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스포츠 매니지먼트 석사 학위논문

Understanding the Influence of Mental
Toughness on Sailing Refereeing
Performance

요트 심판 퍼포먼스에 대한 정신적 강인함의 영향
이해

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Abstract

Understanding the Influence of Mental Toughness on Sailing Refereeing Performance

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What is this thing called mental toughness? A simple question by (Jones et al. 2002), a researcher who aims to understand mental toughness by stimulating theoretically and empirically in the field of sport. With the vast amount of research conducted on football referees, however there is still lack of research conducted on sailing referees. The purpose of this study is to grasp a better understanding of mental toughness among sailing referees during the Jakarta Asian Games 2018. Based on the mental toughness model by (Gucciardi et al., 2008; Coutler et al., 2010), the models were applied on this current study on sailing referees. The qualitative methodology used in this study is Interpretative Phenomenology Analysis (IPA). IPA focuses on how an individual experienced and the way in which things are perceived as they

appear to consciousness. Eight sailing referees were interviewed using semi-structured interview guide.

The findings were divided into three section; situations, behavior and cognitions, lastly the characteristics. Two situations were identified as situations requiring mental toughness by the referees during refereeing. Throughout emerging themes, a number of behaviors (e.g. consistent preparation, consideration) and cognitions (tactical awareness, refereeing experiences,) deployed by the referees. Further, six mental toughness characteristics (concentration and focus, handling pressure, blocking negative thoughts, self-belief, emotional intelligence, and sport intelligence) emerged which enable referees to undergo challenging situation during refereeing. Theoretical and applied implications for sport psychology in the context of mental toughness are discussed.

Keywords: Mental Toughness, Sailing Referees, Asian Games, Situations, Behaviors, Cognitions, Characteristics.

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Chapter 1. Introduction

1.1 Background

1.1.1 Background on Mental Toughness (MT)

The first author to explore mental toughness is James Loehr (1982, 1986, 1995), where he wrote extensively on what he called the new toughness training for sport that focused on mental, emotional and physical conditioning for sport success.

What is this thing called mental toughness? A simple question by Jones (2002), a researcher who aims to understand mental toughness by stimulating theoretically and empirically in the field of sport. Psychological factors are acknowledged as a catalyst of one performance excellence and has led to huge attention in the sporting world. In sport context, mental toughness is the umbrella term where it is consistently applied towards coaches, athletes, as well as the media to refer the psychological factors to differentiate “good” and “great” athletes (Gucciardi, Gordon, & Dimmock, 2008)

In applied sport psychology, mental toughness is one of the most used term but not many understood. Hence, in the pursuit of understanding what mental toughness is, they (Jones et al., 2002, 2007), focused on determining the perspectives of participants from different sporting disciplines. Further, other researchers have examined to a specific sport, such as cricket (Bull et

al., 2005; Gucciardi and Gordon, 2009), soccer (Coulter et al., 2010; Thelwell et al., 2005) and Australian football (Gucciardi et al., 2008).

Over the past two decades, the research on athletes has shown an extensive understanding of factors related to elite athletic performance (e.g., (Gould, Dieffenbach, & Moffett, 2002) (MacNamara, Button, & Collins, 2010) (Orlick & Partington, 1988). Many sport psychologists believed that there is something (some traits, or some constellation of characteristics) that can be called mental toughness. Hence, (Gucciardi, Gordon, & Dimmock, 2009a) established a definition of mental toughness which, subsequently, has been refined by (Coulter, Mallett, and Gucciardi, 2010, p.715):

“Mental Toughness is the presence of some or the entire collection of experientially developed and inherent values, attitudes, emotions, cognitions, and behaviors that influence the way in which an individual approach, responds to, and appraises both negatively and positively construed pressures, challenges, and adversities to consistently achieve his or her goals”.

Initially on the early finding, mental toughness has also been associated to both personality trait (Werner & Gottheil, 1966; Kroll, 1967).

1.1.2 Background on Referees

From 2000 on, the literature started to expand and focused on aspects linked to judgment and decision-making as well as on physical and physiological dimensions on sports referees.

Apart from studies regarding the physiological conditions of officials (Castagna, Abt, & D'Ottavio, 2007; Krustup et al., 2009; Weston, Castagna, Helsen, & Impellizzeri, 2009), the vast amount of studies on the psychological characteristics of referees' performance seems to be increasing on sports refereeing (MacMahon & Plessner, 2013; MacMahon et al., 2014; Mascarenhas, O'Hare, Plessner, & Button, 2006).

In order to grasp a deeper understanding of one performance excellence, sport psychology research has begun to investigate performers beyond athletes such as sport coaches (Olusoga, Butt, Maynard, & Hays, 2010). Equally, elite officials are also considered as an essential member where they are recognized as performers in their own right (Philippe, Vallerand, Andrianarisoa, & Brunnel, 2009).

Sports official plays a vital role in all competition-oriented game sport. Nowadays, thousands of sports officials (referees, judges, and umpires) work in the majority of competitive sports. In recent years, the amount of research within the area has increased, and the empirical evidence accumulated reflects

the diversity of refereeing as well as its complexity (Dosseville & Laborde, 2011).

Correspondingly, they (Mascarenhas, Collins, & Mortimer, 2005) identified five factors while constructing the main model of refereeing performance within English Rugby Football Union; factors underpinning official excellence consists of (a) personality and game management skills, (b) contextual judgement, (c) knowledge and application of law, (d) psychological characteristics of excellence, and (e) physical fitness, positioning and mechanical qualities.

Supplementing the research, when interviewing 15 elite English football referees, (Slack, Maynard, Butt, & Olusoga, 2013) identified several factors that underpinned officiating excellence (e.g., effective game management qualities, support networks and services, opportunities to thrive).

Aforementioned, the authors founded a group of mental toughness attributes when characterizing excellence: (a) coping with pressure (e.g., coping with match-day pressures), (b) achievement striving (e.g., high performance goals), (c) resilience (e.g., not dwelling on decisions), (d) high work-ethic (give 100% in every game), (e) robust self-belief (e.g., trust in decision-making), (f) tough attitude (e.g., make sacrifices), and (g) sport intelligence (e.g., a feeling for the game). Equally important, these mental

toughness attributes did overlap with mental toughness attributes as shown in research with other sports (Jones et al., 2002; Gucciardi et al., 2008), the findings also acknowledged attributes specific to elite football officiating.

Furthermore, (Mascarenhas, O'Hare, & Plessner, 2006) emphasized numerous factors linked with football officiating excellence, including judgement of fouls and misconduct, control of game procedures, and game management and refereeing style.

1.2 Problem Statement

Over the past decade, sport psychologists continue to explore this new sub topic of psychology, mental toughness. It is shown that, mental toughness affects an athlete's performance. On the other hand, sports officials (e.g. referees) also plays a vital role in all sports event. Hence, the need of understanding psychology, specifically mental toughness among referee is equally important as an athlete competing.

However, there are no research has been done on sailing referees. Mostly studies explored is football, rugby, cricket etc. As sailing is considered to be an outdoor sport, mental toughness does affect an individual regardless as an athlete or jury. In short, this study aims to examine the mental toughness by sailing juries during the Asian Games 2018.

1.3 Purpose of Study

Psychology studies the cognitive and behavior components of individuals. Mental toughness affects the cognitive(mental) and behaviors of referees where it is one of the pillars of psychological attribute a referee can possess. All referees should have a high level of mental toughness during refereeing in order to produce a productive outcome.

The purpose of this research is to grasp a better understanding of mental toughness of sailing referees during the Jakarta Asian Games 2018. In a mega sports event, referees are expected to have a strong mental toughness. However, what is really meant by being mentally tough? With the vast amount of research on mental toughness on football, crickets, rugby etc., yet there is lack of research conducted in the area specifically sailing referees.

Thus, by applying Interpretative Phenomenology Analysis (IPA), this research aims to identify situations, behaviors, cognitions the referees deployed during refereeing. The outcome of this study may able to assist sport psychologists to understand the experience by the referees during competition.

1.4 Research Questions

RQ1. What situation in sailing refereeing requires mental toughness the most?

RQ2. How does MT affect sailing referees during refereeing?

RQ3. How mental toughness characteristics enable a referee to undergo a challenging situation?

1.5 Significance of Study

Asian Games is known as one of the major sports events in Asia. However, there is still lack of study conducted in the context between mental toughness and sailing referees. If sports psychologists are to have a role in enhancing mental toughness, the first step is to understand what the referees experience during refereeing. With the advancement of mental toughness continues to be explored, (Crust & Clough, 2011) suggested that experiential learning could play a vital role. Moreover, (Kremer, Moran, Walker, & Craig, 2012) proclaimed that mental toughness is “more likely a lived and experienced philosophy, applied to each situation encountered” rather than a skill.

Past research (Jones, Hanton, & Connaughton, 2002) focused on defining mental toughness towards elite sport performers (e.g. swimming, sprinting, artistic and rhythmic gymnastics, trampolining, middle-distance running, triathlon, golf, rugby union, and netball. Whereas, (Gucciardi,

Gordon, & Dimmock, 2008) defined mental toughness towards Australians footballers.

Based on (Crust & Clough, Developing mental toughness: From research to practice, 2011) and (Kremer, Moran, Walker, & Craig, 2012) views, this study will explore mental toughness research by examining the sailing referee's lived experience with mental toughness during refereeing. With the implementation of phenomenological study, the participants will provide their experiences which then the findings derived from this study may be able to guide sport psychologists to assist referees in enhancing and maintain mental toughness prior, during and after competition.

Chapter 2. Literature Review

The literature review is segmented into three sections; the first section is an introduction to mental toughness, followed by research on the development in conceptualizing and defining mental toughness.

The second section focusses more on the mental toughness key characteristics, situations and behavior.

2.1 Introduction to Mental Toughness

Mental toughness is a relatively new and growing area of sport psychology research, having caught the imagination of both the general sporting public and the academic community. In fact, since (Fourie & Potgieter, 2011) pioneering qualitative study of mental toughness in South Africa we have evidenced a burgeoning line of inquiry from various parts of the world that include the United States (Gould, Dieffenbach, & Moffett, 2002), United Kingdom (Bull, Shambrook, James, & Brooks, 2005); Fawcett, 2005; Jones et al., 2002; (Thelwell, Weston, & Greenlees, 2005), India (Gordon & Sridhar, 2005), and Australia (Middleton, Marsh, Martin, Richards, & Perry, 2004a).

This research has focused on understanding the phenomenon of mental toughness from the perspective of athletes and coaches and has identified a myriad of characteristics ascribed to mental toughness.

Interestingly, numerous characteristics have been commonly identified across these studies such as self-belief, concentration and focus, motivation, thriving on competition, resilience, handling pressure, positive attitude, quality preparation, goal-setting, determination and perseverance, and commitment. However, there are also several characteristics unique to individual studies such as team unity, religious convictions, ethics, sport intelligence, safety and survival, coping with success and failure, risk taking, and exploiting learning opportunities.

Indeed, the concept of mental toughness has received a vast amount of attention of both researchers and practitioners (e.g. athletes, coaches, referees etc.) over the past two decades. Significantly, mental toughness has become one of the most predominant concepts within the context of psychology (Rusk & Waters, 2013)

Yet, the conceptualization and definition of mental toughness has been complex and problematic since the term was first introduced within the press (Loehr, 1982; Luszki, 1982) and academic literature (Fourie and Potgieter, 2011; Jones and Connaughton, 2002).

(Loehr, 1986) described that playing competitively requires mental strength and skills. Further, he stated that the keystone in building mental toughness is an athlete's ability to maintain consistency in one's performance.

In addition, he believes that mental toughness is learned, not inherited. Loehr explained “mental toughness is an acquired skill”, it is not heredity nor tied to the intelligence or an athlete’s character.

Over the past decade, there have been several attempts by researchers to define mental toughness. With that in mind, the definitions were then formulated based on each individual’s research. Hence, mental toughness seems to be very complex in some way that lacks clarity and exactness; as the core definitions seems to be ambiguous due to the individual conceptualization.

Notably, researchers have used various methods in attempting to define or understand mental toughness such as Likert scales, interviews, focus groups, and mental toughness inventories. Mental toughness is often used in the sports arena to describe an athlete who has the ability to display confidence, maintain poise under adversity, and appear unfazed by bantering from his or her opponent, or fans.

2.2 Developments in Conceptualizing Mental Toughness

A vast amount of recent research lead to an attempt at conceptualizing mental toughness (Bull et al, 2005; Clough et al., 2002; Jones et al., 2002; Middleton et al., 2004a). Jones et al., used a qualitative approach, proceeded with the study applying the context of Kelly’s (1955) personal construct

theory which focuses on both the uniqueness of the individual and the processes common to all people. Personal construct theory proposes that individuals strive to understand, interpret, anticipate, and control the world of experience in order to deal effectively with it (Kelly, 1955).

As a theoretical framework, Kelly posited that PCT is based on a “man [sic]-the-scientist” (p.4) – a metaphor in which Kelly (1995/1991) proposed that humans act as personal scientists engaged to explore meaning of the world around them by anticipating and making predictions about their personal experiences portraying like a research scientist.

To understand or predict an event, individuals tend to develop bipolar constructs. As an example, one cannot fully understand without knowing anything. Usually, these constructs begin to develop in one’s formative years. Assuming the same construct in a sport environment.

Notably, Kelly’s theory is based on the philosophy of constructive alter nativism which refer to one interpreting event or experience or situation; there is no other construct that completely explains the world. Moreover, at any given situation, one can change the way he or she interprets an event. He proclaimed that here is always an alternative construction or alternative way in which one interpret people around them and the world.

With the purpose of attempting to conceptualized mental toughness, (Jones, Hanton, & Connaughton, 2002) identified 12 characteristics of mentally tough performers, which covered self-belief, desire/motivation, dealing with pressure and anxiety, performance- related focus, lifestyle-related focus, and pain/hardship factors. Significantly, the top three characteristics are: (1) having an unshakeable self-belief in your ability to achieve your competition goals, (2) bouncing back from performance setbacks as a result of increased determination to succeed, and (3) having an unshakeable self-belief that you possess unique qualities and abilities that make you better than your opponents. While characteristics are identified, the approach transfers from the macro component (e.g. confidence) to a specific micro component of mental toughness. However, most of the characteristics were present in the literature (Bull et al., 1996; Fourie & Potgieter, 2001; Golberg, 1998).

A recent research conducted by (Thelwell, Weston, & Greenlees, 2005) aimed to confirm the findings of (Jones, Hanton, & Connaughton, 2002), using a sample of professional soccer players. These researchers reported two studies, the first of which involved 6 professional soccer players who were interviewed to define mental toughness and examine the characteristics of mentally tough soccer players. On the other hand, the

second study used 43 professional soccer players to confirm the definitions and attributes of mental toughness that were generated by the first study.

Both findings essentially supported the definition and attributes of mental toughness forwarded by Jones (2002). Most compelling evidence shows that having *self-belief* at all times that you will achieve success was found to be the top-ranked characteristic of the mentally tough soccer player. Two significant additions to the literature were made by Thelwell and colleagues. Firstly, the importance that participants attached to their environment and experiences during their formative years in regard to the development of mental toughness. Secondly, players reported the need to have “a presence that affects your opponents,” which appears to imply self-presentational strategies and behavioral characteristic.

2.3 Defining Mental Toughness

Initially, researchers considered mental toughness linked to any positive and desirable psychological characteristics with success (Jones et al., 2002), which is essential to acknowledge that some theme may reoccur in the extant literature. From time to time, several studies attempted to define mental toughness. As shown on Table 1, the chronology of primary definition of mental toughness from past literatures.

Table 1. A Chronology of Primary Definitions of Mental Toughness with the Academic Literature

Source	Definition
Jones et al. 2002	Mental toughness is having the natural or developed edge that enables you to: (i) generally, cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer; (ii) specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure
Clough et al., 2002	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
Thelwell et al., 2005	Mental toughness is having the natural or developed edge that enables you to: (i) always [emphasis added], cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer; (ii) specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure
Gucciardi et al., 2008	Mental toughness is a collection of values, attitudes, behaviors, 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
Coulter et al., 2010	Mental toughness is the presence of some or the entire collection of experientially developed and inherent values, attitudes, emotions, cognitions, and behaviors that influence the way in which an individual approach, responds to, and appraises both negatively and positively construed pressures, challenges, and adversities to consistently achieve his or her goals
Middleton et al., 2011	Unshakeable perseverance and conviction towards some goal despite pressure or adversity
Clough and Strycharczyk, 2012	The quality which determines in large part how people deal effectively with challenge, stressors and pressure . . . irrespective of prevailing circumstances
Hardy et al., 2014	Mental toughness is the ability to achieve personal goals in the face of pressure from a wide range of different stressors
Gucciardi et al., 2015	Mental toughness is a personal capacity to produce consistently high levels of subjective (e.g. personal goals or strivings) or objective performance (e.g. sales, race time, GPA) despite everyday challenges and stressors as well as significant adversities

Given the diversity of the definitions and conceptual variance among them, some scholars raised question on defining mental toughness in a concise and unambiguous way (Anderson, 2011). Arguably, the existence of recurring themes provides the progress of general understanding of mental toughness, and (Middleton, Marsh, Martin, Richards, & Perry, 2004a) suggested that the construct is multidimensional due to the vast number of the attitudes, behaviors, personal characteristics, and skills which contribute less to the enhancement on the scientific definition and conceptualization.

Notably, most researchers who have studied mental toughness (e.g. Jones et al., 2002; Golby et al., 2003; Loehr, 1995) have offered insufficient definitions. For instance, (Jones, Hanton, & Connaughton, 2002) determine the characteristics of mentally tough athletes and define mental toughness as what the athletes can do. On the other hand, (Thelwell, Dalzell, & Sadler, 2004), there were no uniformity of perception by participants and reported that the entire sample of six professional soccer player characterized mental toughness by having total self-belief at all times, having the ability to hang on and remain calm under pressure. Nevertheless, the half of the sample perceived mental toughness was linked with enjoying the pressure of performance.

Additionally, one of the few studies (Middleton, Marsh, Martin, Richards, & Perry, 2004a), they attempted to explore and understand the theoretical underpinning of mental toughness. The researchers applied grounded theory approach with a semi-structured interview with elite athletes and coaches in order to *learn* from participants. The emerging findings included the identification of 12 components of mental toughness which then allowed them to form upon earlier definitions of mental toughness and defined the construct as “an unshakeable perseverance and conviction towards some goal despite pressure or adversity”.

2.4 Mental Toughness

Over the last two decades, researchers are highly interested in how psychological factors such as personality, group dynamics and individual cognitions affect sports performance (Tenenbaum and Eklund, 2007). The expanding of the research has led to the study of mental toughness which plays a vital role in human performance.

Sport psychologists (researchers and practitioners), coaches, sports commentators, sports fans and athletes acknowledge the importance of mental toughness in sports performance (Goldberg, 1998; Hodge, 1994).

The first studies (Loehr, 1983 and 1986) of mental toughness highlighted that athletes and coaches felt that at least 50 percent of success is due to psychological factors that reflect mental toughness.

2.5 Mental Toughness Characteristics

A dominant finding that emerged when interviewing participants, and also later when reviewing and analyzing the interview statements, was that mental toughness seems to exist in the presence of or response to adversity.

The types of adversity reported ranged greatly and included situations such as: something going awry in a competition, high levels of performance pressure, physical pain associated with high-level physical effort, competing through an injury, falling behind in a competition and performing under bad conditions. These findings are consistent with previous research involving Australian football coaches (Gucciardi, Gordon, & Dimmock, 2008) and soccer players, parents and coaches (Coutler, Mallet, & Gucciardi, 2010). Although the type of adversity took different forms, the common thread in relation to mental toughness was the notion of overcoming the adversity. Mental toughness, according to the participant group, appears to primarily exist in relation to overcoming adversity.

In qualitative research, there are eleven mental toughness characteristics evolved in the study of understanding mental toughness in

Australian Football (Gicciardi et al., 2010). Table 3 presents an overview of each mental toughness characteristics and description based on the study to define mental toughness by the perception of parent, coach and the players.

Table 2. Mental Toughness Characteristics and Description

Mental Toughness Characteristics	Description (Gicciardi et al., 2010)
Self-Belief	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.
Work Ethic	A philosophy characterized by always working hard and pushing yourself through (physically and mentally) demanding situations in competition, training, and preparation to achieve your goals and vision.
Personal Values	Placing great importance and significance on personal values relevant to one becoming a better person and athlete.
Self- Motivated	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.
Tough Attitude	An unshakeable, tough attitude directed towards becoming a champion of the game.
Concentration and Focus	Having that single-mindedness to focus and concentrate on the job at hand and what you want to achieve despite internal and external pressure, obstacles, or adversities.
Resilience	The ability to overcome adversities with an exceptional work ethic and preserving determination to showcase your mental and physical ability.
Handling Pressure	Being able to execute skills and procedures under pressure and, stress and accepting these pressures as challenges to test yourself against.
Emotional Intelligence	An honest and accurate self-awareness and understanding of your emotions under pressure or facing an obstacle, and the ability to manage your emotions to enhance performance across all situations.
Sport Intelligence	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.
Physical Toughness	Playing to the best of your ability whilst carrying an injury, consciously making the decision to attack the ball in a physically threatening situations and pushing your body through extreme fatigue experienced during competition and training.

The strength of this definition and conceptualization of mental toughness is that it is not limited to what may be seen as the outcomes of mental toughness. One accusation that has been levelled at others who have attempted to define mental toughness, is a tendency to confuse what mental toughness allows one to do (i.e. outcomes of mental toughness) with what it actually is (e.g. Jones et al., 2002).

2.6 Model of Mental Toughness

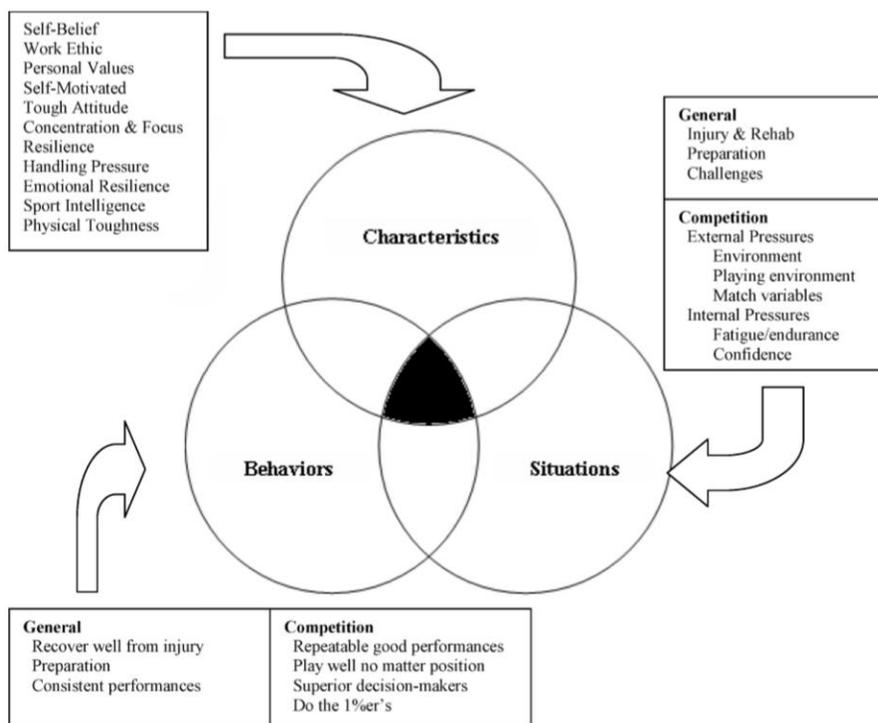


Figure 1. A Model of Mental Toughness in Australian Football Integrating Inductively Derived Concepts, Sub-Categories, and Categories

As shown in Figure 1, the finding from the Australian Football study (Gucciardi et al., 2008) revealed eleven key characteristics reflecting mental toughness in Australian Football. Significantly, several of the characteristics shown as the keystones to mental toughness which it is also consistent with previous research. The categories and sub-categories provide a better insight of how one mental toughness's can be determine and evaluate by understanding each section. Generally speaking, to comprehend an individual mental toughness is essential by exploring the smaller area of the categories; characteristics, behaviors and situations.

These include self-belief (Bull et al., 2005; Fourie & Potgieter, 2001; Loehr, 1986; Middleton et al., 2004; Thelwell et al., 2005), motivation (Bull et al., 2005; Fourie & Potgieter, 2001; Jones et al., 2002; Middleton et al., 2004), tough attitude (Bull et al., 2005; Fourie & Potgieter, 2001; Gould et al., 2002; Middleton et al., 2004; Thelwell et al., 2005), concentration and focus (Fawcett, 2005; Fourie & Potgieter, 2001; Jones et al., 2002; Loehr, 1986; Middleton et al., 2004), resilience (Bull et al., 2005; Fourie & Potgieter, 2001; Gordon & Sridhar, 2005; Gould et al., 2002; Jones et al., 2002), and handling pressure (Fawcett, 2005; Gordon & Sridhar, 2005; Jones et al., 2002; Middleton et al., 2004; Thelwell et al., 2005).

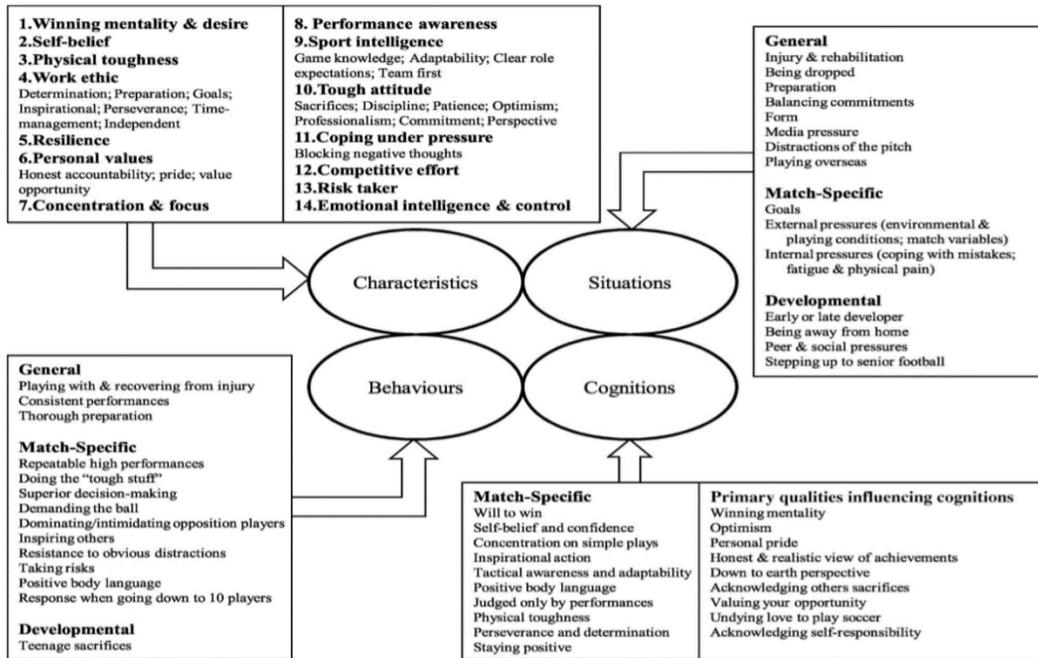


Figure 2. Conceptual Overview of Concepts, Sub-Categories, and Categories Associated with Mental Toughness in Australian Soccer

The figure above is based on the findings (Coutler et al., 2010) which then was integrated into the first mental toughness model. It illustrated that each component (characteristics, behaviors, cognitions, situations) offer an essential contribution to an understanding of mental toughness in soccer. There four components provide a deeper understanding of how key mental toughness characteristics might linked on the psychological processes of mentally tough soccer player.

2.7 Key Factors affecting Refereeing Performance

With the increasing number of sport competition, sport referees have a challenging job due to aspects of a game/match, the speed and complexity of decisions made, and importantly the hostile nature of spectators at the sport event. Referees are required to perform multiple task which include the evaluating and judging the actions that take place during the match, making fast decisions, managing the game, paying attention to multiple aspects of the game, keeping order, and solving disputes (Tuero et al., 2002).

With this in mind, indeed it is a very complex job, but also may lead referees committing mistakes. As a result of decision-making, the subjectivity of referees when assessing actions, and the mistakes they may make, they are often criticized for their decisions (Anderson and Pierce, 2009). This criticism may come from the players and the coaches as well as sports managers, fans (Rainey et al., 1990; VanYperen, 1998) or the sports media (Guillen, 2006).

Notably, the officiating task itself and the possible mistakes may lead to a loss of confidence, high anxiety, and increased stress levels in referees (Taylor and Daniel, 1987; Anshel and Weinberg, 1995; Rainey, 1995a,b). Although, these anxiety levels and their causes are similar across different sports officiating contexts (e.g., soccer, basketball, volleyball).

Further, one psychological mechanism that has been shown to enhance the stress and anxiety related to performance is one's sense of self-efficacy (Bandura, 1997). Bandura defined self-efficacy as the strength of an individual's conviction that he or she can successfully execute a behavior required to achieve a certain outcome. Such perceptions are predicted to influence task choices, effort expenditure, and resilience to failure. Based on self-efficacy theory, perceived self-efficacy influences stress and anxiety through one's beliefs about personal control of actions, thoughts, and affect (Bandura, 1997). Those who are confident in their abilities focus on the challenge and what they need to do to accomplish their task and worry less about making mistakes or the pressure of the situation.

Based on the conceptual model of referee efficacy by (Guillen F. and Feltz D.L.,2011). The dimensions of referee self-efficacy illustrated that there are six main components for officiating success; game knowledge, strategic skills (Guillen and Jimenez, 2001; Ste-Marie, 2003), decision-making skills (Helsen and Bultynck, 2004; MacMahon et al., 2007), psychological skills (Guillen, 2006), communication/control of game, and physical fitness (Villalobos et al., 2002).

Chapter 3. Methodology

3.1. Research Design

In this research, qualitative research was used to understand mental toughness of sailing refereeing during the Asian Games 2018. A qualitative research method seeks to describe, clarify, and understand a phenomenon as experienced by an individual.

Generally, qualitative research is conducted to study, understand, clarify, and describe the lived experience of a participant. Moreover, qualitative research is used to test theories and hypotheses where the primary use is to identify the relationship between the independent and dependent variables.

Further, qualitative research is expressive, to the extent that a person is able to express their view and perception on the situations or events which they experienced. As (Polkinghorne, 2005) stated that qualitative methods are used to acknowledge and embrace the experience which then a researcher would investigate and explore the experience. Hence, in this research, the sailing referee's perception can be determined.

Also, a qualitative research allows a phenomenon to be explored in the real world and allowing researcher to conduct interviews, make observations and see the world from the participant's viewpoint.

3.1.1. Interpretative Phenomenology Analysis

Phenomenology derived from the Greek word, '*phainimenon*', is the study of human experience and the way things are perceived as they appear to consciousness. The aim is to faithfully conceptualize the processes and structures of mental life, how situations are meaningfully lived through as they are experienced, with "nothing added, and nothing subtracted" (Giorgi, 2009).

Interpretative Phenomenological Analysis (IPA) is a relatively new phenomenological approach (Smith and Osborn, 2004) that attempts to explore in detail how participants make sense of their personal and social world within different contexts, and the main currency is the specific meaning that particular experiences and events hold for participants. IPA was deemed to be ideally suited as an appropriate research method to fit in with the study design, as it offers an alternative approach to how 'sense' is made of people's interpretations of their own personal and social worlds, and views research as a dynamic process, with the researcher being actively engaged in the interpretation of the data. Rather than suspending belief the researcher attempts to make sense of the participant's meaning through interpretative activity.

There are three key elements in conducting Interpretative Phenomenology Analysis:

i. *Epoché*

Epoché is a Greek word used by Husserl (1913/1962), a process of reduction of sometimes referred to as bracketing. This is to set aside such theories, hypotheses, and explanations.

Central to phenomenology is the process of ‘bracketing’ where a person investigating must attempt to reduce his or her biases by suspending belief in everything that is not actually experienced. If this process is achieved then it is meant to allow for a more direct focus on the ‘what’ of the experience itself (Nesti, 2004). In summarizing phenomenology, Nesti (2004: 42) concludes that the aim is to ‘describe, as far as possible, the intentional experience as uncontaminated by foreknowledge, bias and explanation’.

ii. Double Hermeneutic

The analytical process in IPA is often described in terms of a double hermeneutic or dual interpretation process because, firstly, the participants make meaning of their world and, secondly, the researcher tries to decode that meaning to make sense of the participants’ meaning making (Smith & Osborn, 2008). In other words, this is to understand what an experience (object or

event) is like from the participant's perspective. Yet, at the same time attempt to formulate critical questions.

iii. Idiography

This refers to an in-depth analysis of single cases and examining individual perspectives of study participants in their unique contexts. The fundamental principle behind the idiographic approach is to explore every single case, before producing any general statements. This contrasts with the nomothetic principles which underlie most empirical work in psychology, in which groups and populations are studied to establish the probability that certain phenomena will occur under specific conditions. IPA relies on idiography, meaning that researchers focus on the particular rather than the universal (Smith, Harré, & Van Langenhove, 1995).

3.1.2. Applying Interpretative Phenomenology Analysis Towards Mental Toughness

Exploring mental toughness from a phenomenological perspective is about attempting to get at the essence of what this construct is, how people describe it and experience it, what it means to participants and how it forms part of their daily existence (i.e. 'lived experience'). It is not really about consideration of a collection of group responses from generic or sport-specific samples as portrayed in much of the existing published literature (Bull et al.,

2005; Gucciardi et al., 2008; Jones et al., 2002, 2007; Thelwell et al., 2005), but rather is primarily concerned with the individual's interpretation of mental toughness within their own personal and social environment.

If mental toughness is an accepted psychological construct, as has been reported over the past 10 years, then by adopting a phenomenological perspective the researcher would focus solely on the present experience. It is about real direct experiences and encounters with the immediate environment.

3.2. Research Method

3.2.1. Participants

Eight sailing referees consist of five international and three national referees (seven male and one female) aged between 24 and 72 years volunteered to take part in the research. Some of the participants had officiated multiple major championships (e.g. Youth Olympic Games, World Championship, Commonwealth Games, Asian Games, SEA Games etc.) They had been involved at an international level of sports between 2 and 20 years.

Table 3. Demographics of Participants

Referee	Gender	Nationality	Level of refereeing	Duration of refereeing
R1	Male	Malaysian	International	12 years
R2	Male	Korean	International	20 years
R3	Male	Britain	National	2 years
R4	Female	Japanese	National	7 years
R5	Male	Estonian	International	20 years
R6	Male	Singaporean	International	20 years
R7	Male	Japanese	International	18 years
R8	Male	Singaporean	National	2 years

3.2.2. Procedure

In order to phenomenologically explore personal experience and ‘get inside the mind’ of each referee, an interpretative phenomenological interview method based on IPA was adopted (Smith and Osborn, 2004). This method explored the essence of what mental toughness was by employing more ‘in-depth’ as opposed to semi-structured interviews, which examined personal accounts of direct experience within sporting and adventure environments.

To achieve this methodological goal, each participant will describe their situations in which they experience during the Asian Games competition, hence allowing them to describe in detail what exactly happen, the thoughts, feelings and emotions. The aim was to stay faithful to the phenomenon and the context in which it appeared in the world of the participant (Giorgi and Giorgi, 2004).

Given that the research was directed at understanding the essence of what mental toughness is all about, the phenomenological method allows individuals to describe their experiences in rich detail and provides researchers and applied practitioners with information that might be impossible to access in any other way (Nesti, 2004).

3.2.3 Interview Schedule

Firstly, referees were initially contacted via e-mail and invited to participate in the study. Each referee will then be informed regarding the participant requirements and confidentiality. Further, referees will be given a document outlining the purpose of the study. To provide a suitable conceptual foundation in which to explore mental toughness, a definition of mental toughness (e.g. Gucciardi et al., 2008) will be provided to all juries prior to the interviews. After the Asian Games competition, referees will be interviewed via Skype. Face to face interviews were carried out at selected date and time most convenient for each referee. Interviews lasted between 30 and 45 min and were recorded and transcribed verbatim. Informed consent was obtained prior to the start of each interview.

A semi-structured interview guide was derived from current mental toughness literature (e.g. Slack et al., 2014) and consisted of a series of open-ended, non-leading questions (Patton, 2002).

Questions were designed to explore mental toughness in sailing referees and comprised with both clarification (“What do you mean by. . .?”) and elaboration probes (“Can you give me an example of . . .?”) throughout each interviewee to encourage clarity and richness of data. (the interview guide can be found in Appendix 1).

3.3. Data Analysis

According to Smith et al. (2009) and Smith (2011), there are several steps to conduct an Interpretive Phenomenological Analysis (IPA). Thematic analysis is the principal analytical approach used with IPA. In order to identify the major themes, an audio recording was used to listen and comments are made for the entire transcript. The margins are used for coding, and so the transcript should be formatted with very wide margins.

Stage 1: Multiple Reading and Making Notes

The initial stage involves reading and re-reading the participant’s transcript a number of times. This is to achieve a sense of familiarity (also known as immersion) . Each reading and listening may lead to some new insights and notes are made in the left margin of the transcript. The comments such as observation, reflections, experience, thoughts of the participants are noted. Comments can be descriptive (e.g. content of what participant is talking about), linguistic (e.g. how participant uses language), or conceptual

(e.g. emerging questions related to theory). The content focuses on language use (features such as metaphors, symbols, repetitions, pauses). The aim is to state what is going on in the text, generally close to the meaning. This stage may be repeated more than once in order to maximize the likelihood that the researcher has captured the meaning in the text.

Stage 2: Identifying and Transforming Notes into Emergent Themes

Identified emerging themes are noted in the right-hand margin. Then, initial notes are transformed into more meaningful statements to capture essential quality of what was found in the text. These comments should reflect broader, perhaps more theoretically significant, concerns. Terms are not fixed at this stage; indeed, they are likely to change at the next stage when they are looked at together.

Stage 3: Seeking Relationships and Connecting Themes

This stage involves in seeking connections between emerging themes, grouping them together according to conceptual similarities and providing each cluster with a descriptive label. This is to identify common links between themes and to reorder them in a more analytical or theoretical way. Some themes will cluster together, while others need to be broken up further. Some will appear to be more superordinate themes; subsuming others and labelled accordingly. They will form clusters of concepts that share meanings ore

references (also known as abstraction). A final list may comprise of numerous superordinate themes and subthemes. However, they need to be crosschecked with the initial transcribed to ensure that it remains consistent with the actual words of the participants.

Stage 4: Produce a Table

At stage 4, the table lists the themes that go to each superordinate theme. Themes are appropriately named, and each theme linked to the originating text through reference to specific quotes. During this process, some themes will be discarded (also known as the reduction of themes) where some themes neither fit well in the emerging structure.

Stage 5: Continuing the Analysis with Other Cases

The final stage involves seeking for patterns across cases. By beginning from stage 1 to help orient the subsequent analysis. This procedure is repeated for all cases until a final table of themes is produced that represents all the cases in a study. Once each transcript has been analyzed, construct a final table of superordinate themes. Flexibility is important when moving from case to case, as there will be times when it is necessary to start again and completely rework themes or abandon those that appeared relevant with one case but not others. The process is cyclical and iterative, continually returning to the data to check meaning and confirm interpretations.

Trustworthiness:

Trustworthiness was achieved through a number of key procedures as outlined by Lincoln and Guba (1985). First, member-checking was carried out to ensure accuracy of the contents of the transcript. Each participant received an electronic transcribed copy (via e-mail) of his or her interview and was asked to confirm that the information contained was precise in content and meaning. With only minor amendments made, participant feedback deemed that the findings accurately represented mental toughness in sailing refereeing.

Secondly, researcher triangulation (Patton, 2002) involved a series of team meetings in which discussions were held until the three researchers reached consensus on all raw-data, lower- and higher-order themes.

Chapter 4. Results

The present study investigated mental toughness in sailing refereeing during the 2018 Jakarta Asian Games. The findings consisted of three parts with the sub-sections in accordance with the objective of the study. Descriptive quotes were labelled with a referee ID number (e.g., Referee 4 = R4, etc.)

4.1 Competition Situations Requiring Mental Toughness

Five referees demonstrated mental toughness are required during both on-the-water and off-the-water encounters. Specifically, referees highlighted that considered “**decision making**” (e.g. a confrontational decision, not dwelling on a previous decision) a significant element during competition that required mental toughness.

When asked about what situation in sailing that requires mental toughness the most:

i. On-the-water:

“Sailing is unusual because there is no refereeing in the normal sense as in other sports. The racing area is too wide and boats (up to 100 or more) too far apart for a judge to see every incident. Often the incident is not seen by the referee and the incident is brought back by the parties which can be one, two or many who will then deliver their case to the referees to decide

who may have infringed a rule. At some events, referees are required to be on the water as long as there are races which can be up to 4 hours a day to monitor illegal body kinetics and after on the water work be ready to hear cases brought by sailors who may have infringed rules.” (R1)

“Judgement consistency during the racing days and throughout whole competition... Focusing to the tasks (Racing Rules of Sailing No. 42 – Propulsion, boat-to-boat incidents) all the time when on the water refereeing.” (R5)

ii. Off-the-water:

“Coming back on shore to be ready to hear cases between boats who have had an incident such as a collision and to arrive at a decision as to which boat broke a rule and penalize. Very often the cases are not simple and requires the intense discussion with fellow judges to arrive at a conclusion.” (R1)

When prompted to elaborate on the decision making by the referees, the referee replied:

“The mental toughness required comes after already a long day at sea and continues in the hearing room where the referees may have to decide and make a decision which sometimes mean a boat loses the trophy or even lose an Olympic medal.” (R1)

Further, when asked for an example, the referee responded:

“When a high-level sport result like a World Championship or Olympic event comes to the hearing room for decision, it places on the judge a high level of mental strain that can only be overcome or handled better by regular judging and depth of experience.” (R1)

It is very common that referees need to continue their decision-making after coming back from the sea. In fact, during the hearing – it is where all the decisions are made from the panel of referees. As noted by one referee:

“After a long day on the water judging illegal propulsions or boat-to-boat incidents, referees still have to contend with numerous protests or redress hearing after racing. In order to be fair to competitors, referees have to stay mentally focused during hearings, often times staying on past regular dinner timing.” (R8)

In sailing, referees must comply with the Racing Rules of Sailing where their primary role linked to be a protest committee which is a panel of referees. To enumerate, refereeing in sailing are both on-the-water (e.g. observing at the starting line and penalties etc.) and off-the-water (e.g. protest hearing and requests for redress).

Furthermore, four referees perceived external pressure, predominantly the **“environmental conditions (e.g. weather and sea**

condition)” as a situation demanding mental toughness on-the-water refereeing. As two of the referees’ detailed:

“On the water for long hours driving a referee boat and monitoring the sailors for rule infringements and unsportsmanlike behavior in hot weather, cold windy weather or rough seas. The mental toughness is to handle the environmental climatic conditions and be mentally tough enough to still concentrate with on the water judging.” (R1)

“Contending with weather conditions. (e.g. rough/chopping seas and cold weather). It is difficult to concentrate and perform well in such weather conditions especially without mental toughness.” (R6)

4.2 Mental Toughness Affecting Sailing Refereeing

4.2.1 Mental Toughness Behaviors

Throughout competition specific situations demanding mental toughness, it shows that mentally tough referees portrayed a series of adaptive patterns of behaviors. Two of the referees highlighted **“consistent preparation”** for the competition. As noted by one referee:

“The key to overcome challenging situation such as environmental factors are to be well prepared. For instance, as a referee, I have been through many competitions where the sea conditions may differ from one country to another. Some countries you may have calm sea and warm weather,

whereas, certain countries you may experience a rough/chopping sea as well as cold windy weather. Hence, dress for the condition and ensure that you are comfortable enough to be able to carry out your duties.” (R6)

Furthermore, when prompted to explain the importance of preparation prior the day of competition, another referee responded:

“Experienced referees know that because the mental and physical demands of a competition are high, sufficient rest is very important.” (R1)

The referee then elaborated how they prepare their state of mind for the next day of competition:

“Referee also always appoint one member of the referee to organize what is termed as "evening social" which is very important to help referees unwind and relax after a long day. Such dinner arrangements in an informal setting helps judges to "reset" their minds and put their mental state in a relaxed mode, often with jokes and laughter and very rarely on the competition.” (R1)

During refereeing on-the-water, referees are required to maneuver a speed boat which allowed them to travel from one point to another. Notably, behavior on “**consideration**” of referees during the race especially when maneuvering close to the sailors or buoys. To enumerate, it is a must to give a penalty when there is a breach of propulsion. As one referee illustrated:

“We should be in the position to be able to observe closely to the sailor (to decide on giving a penalty when there is a breach of propulsion). We shouldn’t do it to protect sailor who is complying rules, but we also know that the act of disturbance on the sea surface where normally sailors dislike if we are too close towards them. Therefore, in cases like this, we must be able to be considerate on our act or it might affect the sailor’s momentum/performance.” (R4)

Thus, consideration for referee is to be in a position not so near towards the sailor’s boat but close enough to see them. For an example, when a sailor is rounding the mark (buoy). This is because maneuvering close to the sailor’s boat will affect the sea conditions (e.g. causing waves).

4.2.2 Mental Toughness Cognitions

Within this study, a variety of thoughts and psychological process that appeared among the sailing referees, where they rationalize or control their emotions and/or behavior during the competition specific which requires mental toughness – whether prior or during the competition or life/career specific. There were common attributes among the referees. During refereeing on-the-water, one of the referees expressed **“tactical awareness”** and **“refereeing experiences”** in the following quote:

“Different competitions have different levels of intensity and different demands. A referee must be mentally prepared for such demands. This can only come from experience. An inexperienced referee will find an event highly competitive and may be ill prepared and therefore affect his ability to cope with the challenge and may result in making errors of judgement. A referee has to therefore plan his events early in his career where he moves from less competitive events and gradually towards more complex or competitive events.” (R1)

Another referee also mentioned refereeing experience plays a vital role in refereeing. The referee then stated:

“The experience and anticipation help to position yourself to the proper place/angle to observe an incident, helps to make a better decision and takes less energy (mentally).... to be on level throughout a day.” (R5)

The experiences acquired by referees has developed their cognition. For instance, some situation where they have experience before, assisted them in the next competition. When asked about the refereeing experiences and better decision, he continued:

“At the beginning of my career as a referee, I may face some situation where it is hard for me to make a decision. However, after going through

more and more competition, I am able to come up the decision better and also faster than before... It is because the experiences I have been through.” (R5)

Also capturing the cognitions deployed within the refereeing situations, referees spoke about “**concentration**”. In particular, one referee stated there are two level of refereeing in sailing.

“Firstly, on the water monitoring of illegal propulsion by body kinetics. As this is not allowed, referees must concentrate at the fleet racing that can number 100 or more and look out for an infringement. When a referee has to do this for 4 to 5 hours continuously each day for up to 5 days, the mental ability may diminish due to fatigue.” (R1)

The referee perceived fatigue affects concentration. When asked to elaborate on fatigue and refereeing, the referee responded:

“Fatigue is the main reason that will affect my thoughts, emotions and behavior. The outcome of my thoughts process, emotions and behavior will largely depend on my level of fatigue.” (R1)

The referee then further detailed the other level of refereeing:

“If I am in a state of troubled thoughts, troubled emotions or may be irritable in behavior, obviously my refereeing on the water will be impaired. With troubled thoughts and troubled emotions my mind will be distracted and mentally not focused on the competition that is on-going.” (R1)

When asked for an example if the referee is unable to focus:

“If I am in an irritable behavior or in an impulsive behavior, I may penalize a sailor harshly or with poor justification which is not fair.” (R1)

4.3 Mental Toughness Characteristics

The referees identified factors that coalesced into mental toughness characteristics. Within the emerging themes, six psychological components captured mental toughness characteristics among sailing referees: (a) concentration and focus, (b) handling pressure (c) blocking negative thoughts, (c) resilience (d) self-belief (e) positive and tough attitude (f) emotional intelligence (g) sport intelligence

The most significant characteristic shown by sailing referees are **concentration and focus**. Four referees mentioned concentration and focus on refereeing. When asked why it is important:

“It is important because if I make a mistake, it may mean a sailor losing the Olympic Gold medal, it’s that important. When we are refereeing on the water in a medal race, our concentration must be 100% as any incident on water will be umpired by referees as only 10 boats race in the final medal race.” (R1)

Further, when asked how to maintain concentration and focus, the referee explained:

“Our concentration and focus can be assisted by our own experience as both sailors as well as referees in previous events. Incidents on the water can always be predicted and our concentration level and focus can be modulated by a sense of expectation by watching the tactics of sailor and predict their actions and this lowers the demand on mental fatigue causing intense concentration.” (R1)

Another referee added:

“It is common that referees are more focused on the first day – first race than last race of the last day. Even during the day, the consistency varies. It is easier to follow and to focused to two boats company within bigger fleets. Swap from one incident to other and to do it continuously 4-5 hours per day when judging, is very tough!” (R5)

In addition, another emerging attribute of mental toughness within sailing refereeing are **handling pressure**. One of the referees stated that there will be some situation that we may undergo pressure. For example:

“Being a national referee, I am still under practical assessment/examination to become an international referee... The assessment is usually held during a sailing competition; hence I feel additional stress or pressure to perform under ‘normal’ circumstances. This is because I fear on making

mistakes ... I think if I performed badly may affect their assessment towards me.” (R8)

Moreover, when asked on **blocking negative thoughts**, the referee quoted:

“I would talk out loud as I watch every sailor I am monitoring. As I talk out the race in progress and behave almost like a football commentator... I no longer can be in thought mode. By talking through what I see, I am actually focusing on my refereeing duty when I say out loud (e.g. when a boat has infringed a rule).” (R1)

Two referees stated **resilience** as an important factor when refereeing. Specifically, referees talked about not dwelling on decisions during the competition and the consistency of judgement. For example, one referee stated:

“The question is – consistency of judgement. Inconsistent judgement, call is not fair! Selective concentration is not fair in sport. We cannot accept that referee on football field focuses only on some individuals and not all of them. the same principle shall be applied to every sport, including sailing. What is different – sailing racing is very long (>4-5 hours) per day, and it is very hard to stay mentally “awake” during that period.” (R5)

The other referee explained how resilience affects sailing refereeing:

“The racing rules of sailing are not simple and can be complicated. On the water afloat, referees have to be sharp on boat techniques, boat positioning, observing illegal propulsion and rules incidents. This requires strong mental resilience and concentration as anticipation on potential situations are important.” (R8)

Moreover, referees also highlighted various mental toughness characteristics during sailing refereeing. In particular, one of the referees expressed **self-belief** as an important element. When asked how positivity affects the referee, he explained:

“As I am now still a national referee, I have so much to learn – unlike other referees, where they are experienced for more than 10 years. However, I don’t see or perceived this as a disadvantage but to look it at a different perspective. I know one day when I have more experience, I am able to be like them as well.” (R8)

The referee believes that with more knowledge of rules and experience are the main key, which then he included a sense of optimism and patience to achieve his goal which show **positive and tough attitude**. He continued:

“Thinking positively such as looking forward and learning sometimes new as every case or situation in sailing is different. No two case are the same.

By that way, looking case at different perspective, that is the only way I am able to improve myself to become better. At the end of the day, by implying optimism in myself, I am always ready to learn new things in every competition.” (R8)

Another key mental toughness characteristic shown by the referees towards handling emotion during refereeing which is known as **emotional intelligence**. The referees fully illustrated this in the following quote:

“Not taking it personally! “The less you put personal feeling, the better it is! Also, this is part of any sport – sport need judges/referees! We should not accept a sport without rules and without a people controlling it. I’m doing my best I can, I am not subjective – that’s my call!” (R5)

“By ensuring that the penalties are consistent. By refraining from being “too” interested in the fleet results prior to each race, but enough to be able to anticipate any likely areas of competitors conflicts.” (R3)

Finally, two of the referees described how **sport intelligence** characteristic assist them in refereeing. In particular, referees mentioned having an awareness of refereeing overseas, an awareness of sailor’s ability, and understanding of sailing rules. One referee explained:

“The best way is to resort to the “Rules” by backing up every decision and thought process with the relevant rule. In which case, good knowledge of

the rules is essential. It is an important aspect for referees to have vast knowledge in refereeing. This is because not all cases occurred the same in every competition. In sailing, the wind and boat direction of a sailor are taken into consideration. With this in mind, we are able to understand the situation and who should be given a penalty during a conflict/misconduct or also might affect the placing of the sailors.” (R3)

Chapter 5. Discussion

Nowadays, sport psychology studies and consultancy has begun to acknowledge the importance of a range of sport performers beyond just athletes and coaches (Nevill, Atkinson, & Hughes, 2008). With this in mind, the present research is to investigate the influence of mental toughness among sailing referees during the 2018 Jakarta Asian Games using an interpretive phenomenological approach.

5.1 Competition Situations Requiring Mental Toughness

One of the most significant finding on situation which requires mental toughness the most among sailing referees is decision-making, and the findings are consistent with previous research (Dosseville, Garnarczyk, & Laborde, 2011; Plessner & Haar, 2006). Indeed, it is a common aspect to all categories of sports refereeing is the process of judging and decision- making.

In sailing, decision made by the panel of referees may affect the placing of the athletes. As mentioned by Referee 1, “when referees need to solve a protest submitted by the sailors in the hearing room, they need to be mentally tough in order to come into a final decision”. The hearing aims to resolve any disputes by the sailors. The decision made by analyzing and understanding the situation of the sailors in the sea (e.g. position of boats during incidents).

The referee proceeded with an example, given the situation; sailor A is currently in the first placing and sailor B the second. However, after the hearing by panel of referees, the final decision made, may cause a big impact on the placing where sailor B is now placed first and sailor A the second. Therefore, decision-making is extremely important especially in high-level competition like the Olympic or World Championship etc.

The referee then added, “this can only be overcome or handled better depending on the depth of experience of a referee”. Refereeing experience is the experience that referee, or judge has accumulated during competitions by determining the number of years spent on refereeing, as well as the level of refereeing which then contributes to this experience. As shown by past research (MacMahon, Helsen, Starkes, & Weston, 2007), it indicates that experience determines the quality of the performance of a referee. In their study on football with Belgian professional referees, MacMahon and his colleagues showed that quantitatively greater experience of referee (number of years) is associated with better performance. Although quality of performance may vary in each sport, the accuracy of decision-making is always considered the most important aspect.

5.2 Mental Toughness Affecting Sailing Refereeing

Addressing mental toughness from a conceptual perspective, the second purpose of this study is to understand how mental toughness affects sailing referees during refereeing. It portrays that the **behaviors and cognitions** provide a better insight towards mental toughness.

i. Behavior

During the on-going competition of Asian games, some behavior shown by referee where might affect in their sailing performance. Referees cited the importance of “consistent preparation” such as physically and mentally well-prepared, sufficient rest and avoid alcohol consumption. These components were the key factors that they adopt in order to maximize their refereeing performance. As suggested by (Slack et al., 2013), referees should plan physiological, technical, tactical, and mental aspects in order to get to the beginning of performance in an optimal state.

Notably, some of the referees during Asian Games came from other continent such as Europe and definitely they might have gone through jet-lag effects. Hence, by the time they arrive the competition, they might have some trouble with the time difference. This supports previous findings (Reilly & Edwards, 2007), referees need to perform at various times of the day, depending on the match they are allocated, and in international matches they

might also be subjected to jet-lag effects. Furthermore, referees should also plan their adequate nutritional intake for optimal performance. In planning the physiological match routine, it is advised to consult with, or refer the referee to physiologists and nutritionists for best practice.

Another key behavior shown by some of the referees are consideration during on-the-water refereeing. To elaborate, sailing referees are required to maneuver a speed boat which allowed them to travel from one point to another or also be in a position near the mark/buoy (e.g to give a penalty when there is a breach of propulsion). As one referee illustrated, “We should be in the position to be able to observe closely to the sailor (to decide on giving a penalty when there is a breach of propulsion). We shouldn’t do it to protect sailor who is complying rules, but we also know that the act of disturbance on the sea surface where normally sailors dislike if we are too close towards them. Therefore, in cases like this, we must be able to be considerate on our act or it might affect the sailor’s momentum/ performance”.

It is clearly portrayed that the referees understood those situation and act accordingly by being in a suitable position without affecting the sailors. In the Cornerstones Model for Refereeing Performance, Mascarenhas et al. (2005) identified the importance of an umpire being able to “alter his or her style of refereeing to suit the particular nuances of the game” (p. 386). Based

on this description, umpires should understand the way the game is played to effectively manage the game environment and alter their umpiring style based on the game context.

Given these points, the referees demonstrated the ability to alter their personal refereeing style based on changes within the game environment, such as being considerate and to be in a position not so near towards the sailor's boat but close enough to see them. For an example, when a sailor is rounding the mark (buoy). This is because maneuvering close to the sailor's boat will affect the sea conditions (e.g. causing waves). By the act of consideration and understanding the on-water-refereeing situation, this exhibits an experienced level of performance (Ward & Williams, 2003).

ii. Cognition

The identification and understanding of cognitions shown or perceived by the referees is one of the keystones in this study. As noted by one referee, "fatigue is the main reason that will affect my thoughts, emotions and behavior. The outcome of my thoughts process, emotions and behavior will largely depend on my level of fatigue". Under those circumstance, the outcome of fatigue will affect the referee's decision-making. This substantiates previous findings (Mallo et al., 2012), where they analyzed foul incidents from the 2009 FIFA Confederations Cup and suggested that the

distance of the referee to the incident would affect the quality of the decision. Further, the analysis indicated that more incorrect decision was made in the last 15 minutes of the game than in any other 15-minute period. This might have been due to the referee's physical or mental fatigue.

Correspondingly, (Krustrup and Bangsbo, 2001) also found that Danish referees were farther away from infringements in the second half of the game than in the first, indicating they were fatigued. They proclaimed that fatigue might contribute to soccer referees' fear of failure, such that they might not be able to be in a location adequate to making a decisive call. With this in mind, it shows that fatigue can negatively interfere with cognitive function, creating an internal attentional focus which may debilitate accurate decision-making (Mascarenhas et al., 2009; Ste-Marie, 2003).

The process of identifying and describing those situations that require mental toughness also enabled referees to place themselves in these situations and recall how they felt, their thoughts and how they behaved in such challenging situation. Therefore, understanding their behavior and cognition may provide a better understanding of how the key characteristics of mental toughness influenced sailing referees to these situations, but also how they would appraise certain performances and what behaviors as well as their cognitions they exhibit in these situations.

5.3 Mental Toughness Characteristics

Seven key characteristics reflecting mental toughness in sailing refereeing were discovered from the analysis.

i. Concentration and Focus

Being able to maintain concentration and focus are one of the most prominent findings in this research. Referees stated the importance of concentration and focus especially on the situation where mental toughness is highly required (e.g. decision-making, refereeing in critical weather condition). Referee 5 quoted, “It is common that referees are more focused on the first day – first race than last race of the last day. Even during the day, the consistency varies. It is easier to follow and to focused to two boasts company within bigger fleets. Swap from one incident to other and to do it continuously 4-5 hours per day when judging, is very tough!”. With the vast amount of research conducted in the area of mental toughness characteristics, the findings are in line with (Fawcett, 2005; Fourie & Potgieter, 2001; Jones et al., 2002; Loehr, 1986; Middleton et al., 2004), resilience (Bull et al., 2005; Fourie & Potgieter, 2001; Gordon & Sridhar, 2005; Gould et al., 2002; Jones et al., 2002).

ii. Handling Pressure and Blocking Negative Thoughts

Referees were also characterized to exhibit handling pressure characteristic of mental toughness during the competition. Despite the situation which required mental toughness such as decision-making and environmental situation, referees seem to have an approach on how to block negative thoughts especially in challenging situation. As stated by one of the referees, “I would talk out loud as I watch every sailor I am monitoring. As I talk out the race in progress and behave almost like a football commentator... I no longer can be in thought mode. By talking through what I see, I am actually focusing on my refereeing duty when I say out loud (e.g. when a boat has infringed a rule)”. Expressively, the referee used some self-talk to effectively focus/re-focus throughout competition. This finding probably suggests a link between specific mental toughness cognitions and attentional focus; which is the core component encompassed some of the Psychological Skills Training (PST) (Johnson & Gilbert, 2004; Thomas, Murphy, & Hardy, 1999). In line with existing research, mental toughness cognitions are associated with specific psychological skill-based strategies (e.g., positive self-talk; Coulter et al., 2010).

iii. Self-belief

Finally, emerging mental toughness characteristic from the data analysis, some of the referees talked extensively on self-belief which they perceived as a vital component in refereeing. For example, referee 8 mentioned that currently he is still a national referee, where he acknowledged that he has so much to learn unlike other referees with more than 10 years of experience. Yet, he doesn't perceive it as a disadvantage but look it as a motivation and process of learning. Hence, when the referee has more experience, he will be able to achieve like the other referees.

With this in mind, this referee portrays self-belief characteristic in his refereeing career. This present finding is clearly supported by previous research (Bull et al., 2005; Fourie & Potgieter, 2001; Loehr, 1986; Middleton et al., 2004; Thelwell et al., 2005), where self-belief is considered the most important component of mental toughness in sport. Given that sailing referees have to deal with external refereeing situation (e.g. weather conditions) self-belief was characterized as the key aspect in mental toughness context especially during the process of decision-making. Further research identified that having self-belief as the most commonly cited mental toughness characteristic (Gucciardi et al., 2008; Jones, Hanton, & Connaughton, 2002; Thelwell, Weston, & Greenlees, 2005).

Not surprisingly, two characteristics including emotional intelligence and sport intelligence were unique to this research.

iv. Emotional Intelligence

Emotional intelligence is defined as the self-awareness of understanding one's emotion when facing an obstacle and also the ability to manage the emotion.

During the interview, referee 5 stated "not taking it personally! The less you put personal feeling, the better it is!". Past research demonstrated the relationship between mental toughness and emotional intelligence (Gucciardi et al., 2008; Thelwell et al., 2005). Significantly, emotions play a vital role in refereeing especially in challenging situation. Several authors highlighted the importance of emotional intelligence for sport performance (Clements, 2005; Gordon, 2002) and research in organizational settings consistently showing that individuals with more effective ways of dealing with emotions typically out-perform and achieve more success than those individuals with less effective methods (Zeidner, Matthews, & Roberts, 2004).

Another key point, referees that portrayed mental toughness cognitions also recognized not only their emotions but the emotions of the sailor which they officiate. In consistent with this, these individuals are able to handle the sailor's emotional states during tough decision-making situation

(e.g. not dwelling on a previous decision). Thus, this finding is one of the main aspects in referees being able to identify and manage the situation in sailing situations.

Significantly, past mental toughness literature acknowledging various forms of Emotional Intelligence characterizing mentally tough performers (e.g., Gucciardi et al., 2008; Thelwell et al., 2005) and further empirical research on the relationship between mental toughness and emotional intelligence is justified.

v. Sport intelligence

In the final analysis, two of the sailing referees mentioned having good knowledge of rules, which provided evidence that sport intelligence was considered as a key element characterizing mental toughness characteristics.

The knowledge of game-play is defined as self-directed verbal communication that demonstrated knowledge of future player actions and/or game-play. Authors proclaimed that skilled performers use visual information early in an action sequence to predict the next act of play (Abernethy & Russell, 1987; Larkin et al., 2011), which is an important skill in Australian football, as umpires need to perceive the action sequence to assist in positioning themselves appropriately to view the next ball contest (Larkin et al., 2011).

As an illustration, one referee stated the importance of having good knowledge of sailing rules during the Jakarta Asian Games, he then explained further, “The best way is to resort to the “Rules – by backing up every decision and thought process with the relevant rule. In which case, good knowledge of the rules is essential. It is an important aspect for referees to have vast knowledge in refereeing. This is because not all cases occurred the same in every competition. In sailing, the wind and boat direction of a sailor are taken into consideration. With this in mind, we are able to understand the situation and who should be given a penalty during a conflict/misconduct or also might affect the placing of the sailors”. Thus, the present findings confirmed with previous results (Mascarenhas et al., 2005, p. 368, on the knowledge and application of the law can be identified as directly relevant to in-game decision-making which can be defined as “the underpinning knowledge of the law that allows referees to accurately interpret dynamic situations and penalize accordingly”.

Given these points, the example demonstrated the referee’s ability to assess the competition situation and generate possible outcome based on advance cue information. The ability to use advance cue information has been shown to be an attribute of skilled decision-making performance in athletes

and gymnastic judges (Ste-Marie, 1999; Vaeyens, Lenoir, Williams, & Philippaerts, 2007).

In comparison in this study, senior sailing referees shows that they are better in adapting and handling challenging situations compared to the junior referees. With the vast amount of experience in refereeing, the senior referees may have gone through all kind of situation and able to apply the knowledge for the next competition. On the other hand, the junior referees also take this opportunity as an advantage to learn and improve their refereeing rather than to perceived it a disadvantage.

In line with previous findings, sport researchers and sport psychologists have identified the importance of mental toughness of referees. However, mostly research conducted are in the context of football refereeing. Notably, the referees think that psychology is an important factor in refereeing especially in decision-making. It is proven by previous research stating that decision-making is tremendously important in all sports.

Chapter 6. Conclusions

6.1 Conclusion

The findings of this research provide a deeper understanding on mental toughness towards the sailing refereeing performance. It is shown that some of the demanding situation on mental toughness linked to decision-making. With this in mind, the key is to understand their behavior, cognition and situation. Most contemporary researchers suggest that an individual's mental toughness will be determined by both inherited characteristics and by learning, experience, and environments influences (Bull et al., 2005; Gordon, 2005; Jones et al., 2002; Thelwell et al., 2005).

Although both qualitative (Bull et al., 2005; Jones et al., 2002; Middleton et al., 2004a; Thelwell et al., 2005) and quantitative approaches (Clough et al, 2002; Crust & Clough, 2005) have been used to understand mental toughness, and some differences of opinion are evident in regards to conceptual issues and measurement, some areas of agreement are also apparent. Mental toughness appears to be multidimensional and most often associated with self-belief, handling pressure, resilience, concentration and focus etc. especially in challenging situation during refereeing. While results support existing literature (e.g., Coulter et al., 2010; Gucciardi et al., 2008),

there were numerous findings perceived to be unique to sailing refereeing such as emotional intelligence and sport intelligence.

In summary, the importance is not only to identifying and describing the key characteristics of mental toughness but also understanding how these characteristics play their role in the performance process. Therefore, when implementing a long-term development program, incorporating psycho-education workshops within referee will likely prove to be a worthwhile endeavor. Indeed, previous research has highlighted the potential psychological benefits of this particular initiative within an athletic context (Gould et al.,2002).

If sport psychologists are to intervene effectively to enhance referee's mental toughness, the substantial process to start with is to understand on how mental toughness develops and provide a suitable approach accordingly. With the vast amount of current research focusing a sport-specific approach towards the development of mental toughness (e.g., Gucciardi, Gordon, & Dimmock, 2009b; 2009c), these findings offer theoretical and applied implications in this area.

6.2 Practical Implications

While the understanding of mental toughness in referees has been outlined previously (e.g., Slack et al., 2014), it was not a surprise that mental toughness was considered as a vital component in refereeing officiating. Firstly, mostly all the characteristics shown are consistent with previous research recommending that several mental toughness characteristics (e.g., self-belief, concentration and focus, resilient). Hence, the enhancement of mental toughness should then be incorporate with educational and experiential workshops focusing these areas. For an example, awareness training strategy can be applied via the use of profiling techniques (e.g., Butler & Hardy, 1992) to assess the mental toughness characteristics, behaviors, and cognitions.

With this in mind, another approach would be applying other psychological models which was conducted among soccer referees may also be applicable to sailing referees. The framework was designed in line with Puni's Psychological Preparation for a Competition model (PPC; as cited in Stambulova, Wrisberg, & Ryba, 2006), Vealey's (2007) mental-skills model, and Hanin's (2000) IZOF model. These models are focused on bringing sport performers to an optimal pre-performance state, as well as developing mental skills required for effectively coping with various competitive demands.

Some of the PPC model consist of several stages such as evaluation of match demands, motivational decision, and mental simulation etc. Thus, sports psychologists may reconsider on applying such approach on sailing referees but not limited to other sports as well.

In short, it is suggested that sport psychologists should consider the development of these specific psychological attributes. Furthermore, early career referees should become increasingly familiar and be exposed to similar environmental conditions as those experienced by senior/elite level sailing referees (e.g., exposure to elite-level competition, international experience) in a bid to develop mental toughness characteristics.

6.3 Limitations

It is plausible that a number of limitations might influenced the result obtained. Firstly, the gender difference among the sailing referees where significantly mostly all the participants were male and only one female. Next, a big gap of age group of participants (e.g. between 24 and 73 years). Further, given that there are role-specific variations of mental toughness in the context of sailing refereeing, hence there are likely to have some differences in other sport officiating domains.

Appendix: Research Interview Guide

Research Questions	Questions	Possible follow up questions and prompts
RQ 1	What do you think is a situation in sailing that requires mental toughness?	<ul style="list-style-type: none"> • What is it about [situation that you mention] that requires mental toughness during refereeing? • Can you elaborate more on the situation? • Explain your thoughts, emotions, and behavior.
RQ 2	During the competition, how did you handle the challenging situation?	<ul style="list-style-type: none"> • Can you give an example on the situation? • What is the approach that you applied to overcome challenging situation?
RQ 3	In your experience, can you tell me about concentration and focus?	<ul style="list-style-type: none"> • Why is it important? • Can you provide an example?
	In challenging situation as a referee, how do you block negative thoughts?	<ul style="list-style-type: none"> • Explain your thoughts, emotions, and behavior.
	Explain factors which affect you to perform your work successfully?	<ul style="list-style-type: none"> • How do you overcome the factor(s)?

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국문 초록

요트 심판 퍼포먼스에 대한 정신적 강인함의 영향 이해

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정신적 강인함이란 압력이나 도전에 대한 개인의 접근 방식이나 반응, 또는 긍정적 혹은 부정적 평가에 영향을 미치는 가치와 태도, 감정, 인지, 그리고 행동의 집합으로 정의된다.

축구 심판에 대한 연구는 방대하게 진행되었으나 요트 심판에 대한 연구는 아직 부족하다. 이 연구의 목적은 2018 자카르타 아시안 게임 요트 심판들의 정신적 강인함에 대한 더 나은 이해이다. 이를

위해 이 연구에서는 Gucciardi et al. (2008)과 Coutler et al. (2010)의 정신적 강인함 모델을 요트 심판들에게 적용하였다. 이 연구에서 사용된 질적 연구방법은 해석현상학적 분석이다. 이 분석방법은 개인이 경험한 방식과 그들의 의식에 나타난 것들이 인지되는 방법에 중점을 둔다.

결과들은 상황, 행동과 인식, 그리고 특징의 세 부분으로 나누어 진다. 심판들이 심판 중 정신적 강인함이 요구되는 두 상황이 확인되었다. 심판들을 통해 생성된 주제들은 지속적인 준비, 고민과 같은 다수의 행동들, 전략적 인식, 심판 경험의 인지였다. 더욱이, 심판들이 심판 중의 도전적 상황들을 견뎌낼 수 있게 하는 6가지 정신적 강인함 특성(집중력과 초점, 압박에 대한 핸들링, 부정적 생각 차단, 자기 신뢰, 정서적 지능, 그리고 스포츠 지식)이 드러났다. 정신적

강인함의 맥락에서 스포츠 현장에서의 심리적 요인의 중요성에 대한
이론적, 응용적 함의가 논의된다.

주요어 : 정신적 강인함, 요트 심판, 아시안 게임, 상황, 행동, 인지, 특성

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