

# Mental Toughness in Sport

By

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Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**DECLARATION**

I, (your name), would like to declare that all the material of this study is solely my own work that has been performed without any aid. This work had not been submitted previously at any academic or professional level. The views represented in this study are my own and not those associated with other university.

Signed \_\_\_\_\_

Date \_\_\_\_\_

### **Abstract**

**Background:** Successful performance of athletes and sports players is dependent on mental toughness, but though the significance of mental toughness has been acknowledged by the investigators, inconsistency is clearly related to the identification and definition of characteristics of the construct. Mental toughness is becoming usually accepted as a critical contributor to overcoming adversity and achieving performance success.

**Aim and Objectives:** The aim of this study is to explore the understanding of mental toughness among elite Gaelic football players.

**Methodology:** A secondary qualitative method through a literature review research design was selected. Search of the electronic databases CINAHL, ProQuest, Science Direct, EBSCOhost, PubMed, and Psyc-INFO was conducted for retrieving the studies published during January 2007 to October 2014. Eleven studies were chosen for the review because they met the inclusion criteria for the review. These studies were critically evaluated and thematic analysed.

**Results:** The review of selected research articles suggested that footballers have significant understanding of mental toughness and are highly aware of being mentally tough not only in the field but also during training and other circumstances in life demanding mental durability. Mental toughness is high among elite football players playing at national and international level. It enables them to deal with various scenarios emerging during competition. Coping is an important contributor to mental toughness because these players are able to cope with different situations by coping.

**Conclusion:** Mental toughness is important for players and the understanding of this concept is high among elite level Gaelic football players.

**Keywords:** Gaelic, football, players, mental toughness, elite, sports, coping, psychology, team, and soccer.

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## CHAPTER 1- INTRODUCTION

The context of the research synthesising the evidence serving as background is contemplated in this chapter. The selection of topic for conducting this research is presented to develop a construct for this dissertation. Aim and objectives of the study followed by research question are also discussed. Moreover, the significance of research as well as the outline of dissertation is presented.

### *1.1 Background of the Study*

Sport is no longer considered to be a leisurely activity managed and organised by amateurs. It has emerged as a multibillion pound business competing for scarce resources and uses, amongst other things, techniques of professional management, following the expansion of commercialisation. As a consequence of increase and push towards competence, triumph and value for money, greater interest of owners, spectators, administrators, coaches, and players has been developed in sports for the identification of mental skills and psychological attributes related with superior performance, as a primary stage of enabling their development. It has been argued by Weinberg (2010) that elite performers do not have domination over mental toughness. Hence, it is affirmed that mental toughness can be possessed by any one irrespective of their mental or physical capabilities. The understanding of mental toughness varies among businessman and athletes. Some of the responses anticipated by asking these personalities about mental toughness include “*not letting anyone break you*” and “*the ability to focus your attention and stay confident, regardless of the situation*”. Thereby, mental toughness is a term used to define extraordinary achievements over adversity and immense performances overcoming barriers on the path of an individual (Bull et al, 2005).

It has been suggested by Krane and Williams (2006) and Middleton, Martin, and Marsh (2011) that successful performance of athletes and sports players is dependent on mental toughness, but though the significance of mental toughness has been acknowledged by the investigators, inconsistency is clearly related to the identification and definition of characteristics of the construct. At present, empirical attempts have been made to understand what is meant by athletes and coaches while talking about mental toughness (Coulter, Mallett, & Gucciardi, 2010). It is suggested by Connaughton, Thelwell, and Hanton (2011) that two of the more promising definitions are alike due to their identification of mental toughness as “a collection of interrelated protective and enabling factors that result in consistent superior performances” (p. 142). It appears that mental toughness is a term used universally but without an in general agreed upon definition. According to Fawcett (2011) that rationale for the issues with definition of mental toughness was due to:

“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).

The list of characteristics of mental toughness has been presented by numerous researches, and it has been argued by Gucciardi et al (2008) that it is encouraging to observe similarities in the characteristics of mental toughness shared by prior studies. Several attributes of mental toughness have been identified including emotional intelligence and physical toughness (Coulter et al., 2010).

Familiarity with task has also been recognised as a trait of mental toughness (Middleton, 2005). Conversely, Andersen (2011) conversed that mental toughness could be about anything. In spite of the tremendously positive discernment of attributes related to mental toughness identified in the literature, there appears to be several characteristics that could be potentially detrimental for wellbeing of players. Coulter et al. (2010) enquired



whether mental toughness might be harmful to performance and wellbeing of players when they identified that some self-talk statements, describing maintenance of positive body language while experiencing pain, may exaggerate capacities of players to surmount and steer through physical anguish. It appears that features of mental toughness, as suggested by most of the research, may be positive for wellbeing and performance, but some questions emerge regarding a latent negative impact of mental toughness.

### ***1.2 Topic Choice Rationale***

Several factors are responsible for inspiring the researcher to examine the understanding of the elite Gaelic football players regarding mental toughness. The primary factor is interest in the concept of mental toughness because as observed, the evidence related to concept of mental toughness among players and athletes is conflicting (Andersen, 2011; Middleton, Martin, & Marsh, 2011). Secondly, mental toughness is considerably important generally in psychology and specifically in sport psychology. Skill and talent are essential contributors to triumph in sport, but they are not the most important factors. There are several talented players and athletes who have not been victorious when it was necessary for instance, at Olympics. Hence, the question arise that what is the crucial factor in achievement of players? The answer to this question is mental toughness. Thereby, it is important to explore the concept of mental toughness within sports and the understanding of mental toughness among elite Gaelic football players. Sport at the maximum level is tremendously characterised by a demand to outshine at superior levels and perform under conditions that are considered extremely testing and demanding (Jones, Hanton, & Connaughton, 2007).

Consequently, mental skills as well as psychological attributes for instance the ability to cope and self-confidence, two traits fundamentally imbedded in the construct of mental toughness, are becoming usually accepted as a critical contributors to overcoming adversity

and achieving performance success. Therefore, it is vital to determine the concept of mental toughness present in the minds of elite level Gaelic football players. Thirdly, there is a lack of research on the understanding of mental toughness among elite Gaelic football players. Hence, it becomes important to explore the evidence presented by the current literature regarding knowledge of mental toughness among players. Moreover, the outcomes related to mental toughness on the performance of players and the use of coping as foundation for mental toughness development is yet to be explored from the perspective of elite level Gaelic football players. These factors have steered the attention of researcher to investigate this important characteristic that should be possessed by players as they experience various difficult situations in competition.

### ***1.3 Aim and Objectives***

The aim of this study is to explore the understanding of mental toughness among elite Gaelic football players. The objectives of this research are as follows:

1. To review the concept of mental toughness in sports.
2. To explore the understanding of mental toughness among elite Gaelic football players.
3. To discuss the significance of mental toughness for elite Gaelic football players.
4. To overview the intervention and strategies for coping to develop mental toughness among elite Gaelic football players.

### ***1.4 Research Question***

What is the understanding of mental toughness among elite Gaelic football players?

### ***1.5 Significance of the Study***

This study provides significant conception of the concept of mental toughness in sports and the understanding of mental toughness among elite Gaelic football players. There is a lack of literature pertaining to mental toughness among elite Gaelic football players. Therefore, by reviewing the literature, this research recapitulates the findings previously reported by researchers. The findings of this research are anticipated to contribute towards the actual notion of mental toughness as considered by the elite level players. Therefore, young players will be benefited from the results of this study, as better understanding of mental toughness will be developed among them ultimately owing to the increase of mental toughness levels. Interventions related to the development of mental toughness among players are anticipated to progress mental toughness by directing the focus of coaches and sport organisations towards implementation of mental toughness interventions for players in different sports.

### ***1.6 Outline of the dissertation***

Chapter 1-Introduction: This chapter discusses the background creating the foundations for this study and the rationale for selection of understanding of mental toughness among elite Gaelic football players. The statement of problem and the purpose of study are also discussed at length. It also provides the aim and objectives of research to offer an overview of the study. The research question and significance of the research are also provided.

Chapter 2- Literature Review: This chapter presents the literature review that involves an assessment of the studies indicating the concept of mental toughness in sports. The significance of mental toughness for players and its development through interventions is also

critically evaluated. Importance of coping and perceptions of coaches regarding mental toughness is also discussed in detail in this section.

Chapter 3- Methodology: This section represents the methodology and the justification for the selection of specific research design. Parameters for the selection of studies, inclusion and exclusion criteria, data analysis, and ethical considerations of the research are presented. Limitations experienced during the commencement of this study are also discussed.

Chapter 4- Results: The results of the study are presented in this chapter which includes analysis of the data based on thematic analysis of the studies selected for review.

Chapter 5- Discussion and Conclusion: This section is based on the discussion of findings of this research in contrast with information provided previously by the literature. Conclusion of the research through summarisation of the findings followed by recommendations and practice implications are also discussed in this chapter.

## CHAPTER 2- LITERATURE REVIEW

This chapter reviews the concept of mental toughness in sports. It also presents the psychological aspects of mental toughness as well as improvement in mental toughness through training. The development of mental toughness through coping and importance of physical exercise training for mental toughness among players is also reviewed in this section. The perceptions of coaches with regards to mental toughness and manner in which it can be developed among elite players are comprehensively discussed in this chapter. Measurement of mental toughness through various measurement scales is also explored in this section of the dissertation.

### *2.1 Mental toughness in sports*

Mental toughness is perhaps among the generally used term but also the one which is the least understood among all in applied sports psychology. There are several contributions in the literature pertaining to the notion of developing performers that are mentally tough but confusion has been created rather clarity, due to extensively conflicting definitions and findings. The definitions proposed commonly demonstrate mental toughness as the aptitude of coping and effectively handling adversity, stress, and pressure; capability of overcoming or rebounding from failures; a skill to persevere or refuse quitting; resilience or insensitivity; and the possession or superior mental skills. Response is presented in varying manner by mentally tough athletes that enable them remain feeling energised, calm, and relaxed as a consequence of learning the development of two important skills, these skills include the ability to increase their flow of positive energy in adversity and crisis, and secondly to think to in particular ways so that right behaviour can be developed to deal with completion, mistakes, pressure, and problems (Jones, 2002). Underpinning the foundations of this definition is the ‘Personal Construct Theory’ on the basis of which mental toughness has been

defined as developed or natural psychological edge enabling the mentally tough performers to usually cope better in comparison to their rivals with the related pressure and demands that occur at highest level in sports. Mental toughness can be developed and maintained under certain conditions and can be promoted by various factors (Connaughton, Hanton & Jones, 2010).

According to Sheard and Golby (2010) there is an overlap between the construct of hardiness and mental toughness. However, it can be distinguished from hardiness by the construct of confidence which is vital for finest performance in sports (Clough et al., 2002). This peculiarity is imperative because individuals with hardiness might not necessarily possess adequate confidence to contend, while individuals with mental toughness relish challenging themselves in competition. This is crucial to explanation by Sheard (2010) that mental toughness is not mere reaction to adverse situations rather it is the positive psychological trait that develops motivation to excel.

## ***2.2 Psychological aspects and mental toughness***

There is evidence suggesting that mental toughness is related to some extent with the precedent of mental coping. It has been argued that mental toughness can be developed over the time by experiencing tough and stressful situations. It was earlier considered as a construct of mind while on the other hand it was also presumed to be a personality trait. Tough minded people are viewed as being contrasted with emotional responsibility, responsible, realistic, self-reliant, and independent. It has also been anticipated to be a construct similar to trait with demonstration of mentally tough athletes as being prone to remaining comparatively uninfluenced by adversity or competition (Crust, 2008). Emerging from the idea of the psychology of progressing brilliance, the further variables of mental toughness spin around the particular mental attributes necessary for achieving in a presented

sporting context. Mental toughness emerges as a psychological feature supposed to be possessed by some of the players. However, it is important to consider that mental toughness does not associate only with the psychological aspects of these players rather encompass their personality traits as essential elements. There are variations in the views of players and researchers regarding mental toughness but mostly they involve psychological well-being and competence of players enabling them to deal with stressful situations (Bull et al, 2005).

It is difficult to understand the manner in which players and athletes remain superior and consistent at persisting to be in-control, confident, focused, and determined under pressure. Twelve attributes have been identified that are considered fundamental and crucial to the development of mental toughness among athletes. These attributes are related with psychological competence and strength to remain at top level despite experiencing hardship/pain, anxiety, and pressure to overcome lifestyle-related and performance focus factors and develop motivation (Jones, Hanton, & Connaughton, 2007). Gould, Dieffenbach, and Moffett (2002) found that characterisation of the athletes can be based on their coping and anxiety controlling ability; mental toughness; ability to focus and suppress distractions; sport-intelligence; confidence; and optimism. There is a considerable influence of various psychological factors on these characters, with particular impact on mental toughness. These factors include psychological aspects related to family, individuals themselves, family, community, personnel in the sports environment, non-sport personnel, and process of sports. Influences of family and coaches are specifically important. The influence of these factors on athletes can be both direct and indirect. Direct domain include teaching and focusing on various psychological lessons while indirect domain include unintentional development of particular psychological environments.

Nicholls et al (2009) failed to find any evidence regarding the assertion that higher mental toughness is possessed by athletes with higher achievements. However, it was

acknowledged that the small number of elite athletes have increased mental toughness as compared to the athletes belonging to university. It has been observed that individuals with elevated levels of social support usually are physically and psychologically healthier as compared to those with decreased levels of support, probably owing to the stress-decreasing or health-sustaining functions of social support. They also experience less injuries and loss of time as a consequence of those injuries. There is a buffering impact of psychological support on mental toughness development among athletes. It is also related to the perceptions of athletes regarding themselves because the manners in which athletes perceive themselves determine level of their mental toughness. Thereby, there is an increase in stress among athletes due to experiencing situations that are beyond their perceived competence and handling capacity (Petrie, Deiters, & Harmison, 2014).

### ***2.3 Psychological training to improve mental toughness***

Psychological training has been extensively considered important for the development of mental toughness among athletes and players. Mattie & Munroe-Chandler (2012) argues that mental imagery and control thoughts can be helpful in improving mental toughness as compared to the use of avoidance techniques among athletes. It was demonstrated by Crust and Azadi (2010) that strategies related to relaxation, emotional control, and self-talk are associated positively with mental toughness in both competition and practice. Conversely, the strategies related to imagery, goal-setting, automaticity, and activation are not effective for developing mental toughness. In contrast, Gucciardi et al (2009) posited increased positive ratings of mental toughness among athletes and players through training for improving psychological skills. These trainings were reported to have better outcomes for participants as compared to those in the control group. It suggested the use of both the conventional packages of psychological skills training and programmes aiming at characteristics of



psychological robustness to enhance mental toughness. According to Munroe-Chandler et al (2007), imagery is one of the most popular psychological skills utilized by athletes of all ages to improve their mental toughness.

Caliari (2008) asserts that it is an important technique for improving performance. It can also be used for enhancing confidence in sports (Callow, Roberts, & Fawkes, 2006). Motivational general-mastery (MG-M) is an imagery technique that encompasses images of feeling mentally tough, in control, and confident as well as combined efficiency (Shearer et al, 2007). In a sample of 151 athletes that also included 40 Gaelic football players, use of imagery assessed through The Mental Toughness 48 Inventory reported significant predicted mental toughness among athletes. Among all the imagery techniques, the strongest predictor for all mental toughness dimensions was MG-M. These findings provided support for the use of imagery in enhancing or developing mental toughness among athletes (Mattie & Munroe-Chandler, 2012). Sharp et al (2013) evaluated the impact of psychological training on mental toughness in young athletes. Elite rugby players were delivered a mental skills training programme and focus groups were conducted following the delivery of this program. Athletes considered that their coaches were able to develop a better understanding of methods to improve mental skills which enabled them to manage their performance. These skills were also considered vital for development mental toughness in other areas of their life and were not confined to sports. Thereby, it was suggested that mental toughness can be developed not only by the athletes themselves rather it necessitates the involvement of coaches and other important personnel. Thelwell and Maynard (2003) also determined the impact of psychological training on cricketers. The outcomes of administration of this training suggested an improvement in the performance consistency and amelioration in the players' performance due to the delivery of psychological training that enhanced mental toughness

among these players. This intervention was important because it improved performance of players as compared to that of the control group.

#### ***2.4 Coping to develop mental toughness***

Gucciardi and Gordon (2009) suggest that technique of performance profile has been developed having its underpinnings in the personal construct psychology framework. It has emerged as a useful procedure in identification and understanding of perceived requirements of athletes in the areas necessitating improvement. The major tenets of this technique still fail due to inappropriate application and descriptions of this technique irrespective of its popularity. Thereby, it can be used effectively in determining mental toughness development among athletes. However, based on the current demonstrations it is important to consider the effectiveness of coping to establish this technique in assessing mental toughness.

Interventions based on coping strategies to promote the development of mental toughness among athletes have been observed to deliver significant outcomes. Bell, Hardy and Beattie (2013) delivered intervention to develop coping strategies for promoting the development of mental toughness among young elite cricketers. Comparison of the intervention was made with a control group. Significant improvements in mental toughness were observed in the group receiving coping-based intervention as compared to the control group. Therefore, it was concluded that coping can potentially improve the levels of mental toughness among elite players. It has been demonstrated by Nicholls et al (2008) that increased levels of mental toughness are related with elevated problems and approach of coping strategies. However, they are less related with strategies related to avoidance used for coping purpose. There is also a considerable relation between the subscales of optimism and mental toughness with a negative correlation between mental toughness and pessimism.

There is an influence of experience and age on the level of mental toughness as they predict the use of coping strategies by these players.

Similarly, it was advocated by Marchant et al (2008) that there is a considerable impact of age and managerial position on the level of mental toughness among players. Players having senior position are expected to have increased rate of mental toughness as compared to those at lower positions. There is also increase in mental toughness among players with progression in age corresponding to the increased use of coping strategies to overcome stress and develop self-control. These findings were observed in a sample of 522 participants in UK-based organisations. It was suggested that trainings for increasing coping strategies based on development of positive control feelings and optimism should be delivered to players to increase their mental toughness (Marchant et al, 2008).

### ***2.5 Physical exercise training for ameliorating mental toughness***

The physical dimension of mental toughness encompass being physically well-prepared and acting tough. It involves the ability to develop an optimal state of performance, to access empowering emotions, and to cope. There is a lack of evidence supporting the implications of physical interventions and trainings for improving mental toughness among players. However, it has been observed that players with good physical toughness can cope more easily and efficiently with several factors related to negative experiences. According to Ranganathan et al (2004) physical training can be beneficial for improving physical and mental toughness because mental empowerment enables the players to be physically more competent in dealing with different situations demanding increased physical and mental toughness. Delivering mental training to players can also have significant impact on their physical toughness level and thereby improving their overall performance in the field.

Wade, Pope, and Simonson (2014) confirmed that physical training has limited benefits for developing mental toughness among athletes. Despite considerable physical exercise training given to athletes, there is a lack of mental toughness to endure sports training. However, it has been argued that this inadequacy might be related to inappropriate physical training facilities available for the athletes. Thereby, suggesting the need for improvement of currently existing physical training programmes to enable development of mental toughness. Coaches have the responsibility to develop appropriate training so that athletes can have mental toughness necessary to overcome various hurdles encountered during sports. Conversely, Walker et al (2011) affirms that physical training involving extreme characteristics requirement can significantly ameliorate mental toughness and other physiological and psychological characteristics. Thus, mental toughness can be developed through physical training of athletes because it has been proven to present considerable outcomes related to mental toughness those participants who were involved in competitive sports during school had significant levels of mental toughness.

### ***2.6 Significance of physical and psychological training***

It has been widely considered that psychological training can improve the development of mental toughness among athletes and players. As reported by Golby and Sheard (2004), through the measurement of potency possessed in mental skills and personality style among professional players, it was found that hardiness and mental toughness is present more among players who play at high standards as compared to those playing at middle or low standards. These players have the ability to control attention and negative energy. These characteristics have been developed through psychological training and physical experiences during the competition which have rendered these players mentally

tough. Therefore, psychological and physical training of players can significantly improve their performance at all levels, particularly in the elite players playing at high standards.

Gucciardi (2011) affirms that mental toughness is developed over the course of time and experience. Through the utilisation of Cricket Mental Toughness Inventory, mental toughness was assessed in a sample of 308 cricketers. Mental toughness was reported by these players with 187 documenting exposure to diverse experience of both positive and negative situations. The strongest association was observed between initiative experiences and mental toughness which was followed by negative peer influences. There was no considerable impact of years of experience and training related hours on the development of mental toughness among these players. It suggested that physical training might not be significantly associated with mental toughness among players rather a potential role is played by psychological training in the promotion of mental toughness development. Desire of achievement was reported to be an important predictor of mental toughness among these players as well as the ability to control attention. Interpersonal experiences can be crucial for mental toughness among players (Gucciardi, 2011).

### ***2.7 Coaches' perceptions of mental toughness***

Coaches have varying perceptions regarding mental toughness and their own level of mental toughness differs from that of normal athletes. In an attempt to determine mental toughness among coaches, Gucciardi, Gordon, and Dimmock (2008) conducted a study with 11 male coaches. They utilised a personal construct psychology framework to understand mental toughness in the context of Australian football. Interviews were performed with these coaches that founded mental toughness as a buffer in the context of Australian football in the situations of adversity. It also derived the enabling factors which promoted and maintained adaptation to other difficult conditions.

Driska, Kamphoff, and Mork Armentrout (2012) founded the perceptions of swimming coaches regarding mental toughness. They utilized mental toughness framework and conducted interviews with 13 swimming coaches demonstrating varying outcomes. It was difficult to predict the manner in which success or failure was accepted by swimmers. Swimmers with mental toughness had the ability to learn from and rationalise failure. They were also able to use it as a driver of their success in future. Conversely, swimmers who lacked this attribute were unable to take failure as a motivator. The development of mental toughness swimmers was highly expected by coaches and they demanded success and excellence from swimmers with mental toughness. They created emotional challenges to teach swimmers for developing mental toughness and this training approach of coaches proves significant in improving the development of mental toughness. A motivational environment was also developed by the coaches to promote mental toughness among swimmers.

### ***2.8 Measuring mental toughness***

It is important to determine mental toughness in athletes so that their competence to overcome stressful situations during competition can be assessed. Various instruments can be used for accomplishment of this task but the most commonly used instrument for the aforementioned purpose is Mental Toughness Questionnaire 48 (MTQ 48). This instrument was developed by Clough et al (2002) and was evolved from a momentous body of research examining the relationship between illness and stress. It is the most extensively employed tool for measuring mental toughness for both in non-sports and sports contexts. Three attitudes of hardiness have been associated closely with those of mental toughness but they do not sum up mental toughness as presented by Clough et al (2002). A fourth dimension was added to hold appropriate for the valid views of major stakeholders. It is crucial to assess the

robustness of factor structure of MTQ 48 for statistically substantiating the hypothesized model. Construct validation is a process that is ongoing and the adoption of methodologies demonstrating validity, reliability, and rigour are core to this process. According to Marsh, Martin, and Jackson (2010) it is crucial to ascertain the factorial validity prior to other forms for instance concurrent and predictive validity.

Madrigal, Hamill, and Gill (2013) argues that various instruments have been used by the researchers to evaluate mental toughness. Some of the predominant and widely used include MTQ 48 and Psychological Performance Inventory. However, there is a lack of standard for determining mental toughness. The concerns are related to methodological inconsistency related to the factors that develop mental toughness. It is also related with differing methods of sampling and shortage of clarity pertaining to the population intended. Despite the publication of various scales for assessing mental toughness; psychometric properties of only a few of these scales have been established. The focus of research has remained mostly on other factors rather than the psychometrics of mental toughness. Limited psychometric support is possessed by these scales, and they are still in the stages of development. They also have lack of construct validity demonstrating the fact that mental toughness is complex and multidimensional and its measurement is challenging (Madrigal, Hamill, & Gill, 2013).

## ***2.9 Summary***

Mental toughness has high significance in sports because it enables the players to deal with various scenarios arising in the competition. Mental toughness is associated with psychological development of the players that facilitates traits such as self-confidence, coping, and understanding. Physical and psychological training can improve the development of mental toughness among players by enhancing their ability to cope with difficulties.

Mental toughness has been identified to improve performance of players in the field. It is believed to of particular importance for the players by their coaches. Additionally, coaches teach the players through various methods to become mentally tough. It can be measured through different measurement scales and questionnaires targeted at assessing the level of mental toughness among players belonging to diverse kinds of sports.



## CHAPTER 3- METHODOLOGY

The methodology of the research that has been used in this study is presented in the following section that discusses the design of the research and the parameters that have been considered in the search of literature. Inclusion and exclusion criteria of the study and the limitations that have served as barriers for this research are also presented in this chapter. Process utilised for the critical appraisal of the studies that have been selected and analysis of data and the ethical considerations of the research are also provided.

### *3.1 Design of the Research*

Research is essential to develop a systematic advancement towards the examination of a diversity of topics through the employment of methods that are most apposite for answering the research question. There are two research designs that are used commonly in research including the qualitative and quantitative design (Creswell, 2013). These designs forms the basis of methods through which research is conducted. This study involved a qualitative research design because it was able to address the question under research and fulfilled the objectives. It is difficult to apparently define the qualitative research. There is no theory or paradigm that is peculiarly related to this design. It also does not have a discrete set of practices or methods that are completely associated with it (Denzin & Lincoln, 2011). The sources of data fall into two main categories that include primary and secondary. Based on the kind of data, there are two types of data collection strategies that involve primary and secondary data collection that are based on gathering the data that is either secondary data, collected from the secondary sources, or primary data that is collected from the primary sources (Bickman & Rog, 2009). This research utilised a secondary qualitative design because it accentuate the explanation and understanding of the data that has been presented in descriptive format; thus, leading to the emergence of innovative notion and organisational

progression (Hancock et al, 2009). It enabled performing the research in a manner that facilitated the evolvement of understanding of the researcher and inference of the liability associated with the execution of connection of the researcher with the humanity (Hart, 2010). Secondary method of data collection has been employed that is based on the selection of the studies that supply significant amount of data related to the topic. A review of the studies has been chosen as the approach for performing a secondary qualitative study. The secondary qualitative design enabled the researcher to gather the findings of several studies and infer them to have a succinct understanding of the topic being studied (Barbour, 2010).

### ***3.2 Parameters for the Literature Search***

It is essential to perform a search of the literature to acquire the information that delivers adequate information on the context of the study. Therefore, a systematic search was performed that included all the literature that was peer-reviewed and published during January 2007 to October 2014 to identify the research that has been published surrounding mental toughness among Gaelic football players. Search was conducted at the following databases: CINAHL, ProQuest, Science Direct, EBSCOhost, PubMed, and Psyc-INFO. Key terms are imperative in the process of literature search because they facilitate to target the precise information. Integration of Boolean Logic in this procedure enables the retrieval of studies that are related with the topic. Boolean Logic is based on the use of Boolean operators AND, OR, and NOT. These operators are used for refinement of the search by combining a variety of search terms or excluding certain terms (Berstein, 2011). Key terms that were utilised in the process of retrieval of relevant literature were based on a combination of various key terms including ‘Gaelic’, ‘football’, ‘players’, ‘mental toughness’, ‘elite’, ‘sports’, ‘coping’, ‘psychology’, ‘team’, and ‘soccer’. Hand searching was also performed additionally through review of references of all the studies that were retrieved.

Gaelic		players		mental toughness
OR		OR		OR
football	AND	Team	AND	psychology
OR		OR		OR
soccer		sports		coping

**Table 1: Key terms employment for retrieval of literature through the use of Boolean Operators**

### ***3.3 Inclusion and Exclusion Criteria***

The search of literature depends on the retrieval of an extensive amount of data that is considered to be mainly extraneous to the research. It often provides the material that is superficial and irrelevant to the study. Proficient searching of literature is required to assure that relevant and irrelevant material is segregated to allow the retention of information that is important and associated with the topic. This can be ascertained by setting the inclusion and exclusion criteria of the research. Therefore, it is imperative to develop a decision regarding the studies that have been anticipated to be included in the review of literature. It involves the exclusion of those studies from the review that does not fulfil the criteria that has been set for inclusion in the review.

This review included both the quantitative and qualitative studies that were full text and mostly from the peer reviewed journals. The inclusion criteria for the selection of relevant studies included thorough screening of the literature to include only those studies that were performed during January 2002 to October 2014. This parameter was set to include only those studies in the review that have imperative information related to the topic. The studies that are in languages other than English were excluded. Those studies which had a secondary research method were excluded to collect the studies representing actual findings of the research and the outcomes as well as conclusion is based on the actual findings of that study and not a perceptive view of the researcher.

### ***3.4 Analysis of the Data***

The process of data analysis begins following the generation of data so that the preliminary findings can be fed back into the process of design. The reliability and validity of a qualitative research is based on this iteration of collection of data and design of the research. The process of data analysis in qualitative research is time consuming that necessitates a clear knowledge of the data along with comprehensive understanding of the culture in which problem exists. It involves the use of existing data to identify the answers to questions of research that vary from the questions that were asked in the original research. The aim of secondary data analysis is to address research questions that are novel by analysing the data that has been collected previously. The process of data analysis encapsulates the process providing summation of the information delivered by the literature. It facilitates addressing the question under research and is fundamental to execute the procedure of analysis in a concrete manner to facilitate practicality of the collected data (Aveyard, 2010). Thematic analysis is a type of qualitative analysis that permits the analysis of patterns and classifications connected with the data. It illustrates the data in an inclusive mode and involves diversified subjects through understanding. This type of analysis is chiefly apposite for the studies depending on explanations. Compilation and understanding of the facets and data are essential for qualitative research that is presented by thematic analysis for developing an understanding of the issues that are likely to occur (Ibrahim, 2012). The analysis of data of this study was performed thematically to identify the major issues and themes. This process involved reading of the data and its annotation to define data units and organise the issues that were related to the topic into categories. Thus, these categories were formed into various themes pertaining to mental toughness among elite Gaelic football players. This facilitated the development of understanding regarding several concepts that were identified in the studies selected for the review of literature.

### ***3.5 Ethical Considerations***

Ethics are a substantial element of a research required to be considered by the researcher prior to the commencement of study. It has been suggested by most of the researchers that secondary studies do not require observation of ethics. Despite this perception, there are certain ethical considerations that must be considered in secondary studies. These ethics pertain to the observation of the fact by the researcher that all the information provided by the literature is not to misinterpreted. It also necessitates possibility of plagiarism has been entirely eliminated which is a common phenomenon that occurs during a review (Burns & Grove, 2011). Therefore, the researcher has ensured that entire information has been reviewed properly to provide an interpretation of the results that is based on actual facts of the study and not a presentation of the actual findings. It is essential to properly acknowledge the researchers of studies that have been reviewed. This process has been accomplished through citation and referencing to ensure that credit has been delivered to all the researchers.

### ***3.6 Limitations***

One of the principal limitations of this study was based on the accessibility to literature that was pertinent to the study because it was difficult to recover all the articles. Incorporation of all the information in the review was also complicated, as an extensive amount of literature was difficult to be assembled and presented concisely. Substantial amount of exclusive literature has been eliminated due to the presence of most of the literature being published during the specific phase of time and in English language only. This limitation served as a chief impediment in conducting this study as an immense amount of literature was acquired during the search that was performed earlier the period that was selected for inclusion of studies, i.e. before January 2002. Allocation of limited time by the

researcher for literature search also served as a constraint because it was difficult to search all the databases in a time frame that was predetermined. However, it was essential that this phase must be completed in a fixed and least time to allow maximum period to be available for rest of the research process.

### ***3.7 Summary***

A qualitative method has been selected for this study based on secondary research design through review of literature. Search of the literature was performed to retrieve appropriate research articles. An inclusion and exclusion criterion was developed to ascertain the inclusion of those studies that are valuable to this review. It ensured that the studies relevant to the topic are being included in the review. Moreover, data analysis was performed thematically. Ethical considerations have been followed and limitations experienced during the study have been overcome through the employment of different methods.

## CHAPTER 4-RESULTS

The results of the research are provided in this chapter, based on the thematic analysis of the findings of different studies considered pertinent to the topic. Various themes have been identified through the analysis of data. Furthermore, these studies are critically evaluated based on the themes formed by them and the strength of their findings has also been assessed. Following the search of literature, numerous studies were retrieved; however, elimination of several studies occurred based on the inclusion and exclusion criteria set for this research. This resulted in retention of limited studies i.e. 11 research articles in this review, as most of the research obtained were either duplicates or were not related specifically to the topic of this review. Therefore, it was ensured that only those studies are reviewed that focus on the topic and discuss the understanding of Gaelic football players regarding mental toughness.

### *4.1 Thematic analysis*

Several studies have been selected for review and through scooping of their excerpt, they have been analysed in a thematic manner under the themes covered by them. Various themes have been recognised following the preliminary analysis of these studies; therefore, it is made certain that all the relevant information provided by these researches is thematically evaluated based on the substantiation provided by them.

#### *4.1.1 Perceptions of elite Gaelic football players regarding mental toughness*

The perceptions of Gaelic football players vary with regards to mental toughness in sports. It has been affirmed by Coulter, Mallett, and Gucciardi (2010) while exploring mental toughness among football players through data triangulation. They recruited a sample of six football players, four coaches, and five parents. Semi-structured interviews were conducted to

determine the perspectives of participants related to the core attributes and their distinctions, scenarios requiring mental toughness, and the cognitions employed and attitudes displayed by mentally tough football players. The findings of this study observed that the concept of mental toughness is different from that of hardiness. The chief characteristic demonstrative of mentally tough football players was their mentality of winning. Moreover, other qualities for instance, resilience, work motivation, physical toughness, and self-belief were also identified. These traits were responsible for making the football players competitive and enabled them to remain focused during matches and training. Self-talk was also an important feature of mental toughness among football players that facilitated dealing with difficult situations. Gucciardi (2010) has also identified that mental toughness among football players serve as a motivator for sport and enables the achievement of goals. Mental toughness was assessed in a sample of 214 football players. Performance- and mastery approach goals were reported to be high among football players with mental toughness. These players also had extrinsic motivational tendencies as well as self-determination.

Singh et al (2012) also evaluated the views related to mental toughness among football players. Willingness to win was assessed for its relationship with mental toughness among football players. Eighty-six male football players had their mental toughness evaluated through mental toughness questionnaire while willingness to win questionnaire was used to determine the willingness to win among these participants. Mental toughness was found to be high among international professional football players in comparison to the national and non-professional football players. Similar results were also observed with regards to willingness for winning among these participants, as the levels were significantly high among international professional football players in comparison to the national and non-professional football players. Similarly, Wieser and Thiel (2014) conducted a survey to determine variations in the level of mental toughness among international and national



football players. Difference between mental toughness and mental hardiness were also assessed among these football players through two self-assessment questionnaires. Twenty football players completed these questionnaires followed by rating for each player by two independent coaches. There was a significant correlation between outcome scores for the two questionnaires. However, variations were observed among self-assessed and coach rated levels of mental toughness among football players. In contrast to the findings of Singh et al (2012), increased level of mental toughness was observed by Wieser and Thiel (2014) among national level football players.

Omar-Fauzee et al (2012) explored the perceptions of various aspects of mental toughness among football players. National level players were included in the study and data was gathered through semi-structured interviews. Diverse attributes of mental toughness were reported by the football players that encompassed control of attention and perseverance, patriotic spirit, visual and imagery control, positive energy, self-confidence, negative energy, and motivation. An important predictor of mental toughness among the football players was the capability of these players to consider them competent for overcoming adversities. Self-confidence, forming the construct of mental and physical capability of these players and contributes to the development of mental toughness. Performance of the players and their self-confidence is an important factor defining their level of mental toughness. Thelwell, Weston, and Greenlees (2005) also investigated the presence of mental toughness among players. Interviews were performed with 32 players playing in the Olympics. Ten coaches of these players also participated in the research as well as ten parents or significant others. A considerable impact of various social and others factors was found over the development of mental toughness and a range of psychological characteristics. Optimism was also identified as an important variable determining mental toughness among these players.

#### *4.1.2 Significance of mental toughness*

The importance of mental toughness for players has been evaluated by Crust (2009) to investigate the association between affect intensity and mental toughness. This research addressed the anticipation that experiencing intense emotions is less likely among players with mental toughness. A sample of 112 players was involved in this study that presented absence of correlation between affect intensity and mental toughness among players. Hence, it was found that players with high or low levels of mental toughness do not experience variations in intense emotions suggesting that mental toughness does not decrease experiencing intense emotions. Thereby, even mentally tough players are also vulnerable to face intense emotions in the field. Hence, these players are not able to remain unaffected by adversity or pressure.

Similarly, it has also been affirmed by Petrie, Deiters, and Harmison (2014) that mental toughness does not impact injury outcomes among mentally tough football players. A sample of 92 football players was recruited by these researchers to investigate the effect of mental toughness, athletic identity, social support, and negative life stress on outcomes related to injury. Significant outcomes were observed for mental toughness and social support for football players with regards to positive life stress. Thereby, it was revealed through the findings of this research that football players having low level of mental toughness and reduced social support from the family are more likely to experience injury during circumstances presenting increased degree of positive life stress. Thus, there is a considerable impact of mental toughness on injury related outcomes among football players and life stress serves as a positive trigger for adverse injury related outcomes among football players with reduced mental toughness.

#### *4.1.3 Coping strategies for developing mental toughness*

Kaiseler, Polman, and Nicholls (2009) assessed the association of mental toughness, coping, stress, and strategies for coping in a sample of 482 players. A considerable relation was observed between intensity of stress and control appraisal, with no consideration of the type of stressor experienced by the players. Coping was reported by the players to have beneficial impact on the development of mental toughness. Increasing effort was also an important coping strategy that developed mental toughness among players. Coping strategies focusing on emotions found that self-blame was among the predictors of mental toughness among players because they were able to address their weaknesses. Various factors were related with the avoidance of using coping strategies that included denial and behavioural disengagement. There was increased level of mental toughness associated with more problem-focused coping but was related with reduced avoidance and emotion-focused coping. There was an influence of coping strategies on the efficacy of coping employed by the players. Nicholls et al (2008) determined the association between mental toughness and coping, optimism and coping, and optimism and mental toughness. A sample of 677 players was recruited that demonstrating a significant correlation between mental toughness and optimism as well as coping. Increased coping strategies were observed among players having increased level of mental toughness. These coping strategies included approach and problem coping strategies; however, avoidance coping strategies were not used by these players. Hence, the training of coping strategies in the mental toughness interventions was suggested in this research.

Parkes and Mallet (2011) examined the significance of cognitive-behavioural approach for the development of mental toughness among football players. The utilisation of an optimism intervention assessed retraining attribution style. Seven football players participated in this research and provided self-reports related to the effectiveness of delivered

intervention. Semi-structured interviews and focus groups were performed that provide evidence related to increase in resilience of the football players following the delivery of intervention. Moreover, there was also development of increased confidence among these players after receiving cognitive-behaviour intervention for mental toughness. Generation of more optimistic descriptive style for negative events was also observed among football players through this intervention. Thereby, it was reported that cognitive behaviour based intervention improves coping attitudes of football players.

#### ***4.2 Summary***

The review of selected research articles has presented evidence pertaining to the understanding of mental toughness among elite Gaelic football players. These footballers have significant understanding of mental toughness and are highly aware of being mentally tough not only in the field but also during training and other circumstances in life demanding mental durability. Mental toughness is high among elite football players playing at national and international level. It enables them to deal with various scenarios emerging during competition. They are able to overcome injury and emotions by developing mental toughness. Coping is an important contributor to mental toughness because these players are able to cope with different situations by coping.

## CHAPTER 5- DISCUSSION AND CONCLUSION

This section converse the results of this review depending on their contrast with the findings of former studies. A comparison of the findings is thus presented in this chapter, thereby assessing the importance of the results obtained through this review. Understanding of the Gaelic football players about mental toughness observed in this study is compared with that reported in other studies. The significance of mental toughness for football players and coping as an intervention to develop mental toughness based on the findings of this review are assessed for their similarity or disparities in findings in relation to other researches. Conclusion has been drawn from the review to present recommendations and implications for practice as a means of improving mental toughness among elite Gaelic football players.

### *5.1 Discussion*

The findings of this study have indicated that the understanding of mental toughness among elite Gaelic football players is high. Most of them are aware of the importance of mental toughness for players not only during a match but also during training. Mental toughness among footballers is considered significant enabling them to achieve their goals and develop the mastery of winning. Overcoming fear and creating self-confidence was identified by the elite Gaelic football players as an important contribution of mental toughness (Gucciardi, 2010). There are variations in the level of mental toughness among Gaelic football players of the national and international level. As observed by the findings of this review, mental toughness was found to be high among international level football players (Singh et al, 2012). Conversely, mental toughness was low among national level football players and was high among national level football players (Wieser & Thiel, 2014). These findings contradicts with that of the former study suggesting no substantial effect of years of training and experience as well as related hours on mental toughness among football players

(Gucciardi, 2011). However, contradictory results have been presented by Marchant et al (2008) that mental toughness increases among players by elevation in the years of experience consequently due to increased use of coping strategies for developing self-control and dealing with stress. Hence, it is suggested that mental toughness trainings based on coping strategies should be delivered to the players for improving mental toughness.

This study has identified that there are no differences in the intensity of emotions experienced by football players with various levels of mental toughness. Intense emotions are experienced by these players due to which it can be argued that there is no distinction in intense emotions among football players with varying level of mental toughness. Thus, vulnerability is also present among mentally tough football players to encounter intense emotions during match and these players are unable to stay unaffected by pressure or adversity during the match (Crust, 2009). In contrast, according to Crust (2008), mental toughness enables the football players to remain relatively unaffected by adversity or competition.

Coping strategies have been extensively reported to be used for improving mental toughness among players from different sports. These interventions have been compared with control group to evident their significance. Considerable improvements are observed in the level of mental toughness through the deliverance of coping interventions to the players. It results in increased mental toughness development among players in contrast to those not receiving coping-based interventions. Thereby, coping interventions are a good source for ameliorating the level of mental toughness among elite players (Bell, Hardy & Beattie, 2013). Similar findings have also been observed in this study that found beneficial effect of coping on mental toughness among players. It is related with elevating effort to develop mental toughness. The emphasis of coping strategies is on emotions of the players which are associated with self-blame as a predicting factor for mental toughness, enhancing their ability

to identify and overcome weak points (Kaiseler, Polman, & Nicholls, 2009). Moreover, coping strategies for improving mental toughness among football players also enhances their resilience and result in increased self-confidence among the players. Optimistic approach is also presented by mentally tough football players following the delivery of coping-based intervention for mental toughness (Parkes & Mallet, 2011). Analogous findings have also been reported previously by Nicholls et al (2008) who demonstrated significant association between optimism and mental toughness. Conversely, negative relation has been reported between mental toughness and pessimism among football players with increased mental toughness. Players lacking mental toughness are more likely to consider failure as a motivating factor steering success. Emotional tasks are believed to serve as drivers of the development of mental toughness among the football players and it has been reported to increase the level of mental toughness. Motivation also guides mental toughness among football players (Driska, Kamphoff, & Mork Armentrout, 2012).

Low mental toughness among football players as well as reduced social support predicts injury during scenarios in which positive life stress is experienced at elevated level (Petrie, Deiters, & Harmison, 2014). Coping strategies have been identified to increase the level of mental toughness among football players. The approach of coping by mentally tough football players is based on problem solving rather on the avoidance of the problem (Nicholls et al, 2008). It is crucial for these players because there is an increased likelihood that circumstances are developed on the field necessitating mental toughness among football players. Mental toughness can also be developed among football players through physical training as physically competent players are expected to play well in the field as a consequence of mental endurance developed during physical training (Ranganathan et al, 2004). Therefore, it has been identified through this review that the understanding of mental toughness is high among elite Gaelic football players. The knowledge related to mental

toughness is more among the elite players because they have been dealing with difficult circumstances for a longer duration as compared to the new players. Coaches of these players have even more experience and understanding of mental toughness as reported by Sharp et al (2013) that coaches having this understanding are more capable of developing mental toughness among their trainees. Subsequently, players become able to perform better in the competition and in various situations of life necessitating extreme will-power and endurance.

Significance of mental toughness for these players is considerably high because it determines their ability to deal with various situations. Coping can be used as an intervention for improving mental toughness among these players. However, the findings of this review are contradictory to some extent with that of the prior research. Previously, research has reported increased level of mental toughness among athletes and players by training to ameliorate psychological skills. Better outcomes have been observed through these trainings for players receiving these trainings and consequently developing mental toughness in contrast to players not mentally tough. Hence, the use of psychological skills training and programmes is considered important for improving mental toughness among players (Gucciardi et al, 2009). Therefore, this review suggests that the understanding of mental toughness is high among elite level Gaelic football players, with clear understanding of the concept of mental toughness in sports. Furthermore, the significance of mental toughness is identified to be high demonstrating its importance for players.

## ***5.2 Conclusion***

The aim of the current study was to assess the understanding of mental toughness among elite Gaelic football players. A secondary qualitative literature review was performed for establishment of this aim. Subsequently, it was observed that mental toughness is an important trait possessed by the elite Gaelic football players. They have increased



understanding of mental toughness, attributable to their ability for its implication in the competition and various life events requiring high level of psychological rigidity. The presence of low level of mental toughness among the football players is related with reduced confidence and vulnerability to injury during the competition. Being mentally tough enables the football players to overcome the outcomes related to injury (Petrie, Deiters, & Harmison, 2014). Mental toughness delivers the players some significant characteristics for instance flexibility, inspiration, physical toughness, and self-confidence. These traits render the players competitive in the field and being focused during training and competition. The approach of winning is an important determinant of mental toughness among football players since the players having winning attitude are more probable to display mental toughness on the field (Coulter, Mallett, & Gucciardi, 2010).

Coping is an important aspect predicting the development of mental toughness among football players. It results in increased ability of the players to be mentally tough. The impact of years of experience on mental toughness among football players varies with regards to the findings of this research and that of the previous (Marchant et al, 2008). Nevertheless, variations are also present in the findings between the articles reviewed in this study as increased mental toughness has been reported among players with high experience in contrast to the observation of no significant impact of experience on mental toughness among football players. Moreover, presence of mental toughness among football players, playing at the national and international level, varies with regards to experience of these players (Wieser & Thiel, 2014; Singh et al, 2012). Several measures of mental toughness can be employed to assess the level of mental toughness among players (Madrigal, Hamill, & Gill, 2013). Additionally, it has been found that mental toughness enables the player to be competent for dealing with situations necessitating immense confidence and ability to overcome difficult

situations. Coping interventions have been extensively employed in this regards for improving mental toughness among players, specifically among elite Gaelic football players.

### ***5.3 Recommendation***

Considering the findings of this study, more research is recommended for establishing the current knowledge and competence of elite football players for developing mental toughness. Future research should be based on the assessment of levels of mental toughness among players belonging to different sports. Moreover, measurement of mental toughness should be through different measurement scales. Coping interventions should be delivered to players and their effectiveness should be evaluated through RCTs by comparing the efficacy of intervention with control groups.

### ***5.4 Implications for practice***

The findings of this review are suggestive of the development of mental toughness among elite Gaelic football players. Interventions should be developed for training players to be mentally tough. An important role can be played by coaches in this regards by delivering appropriate and adequate training to the players so that they are able to develop mental toughness for dealing with tough situations. Sport organisations are required to ensure the implementation of policies that are focused at development of mental toughness among players. Coping interventions should be developed among the players and they must be encouraged to be mentally tough.

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