right or wrong answers. Your honesty in answering the questions is important to this study and participants are asked to answer all questions as honestly as possible. Your participation will also involve a series of one to one interviews regarding your experience in sport and everyday life that may influence mental toughness and stress-recovery balance in your sporting career. The information you provide will be

invaluable to develop strategies to improve important attributes of mental toughness to reduce overtraining in elite athletes. It is hoped this information will enable applied sport psychologists to reduce susceptibility of elite athletes to illness and injury resulting from overtraining.

Please note that participation is voluntary and you are free to discontinue at any time, without explanation. No information gained during the study will enable you to be identified to anyone other than the research team, and no personally identifying information will be published or communicated to anyone outside the team. Your responses will be kept confidential and stored securely in the office of Professor Tony Morris at Victoria University.

We thank you in advance for assisting us in our research. Should you have any questions about the research project, please do not hesitate to contact the researchers at the addresses below.

**Important Issues:**

Should you have any questions at any time prior to, during, or after participation in the project, please do not hesitate to ask any of the researchers. Contact details are provided at the bottom of the page. Furthermore, contact details for the Victoria University Ethics Committee are also provided in case there is a need to address any ethical concerns you have about the procedures or any aspect of the research project.

Please be aware that the strictest confidentiality will be upheld; all information will only be used for the purpose of the investigation; all information will be stored under lock and key and will only be accessed by the investigators. Upon request from your coach, aggregate team data will be made available. Absolutely no information on individual players will be disclosed at any time. Your responses will also be coded, so individuals cannot be identified - your name will not be associated with any information provided by you, any personally identifying information, such as your signature on the consent form,



will be stored separately from the data. To ensure confidentiality, you will be instructed not to disclose names or other personally identifiable information about others.

Please note that if anything is upsetting you to the point that you do not wish to continue at any time during completion of the questionnaires, you may end the session and postpone it until a time convenient for you or you may withdraw completely without any reflection on you. If you find participating in this study in some way causes you distress and would like to discuss the issues with a counsellor, you may talk to registered psychologist Dr. Daryl Marchant at no cost to you. His contact number is 9919-4035.

Any queries about your participation in this project may be directed to the researchers (Professor Tony Morris, telephone 03-9919 5353; Professor Mark B. Andersen, telephone 03-9919 5413; Stephanie Tibbert, telephone 03-9919 4066). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone: 03-9919 4710).



**Victoria University of Technology**  
**School of Human Movement, Recreation and Performance**

**Consent Form (Study 3)**

**Mental Toughness and Training**

**Information to participants**

We are interested in the relationship between mental toughness attributes and overtraining behaviours in elite athletes. To study this relationship in detail we would like you to complete two questionnaires and a demographic checklist. We expect that the general results of this project might be used to assist sport psychologists in carrying out applied work with athletes.

**Certification by Participants**

I, \_\_\_\_\_ certify that I am at least 18 years old, and that I am voluntarily giving my consent to participate in the study entitled: Mental Toughness and Training, being conducted at Victoria University of Technology by Professor Tony Morris, Associate Professor Mark Andersen, and student Stephanie Tibbert. I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the study, have been fully explained to me.

**Procedures**

As a participant of this study, you will be requested to take part in a series of interviews where you will be asked to discuss your experience of mental toughness and training behaviours in sport. These interviews will take approximately 45 – 90 minutes and will be audio-taped, confidentiality will be maintained and the tapes will be kept in a locked file cabinet after the interview.

You will also be requested to complete questionnaires throughout the study. One is seven-item questionnaire that will be completed weekly during the competitive season and two additional questionnaires every 6 – 8 weeks throughout the duration of the study. The questionnaires will cover the general topics of mental toughness and stress recovery balance in your sport. Factual information about your age, gender and career will be asked for in the first interview. There are no right or wrong answers to any of these measures; they just reflect your own experience on the various topics.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardize me in any way. If you find filling out the questionnaires in some ways causes you distress and would like to discuss the issues with a counsellor, you may talk to a registered psychologist Dr. Daryl Marchant at no cost to you. His contact number is 9919-4035.

I have been informed that the information I provide will be kept confidential. Upon request from your coach, aggregate team data will be made available. Absolutely no information on individual players will be disclosed at any time.

Signed:..... Date:.....

Any queries about your participation in this project may be directed to the researchers (Professor Tony Morris, telephone 03-9919 5353; Professor Mark B. Andersen, telephone 03-9919 5413; Stephanie Tibbert, telephone 03-9919 4066). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone: 03-9919 4710).