# Psychological skills training on mental toughness and soccer players skills

Suwapon Piwrueangnont

A Thesis Submitted in Partial Fulfillment of Requirements for
degree of Master of Science in Exercise and Sport Science
March 2024

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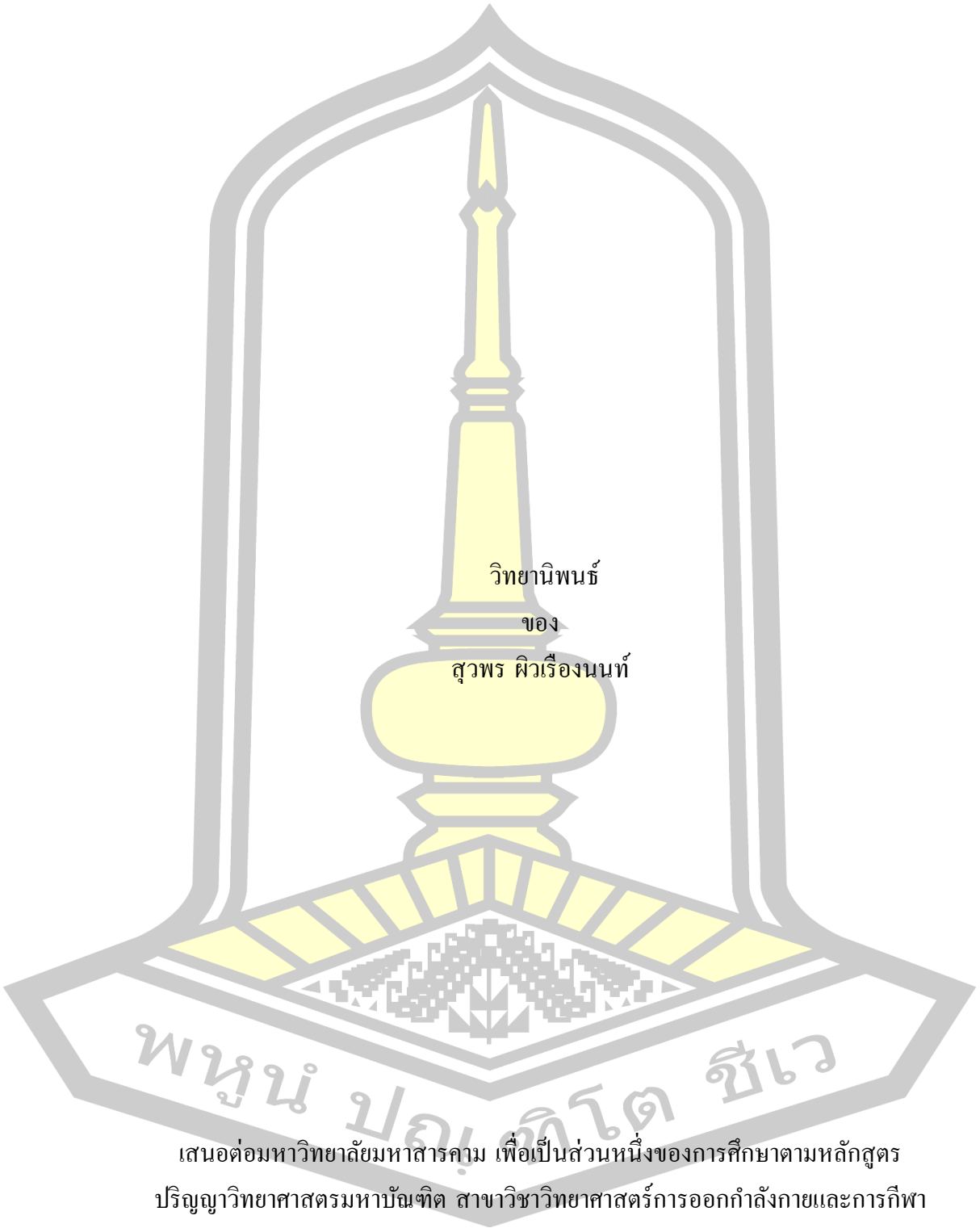

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A Thesis Submitted in Partial Fulfillment of Requirements

for Master of Science (Exercise and Sport Science)

March 2024

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## ABSTRACT

Psychological skills training (PST) is referred to the systematic and consistent practice of psychological abilities. PST is a procedure that involves the development of daily routine activities and abilities in sport and exercise environments. The purpose of this study was to determine how mental toughness and soccer skills were affected by psychological skill development. Comparing mental toughness and soccer skills before and after PST was the second research goal. The objective was to compare mental toughness and soccer abilities between groups pre and post-tests. Regarding mental toughness and soccer skills, three phases of psychological skill training including education, acquisition, and practice were carried out across six weeks period. Twenty-two female soccer players were equally split into experimental and control groups, aged ranged between 19 – 22 years old voluntarily engaged in the study. Mental Toughness Inventory (MTI), Loughborough Soccer Passing Test (LSPT) and Loughborough Soccer Shooting Test (LSST) were administered before and after intervention. The analysis revealed the comparison between pre and post intervention. The results of further analysis using paired sample t-test and independent sample t-test were examined. The experimental group greatly increased their mental toughness and soccer skills throughout the psychological skills training. Contrarily, the control group exhibited no significant difference between the pre- and post-test. Shot speed, nevertheless, unveiled no effect in either the control or experimental groups. In light of suggestions, psychological skills training in physical fitness session should be added to improve physical fitness for shot speed and carry out research on the mental toughness and soccer skills of female soccer players at varying levels of involvement such as elite junior and senior level

Keyword : Psychological Skills Training, Mental Toughness, Soccer Skills

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Suwapon Piwrueangnont

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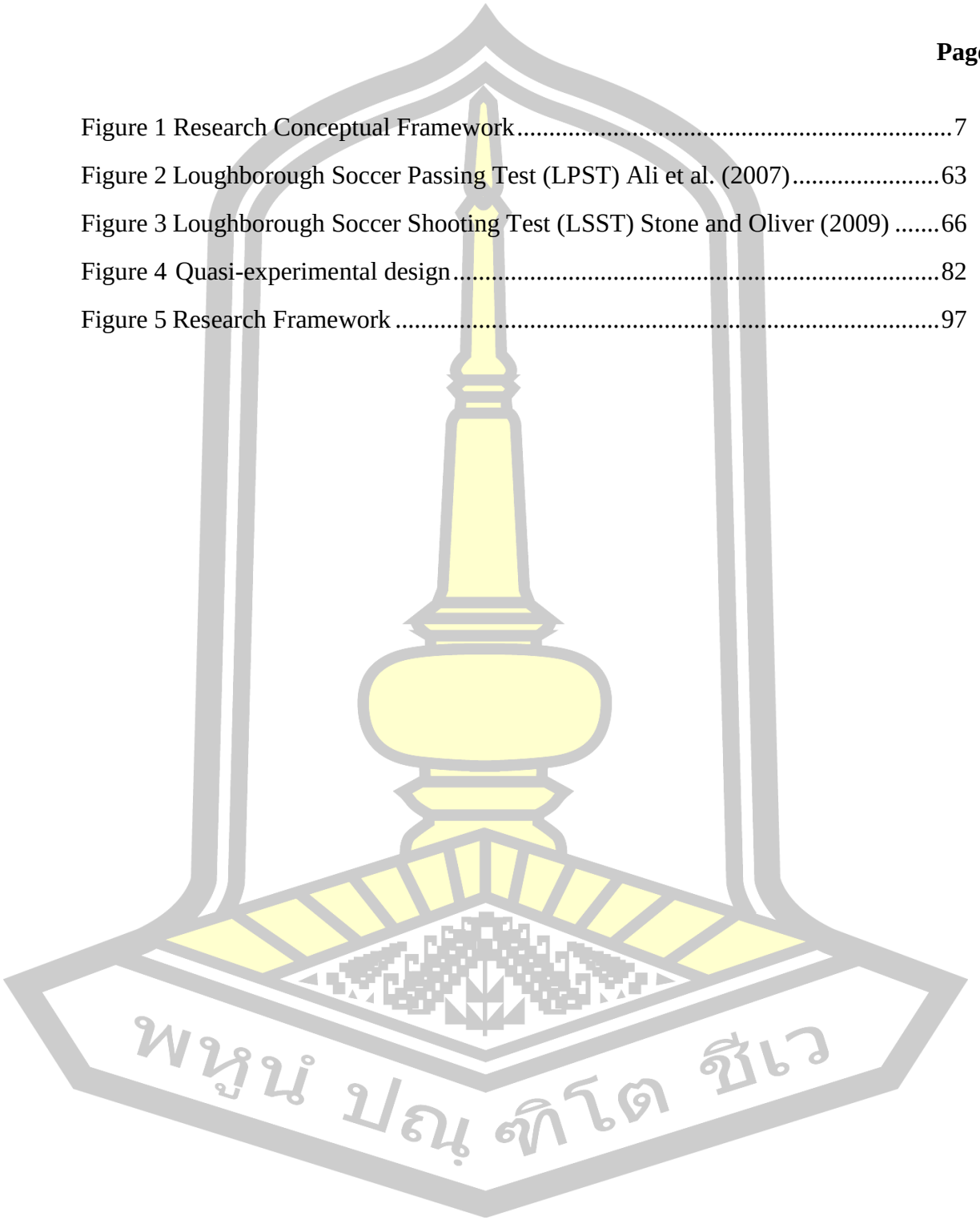


# CHAPTER 1

# INTRODUCTION

## 1. 1 Statement and Significance of the Study

In most sports, the psychological ability is the deciding factor between a victor and a loss (Brewer, 2009). Weinberg and Gould (2003) found that mental ability is significant in account for more than half of an athlete's performance while competing against opponents. One of the important psychological aspects in sport setting is mental toughness. Regularly mentioned by athletes, coaches, and applied sports psychologists as one of the most essential psychological attributes connected to outcomes and success in top sport. Several researchers define a broad phrase that indicates an athlete's capacity to cope efficiently with training and competition pressures in order to remain adaptable (Bull et al., 2005; Connaughton et al., 2008; Fourie & Potgieter, 2001; Jones & Moorhouse, 2008). Mental toughness is a crucial psychological aspect of athletics that required to be developed and maintained, according to Connaughton et al. (2008) and Bull et al. (2005). As the recognition of significant mental toughness, superior athletes are thought to perform better in terms of its aspect (Cowden, 2017; Jones & Moorhouse, 2008). Whereas low mental toughness has been attributed to lower athletic performance in challenging situations. Mental toughness is vital for athletes and should be maintained and strengthened to achieve optimal performance.

However, there is little evidence that mental toughness in the context of sport. Specifically, soccer has been addressed in a sporting environment both worldwide and locally, female soccer players in particular are affected (Gledhill & Harwood, 2019). Previous research has found that the degree of activity and age of female soccer players influence the association between mental toughness and performance (Danielsen et al., 2017; García & Santana, 2018; Wieser & Thiel, 2014). Different levels of mental toughness exist at the national level and at lower levels of involvement, implying that lower-level athletes have less mental toughness (Kristjánsdóttir et al., 2019). Sporting experience affects mental toughness in relation

to soccer position (Sulaiman et al., 2021). Female athletes have inferior mental toughness (Dolly et al., 2017; Rawte, 2020). In addition, non-elite female soccer players have lower rate of mental toughness (Danielsen et al., 2017). Based on earlier analyses of a large number of mental toughness studies. The outcomes were diverse. Due to different contexts may produce different results, it is crucially advantageous to focus more on this study area.

Soccer is one of the most popular sports in the world (Kurt et al., 2012) Soccer is one of the most popular sports in the world Soccer has historically served as the foundation for most team sports (Collins, 2018; Ünluguzel et al., 2023). Soccer consists of both closed and open-skills games (Knapp, 1963). During the game, however, the scenario is mainly open skills which players must react to their surroundings by passing the ball, shooting at a target, changing the ball's direction, and so forth. The primary premise of soccer, according to Ali et al. (2007) is to score more goals than the opposing side. For soccer players to be able to compete during the tournament, they must have adequate performance in multiplicity of skills which involves passing, dribbling, controlling the ball and shooting (Ali et al., 2007). All of the following skills are significant in soccer which influence the game's outcome. Apart from its importance in sport skills, one essential factor for sport optimum is mental aspect.

Psychological skills training (PST) is referred to the systematic and consistent practice of psychological abilities (Weinberg & Gould, 2001; Weinberg & Gould, 2014). PST is a procedure that involves the development of daily routine activities and abilities in sport and exercise environments (Weinberg & Gould, 2007). PST is one of the most well-known strategies for optimising athlete’s performance (Gardner, 1995; Gardner, 2009; Vealey, 1994; Whelan et al., 1991) and widely studied in sport setting. PST program is divided into three parts, according to the findings of the studies: education, acquisition, and practice (Ritz, 2012; Wann & Church, 1998). According to a meta-analysis research, PST had a favourable effect on a wide range of sports in both individual and team sport based (Vealey, 1994) such as futsal (Vella-Fondacaro & Romano-Smith, 2023) soccer (Thelwell et al., 2005) rugby (Golby & Sheard, 2004), volleyball, hockey, floorball and tennis (Röthlin et al., 2016), cricket

(Bull et al., 2005), gymnast (Fournier et al., 2005), swimmers (Sheard & Golby, 2006) and so forth. PST is proved affectively in mental toughness (Connaughton et al., 2008; Golby & Wood, 2016; Sheard & Golby, 2006; Thelwell & Greenlees, 2003). Likewise, PST improved players' mental toughness and psychological wellbeing, according to Miçoogullari and Ekmekçi (2017). Numerous studies focused on the effectiveness of psychological techniques on sporting performance (Patrick & Hrycaiko, 1998; Rogerson & Hrycaiko, 2002; Röthlin et al., 2016; Thelwell & Maynard, 2003; Thelwell & Greenlees, 2003; Vella-Fondacaro & Romano-Smith, 2023).

PST is significant in any sport, but especially in soccer. PST assists athletes in achieving maximum performance by tailoring the operational form of each mental skill to the specific sport. Four mental techniques including imagery, goal setting, relaxation and self-talk are widely utilised in sport field (Vealey, 2007; Williams & Harris, 2001). Moreover, stated that the essential of four psychological techniques above for soccer players as to improve their soccer performance. These four psychological techniques are deemed to improve both psychological and technical aspects in athletes, however, the various pattern of psychological approach is critical to effectively use in appropriate context. Several authors claimed that when different psychological techniques are utilised for instance self-talk, and imagery, they facilitate soccer players to improve their skills, including aspects of mental toughness, team cohesion, and technical skill execution (Kerkez et al., 2012; Papanikolaou et al., 2012). Based upon Thelwell and Greenlees (2001) research, a sports psychologist is unlikely to choose a single approach while executing PST program. The integrated of psychological techniques enhance sporting performance (Groslambert et al., 2003) mental and athletic skills, (Slimani et al., 2016) physical fitness, (Hatzigeorgiadis et al., 2011; McCormick et al., 2015). It is more beneficial to employ variety of psychological techniques that are particular to the task. Additionally, a systematic review research found that integrating multiple cognitive training techniques were helpful to increase motor abilities including dribbling, passing, and shooting (Slimani et al., 2016)

This interest manifested itself initially in a growth in the volume of cognitive research in sport psychology, and more recently in the incorporation of various practical psychological skills training into the standard training regimens of all competitive sports (Moran, 2016). For instance, internal imagery, positive self-talk, and performance goals are among the mental strategies which utilised to improve soccer skills and mental toughness in this study. Relaxation is one a useful technique in soccer players as the tension and anxiety that may occur in the game situation, result in inferior athletes' performance. Therefore, this is important to utilise psychological skill training in soccer players. Mental strategy will be employed in various sessions based on the proper circumstances. As a result of the foregoing, it is vital for soccer players to advance mental skills in order to perform at peak level.

Nevertheless, in the previous PST programs were additional sessions which that caused extra time for practicing. The increased time spent practicing mental skills has created barriers to implement an efficient PST program. To minimise time practising limitations on PST, it is important to concentrate on incorporating psychological techniques into soccer training sessions. In addition, the PST program should utilise in female soccer players to promote mental toughness and soccer skills improvement for their optimal soccer performance in both training and competition. As a result, the PST program should take place within the practical sessions rather than as a separate session. Apart from significant study outputs on mental techniques for optimal mental ability and athletic performance. There is limited study on PST utilised during sporting session. The influence of PST on mental toughness (Golby & Wood, 2016; Thelwell et al., 2006) and soccer skills (Ali et al., 2007) is significant, according to the study's objectives. The current program chose these two variables for two reasons. First of all, conversations with the team's coach and staff revealed that these two characteristics are lacking while dealing with challenging circumstances. Second, these abilities are crucial for many soccer players to succeed at higher levels and perform at their optimum. PST is evident in sport psychology literature, particularly in light of obvious cultural and societal differences. To date, there has been minimal effort in Thailand to explore the use of PST program in soccer.

Therefore, the purpose of this research was to study the influence of PST on mental toughness and soccer skills and compare mental toughness and soccer skills within and between groups pre and post-tests.

**1.2 Purposes of the Study**

1.2.1 The objective of this research was to study the effect of PST on mental toughness and soccer skills within groups before and after intervention.

1.2.2 The aim was to compare mental toughness and soccer skills between groups pre and post-tests.

**1.3 Research Hypotheses**

Two hypotheses needed to be investigated as listed below

1.3.1 The PST program can influence mental toughness and soccer skills after intervention.

1.3.2 The disparity of mental toughness and soccer skills between control and experimental group after PST program.

**1.4 Knowledge Contributions**

There were three significant contributions to knowledge that needed to be highlighted. Firstly, obtain psychological skills training for Thai female soccer players. Secondly, obtaining psychological skill training that influences Thai soccer players' mental toughness. Ultimately, obtain a psychological skills training that influences Thai soccer players' specific skills.

Furthermore, as part of the organisation's mission, Thailand National Sports University strives to create outstanding athletes at the national and international levels. Soccer is one of the most important sports considered by the organisation. As a result, the importance of this research will have a direct impact on the organisation's prospects for maximum athletic performance.

**1.5 Scope of the Study**

This study has three scopes. To begin, was to put PST into practice in terms of cognitive behavioural techniques, include goal setting, relaxation, imagery and self-talk for Thai female soccer university players of Thailand National Sport University

Mahasarakham Campus. Second, mental toughness will be analysed. Third, soccer specific skills will be analysed with different criteria for each skill. Finally, the data collection for the PST program will last for six weeks during the pre-season (Miçoogullari, 2016; Miçoogullari & Ekmekçi, 2017; Premananda & Bhowmik, 2017).

**1.6 Delimitations**

The research focused on university soccer players. The scope of the research was delimitated as follows:

1.6.1 Female soccer players between the ages of 19 and 22 took part in the study.

1.6.2 Each group had a maximum of 11 participants in both the experimental and control groups. 22 participants in total

1.6.3 The research was confined to a six-week intervention period.

1.6.4 The study has limitations in terms of mental toughness and soccer skills.

**1.7 Study Limitations**

In this study, the following limitations were suggested. The first potential restriction is that the findings of this study may not be applied to other Thai age groups and gender difference because only university athletes were recruited in the study. Secondly, the intervention occurs during specific pre-season which is less competitive atmosphere.

## 1.8 Conceptual Framework

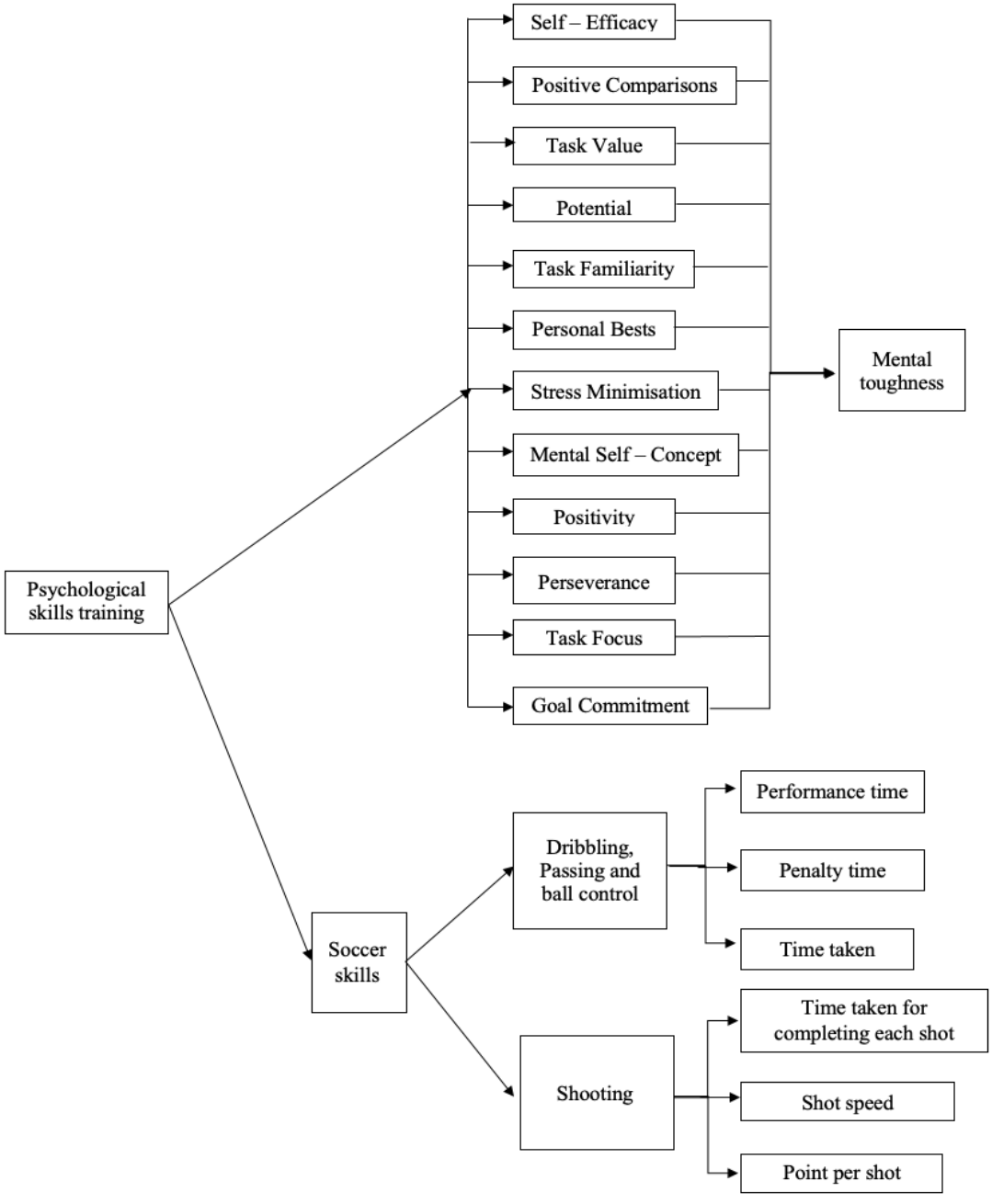



*Figure 1 Research Conceptual Framework*

**1.9 Study Assumptions**

1.9.1 All participants are presumed to answer questionnaires truthfully

1.9.2 All participants are presumed to perform truthfully during the sporting practice training session with the PST program.

1.9.3 All participants are presumed to have completed the sport skills testing honestly.

1.9.4 It is expected that all participants in all groups followed the researcher's testing instructions.

**1.10 Definition of Terms**

1.10.1 Psychological Skills Trainings (PST): PST is 6 weeks mental skills approach to train soccer specific skills. PST will be inserted into actual training session for 6 weeks period which will occurs during pre-season.

1.10.1.1 Psychological techniques: goal setting, imagery, relaxation, and self-talk.

1) Goal setting is motivational idea that influences productive and effective performance.

2) Imagery is psychological techniques that involve the absence of actual movement but mental imaging via cognitive rehearsal.

3) Relaxation is psychological approach which is influenced the reduction of physical and mental stress.

4) Self-talk is the overt and inner individual voice instruction that utilises for improving athletic performance

1.10.1.2 Three phases of PST model are utilised in this study including education, acquisition and practice (Ritz, 2012; Wann & Church, 1998; Weinberg & Gould, 2007; Weinberg & Gould, 2014)

- Education session involves the content of basic knowledge of psychological skill training including goal setting, relaxation, imagery and self-talk.

- The psychological session takes place before the soccer practical training. One week period, two sessions in first week with 30 minutes period.
- Acquisition is the developing mental skills through the use of methods and procedures before and throughout the soccer training session, three weeks and two days period (14 sessions). During the first two days of the first week period, on Wednesday and Thursday, participants receive basic psychological training for a duration of one week and two days. During the second week of acquisition, there are four days a week of thirty-minute sessions dedicated to basic psychological skills training before sport training. The third week of acquisition devoted to training in specific soccer-related scenarios. The fourth week is the acquisition phase, which consists of two sections of psychological skill training with a specific scenario from a soccer match. One lasting twenty minutes in the room, with two sub-sessions lasting five minutes each during soccer training.
- Practice is incorporating the concepts and approaches before and throughout soccer training with almost similar to the acquisition phase in , but the participants direct their action with the researcher's assistance when needed. The aim of this phase is to automatically use psychological techniques when encountering adversity, moreover, the participants can utilise psychological techniques in proper ways when they are in difficult circumstance (Weinberg & Gould, 1999). Two weeks period
- Each phase last for 15-30 mins per sessions (Miçoogullari, 2016; Premananda & Bhowmik, 2017). 3-4 times per week (Gill, 2000). 24 sessions in total.

1.10.2 Mental toughness (MT): involves factors that influence soccer players mental strength including 12 components: self – efficacy, positive comparisons, task value, potential, task familiarity, personal bests, stress minimisation, mental self – concept, positivity, perseverance, task focus, and goal commitment.

1.10.3. Soccer skills

The ability to maintain control of the ball and dribbling the ball through the designated area, precise passing effectively within the designated time. The ability to shoot with speed and hit the targets within the designated time. Loughborough soccer

passing skill test (LSPT) and Loughborough soccer shooing skill test (LSST) will be utilized (Ali et al., 2007).

1) LSPT: Performance time, penalty time, and time taken

2) LSST: Time taken for taking each shot, shot speed and point per shot.

1.10.4 Soccer players: female soccer players age ranged from 19-22 years who compete in the 45th Thailand National Sport University Games 2022 and enrol in Thailand National Sport University. Phetchabun, Sukhothai, Mahasarakham and Chonburi engage in the aforementioned event.

# CHAPTER 2

# LITERATURE REVIEW

For better understanding in psychological skills training (PST), this chapter provides related theories and literatures organised into sections five sections listed below. The information derived from different searching engines using specific key words based on the research issues. This chapter serves as a guidance for researcher to implement the study. Furthermore, this assist researchers to familiarise with this research details and finalise in the fifth chapter.

2.1 Relevant factors of psychological skills
2.2 Psychological skills trainings
2.3 Fundamental aspect of soccer skills
2.4 Soccer specific skills test in soccer
2.5 Related literatures

Key words are obtained from different sources, the following key words are utilised in this study including psychological skills training (PST), soccer players, mental toughness, and soccer skills.

## 2.1 Relevant factors of psychological skills

### 2.1.1 Meaning of psychological skills

Sport, industry, the arts, the military, emergency services, and even popular culture have all recently placed a greater emphasis on psychological abilities. As a result, conceptions are frequently subject to misunderstanding, distortion, and confusion with other concepts. Vealey (2007) proposes a distinction between the intended goal of improved self-confidence, concentration & attention, and self-regulation. Using techniques including mental imagery, self-talk, and meditation, psychology aids individuals reach their goals (Tenenbaum & Eklund, 2007)Psychological skills are a critical component in improving physical

performance. It is not only a major component for improving athletic performance, but it also includes academic achievement and general health. Psychological skills, according to Davidson (2008) and Edwards (1961) are the capacity to control one's feelings, thoughts, and behaviours while engaging in any activity. Psychological skills are believed to be teachable and can be taught via training. There are two forms including advance and basic psychological skills (Hardy et al., 2018). Advanced psychological skills include being able to regulate one's self-confidence, motivation, anxiety, and attention. Goal setting, mental imagery, relaxation and activation, and self-talk skills are elements of basic psychological skills that are thought to support advance psychological skills.

2.1.2 Type of psychological skills in general sport

The most widely used of psychological skills in professional athletes. Athletes and exercisers utilise psychological skills to control their psychological state by deliberately using pre-planned and organised sequences of particular thoughts and activities. Psychological skill refers to an athlete learned or natural traits that make success in sport feasible or even likely. Gould et al. (2002) identified 12 psychological skills including anxiety control, self-confidence, mental toughness, sport intelligence, competitiveness, work ethic, goal setting ability, hope, optimistic, adaptive and perfectionism which derived from 10 Olympian champions. However, there is no certain psychological skills for each athlete. Psychological strength and weakness vary based on the type of sport, attributes, and degree of play of each athlete.

2.1.3 Mental Toughness

The definition of mental toughness is having a natural or developed psychological edge that allows you to cope better than your opponents with many demands such as competition, training, and lifestyle that sport places on a performer. The ability to persevere in a challenging environment despite impediments (Loehr, 1995). The ability of being more consistent and better than your opponents in remaining determined, focused, confident in control under pressure ( Jones et al., 2002). Jones et al. (2002) also reached the conclusion that mental toughness gave the performance a psychological advantage over their competitors. Mental toughness,

according to Middleton et al. (2004) described "an unwavering persistence and commitment towards some objective despite pressure or difficulty."

Previous studies revealed separate streams of empirical research (Connaughton et al., 2008; Cowden, 2017; Crust, 2008; Gucciardi, 2017; Jones et al., 2002), however, more agreement on common elements of a concept is needed before such bodies of knowledge can contribute (Suddaby, 2010). The personal element of mental toughness is the most remarkable part of the definitions presented thus far, as it is a personal attribute. These definitions also include the idea of being able to withstand or endure difficult or unpleasant conditions. Jones et al. (2002) defined mental toughness as "being more consistent and superior to opponents," whereas Coulter et al. (2010) defined it as "the presence of some or the entire collection of experientially developed and inherent values, attitudes, emotions, cognitions, and behaviours that influence the way an individual approach, responds to, and appraises both negatively and positively construed pressures, challenges, and adversity."

*Mental toughness components*

Various researchers provide an understanding of the elements of mental toughness. Comparable concepts of mental toughness are presented in the following areas. The concept of skills was separated into seven components by Loehr (1982)

1. Assurance in oneself is to have the confidence and efficient performance. You will be unable to demonstrate effectively with lack of confidence.

2. The capacity to alleviate stress and avoid competitive emotions such as fear, anger, and an intense temper. To feel relaxed and focus on the task. This can assist athletes concentrate on their current situation in order to feel positively. Control negative energy is ability to relax yourself and avoid feeling emotionally in competitive event, such, anxiety, anger, and a furious temper. This can assist athletes to focus on current circumstance for generating positive emotions.

3. Control of attention is the capacity to concentrate with attention on the task at hand.

4. Imagery and control of imagination is crucial for talented athletes in which conceive and manipulate the movement of pictures. Athletes will perform more

fluidly if they practise mental images.

5. Motivation is a component of every aspect, set daily goals and respond properly to setbacks. Be patient for difficult training, keep concentrating on the task at hand. Athletes will consequently become more driven as they apply their positive energy to the work.

6. Positive energy is capability to possibly develop this skill via enjoyment, perseverance, and optimism as well as group spirit. Competing to the best of your abilities will be made easier by your generous spirit. Additionally, athletes need to have a calm mindset in order to succeed. Mild muscular tension is observed and manage focus.

7. Mood management is ability to control emotions and creating positive energy are essential components of a happy attitude. The most successful athletes have the traits of a winner and are organised intellectuals.

Posey (2009) distinguished 12 elements that contribute to mental toughness including self-confidence, self-motivation, focus, concentration, composure, calmness, poise, self-control, positive energy, determination, persistence and leadership.

Mental toughness has several dimensions. Twelve elements are involved (Julvanichpong, 2010; Middleton et al., 2004)

1. Self-efficacy: an athlete's decisions are influenced by their confidence in their own capabilities. The athletes' belief of reaching a specific objective.

2. Mental self-concept: a person's perception of oneself is known as their psychological self-concept to possess the mental strength to care for others amid difficult circumstances.

3. Potential: potential is the conviction that one possesses natural skills. or the capacities that accompany physical development or the capacity to succeed in living a longer life.

4. Task focus: maintaining steady attention on the task at hand requires gathering determination. At that moment, devote full mental attention to the task at hand and able to disregard external sources and continuing concentrate on the task.

5. Perseverance: consistency is the hallmark of perseverance or there is consistency with regard to the objectives, concepts, or assignments that are posing difficulties for you. Being depressed or experiencing adversity

6. Task familiarity: being comfortable with the task entails having a solid comprehension of it and being quite familiar with or struggling with it.

7. Personal bests: the desire to fully exhibit one's positive qualities is known as intrinsic motivation or realising the best in oneself.

8. Task value: a person's sense of work worth relates to important qualities or variations in significance to the overall success of the job completed in accordance with each person's perceptions.

9. Goal commitment: the act of dedicating oneself (both intellectually and emotionally controlled) to a goal or course of action is known as commitment to the goal.

10. Positivity: the practice of positivity is thinking positively and maintaining upbeat despite adversity or different situations.

11. Stress minimisation: reducing an individual's emotional reaction to adversity is referred to as stress reduction techniques.

12. Positive comparisons: a favourable impression as opposed to a competitor is the perception that one is more resilient to adversity. Utilising psychology gives it a competitive edge over the opposition.

*4C of Mental Toughness*

Mental toughness is considered as personality trait that can be improved through occurred activity. There are four components including control, commitment, challenge and confidence (Clough et al., 2002). Control is the sense of control over your life and emotions, together with your life's purpose, are ultimately constitute your self-esteem. The degree to which you believe you are in charge of your life with the power to influence and alter circumstances is termed as your sense of control. Control enhances self-awareness and self-assurance since it offers a strong sense of identity and values. Furthermore, provide effective resolution of any problems and improve emotional control by ignoring outside stimuli and remaining calm. On the other hand, if you are at the other end of the spectrum and lack of control, you will believe that incidents spontaneously occur to you and beyond your control.

Commitment is your concentration and dependability. You excel at creating the routines and habits that lead to your success. Being highly committed allows you to establish objectives and targets and regularly and reliably accomplish them without being sidetracked. Conversely, if your commitment level is low and you lie on the opposite end of the spectrum. There will be scenarios when you struggle or fail to prioritise your objectives and aims. Additionally, you can have trouble concentrating and be promptly derailed by other people and conflicting objectives. Lack of ability to develop behaviours and habits for success.

Confidence is the degree to which you believe you are capable of performing effectively and efficiently as well as influencing others. Possessing a high level of confidence entails believing in yourself enough to do activities that someone with a lesser level of confidence would deem impossible. In reality, if your confidence is strong, you ought to be able to handle difficulties arising from the inside or the outside. You will remain composed, adhere to your regimen, and become more determined. Challenge is defined as a high degree of difficulty accompanied by a strong desire to succeed and fulfil personal objectives. The degree of challenge in surpassing your boundaries. Instead of seeing all that change, hardship, challenges, and obstacles as advantages, you view them as opportunities to improve yourself. You are probably adaptable.

*Principles for strengthening mental toughness*

According to Loehr (1995), developing strength involves four factors listed below

1. Emotional flexibility is the capacity to generate ecstatic feelings during a competition and tolerate those who are desperate. Lack of emotional flexibility will make athletes easily defeated, demonstrating their lack of mental strength.

2. Emotional responsiveness is the capacity to remain engaged in stressful situations whereas inert feeling, irresponsiveness and withdrawal indicates a lack of mental toughness.

3. The ability to regulate one's emotions and remain positive in the face of competitive setbacks. Lack of this component results in inferior mental capacity.

4. Emotional resilience refers to the capacity to manage and recover from a range of emotions that arise from mistakes, enabling to swiftly restore emotional

concentration and concentrate on the game. In contrast, slow emotional rebounding is evident in impaired mental strength.

Smith (2012) addressed five strategies for boosting mental toughness as follow:

1. Develop your resilience by enabling yourself to encounter problems and overcome obstacles while learning from your mistakes and continuing working normally.

2. Remaining mindful of the present moment can improve your readiness and confidence. This is known as living in the now.

3. Being positive involves thinking positively and maintaining an optimistic outlook.

4. Select an activity that will optimise your performance

5 . Fight and love more than winning. To concentrate on and appreciate the chance to savour the present. In several sports, champions are more concerned with performing at their optimum rather than taking home the trophy.

In Thai sport context, two strategies for enhancing mental toughness contributed by Wongjaturaphat et al. (2011)including

1. Enhancement mental toughness approach includes training sessions that include positive aspect practice in real-world scenarios and goal setting for mental ability development. During competitions, coaches can use their expertise of sports psychology to instill positive energy in their team and encourage cooperation amongst colleagues.

2. Problems and obstacles to the development of mental strength include being physically and mentally unprepared. Communication between coaches and athletes should be appropriate and positive, avoid using negative conversation and lack of clear communication. The remarks made by others in your immediate vicinity and mistrust among teammates also influence mental toughness development.

*Psychological characteristics of mental toughness*

Mental toughness is critical for peak athletic performance, according to a study of the literature on psychological features of sport performance. Mental toughness is a key psychological quality of sport performance, according to Gould et al. (1987) Gould et al. (1993) Williams (1998) Gould et al. (2002) and Jones et al.

(2002). Success in sports has been linked to a positive psychological attribute known as mental toughness (Jones et al., 2002) Gould et al. (2002) assessed ten U.S. Olympic winners, ten coaches (one coach identified by each athlete), and ten parents, siblings, or significant others (one identified by each athlete) to determine the psychological characteristics they possessed. The findings of this study's qualitative psychological features demonstrate that great athletes have distinctive psychological traits such as the capacity to deal with worry, confidence, goal-setting ability, mental toughness, and so on. In fact, almost 73% of the 30 participants cited mental toughness as a key psychological factor in achieving success in the workplace. For obvious reasons, players, coaches, and sport performance enhancement specialists have been increasingly interested in discovering the psychological traits of great athletes.

As a result, studies studying the relationship between psychological characteristics and performance achievement have become increasingly relevant. Golby and Sheard (2004) carried out one of these studies. Many factors contributed to these athletes' success, according to (Gould et al., 2002) including mental toughness and resiliency, the capacity to cope with and control anxiety, confidence, optimism, and the ability to focus and block out distractions. These attributes were learned throughout the players' athletic growth from their family, community, coaches, and even the athletes themselves, according to the authors. The traits were learnt either directly through teaching methods or indirectly through behaviour modelling (Gould et al., 2002).

"Having the natural or developed psychological edge that allows you to cope better than your opponents with the many demands (competition, training, and lifestyle) that sport places on a performer, and specifically, be more consistent and better than your opponents in remaining determined, focused, confident under pressure". The researchers concluded that mental toughness gave performers a psychological edge over their opponents (Jones et al., 2002). Participants ranked the following 12 characteristics in order of importance to the ideal psychologically tough performance.

1 . Having unwavering faith in your capacity to attain your competition objectives.

2 . Having unwavering faith in your own abilities and attributes, which distinguish you from your competitors.

3. Having a voracious desire to succeed and internalised motivations.

4 . Recovering from setbacks in performance as a result of a stronger will to succeed.

5. Thriving under competitive pressure.

6 . Recognising that competitive anxiety is unavoidable but that you can manage it.

7. Being unaffected by the good and bad performances of others.

8. Maintaining complete focus despite personal life diversions.

9. Turning on and off a sport emphasis as needed.

10.Maintaining complete focus on the work at hand despite distractions from the competition.

11.Pushing the limits of physical and mental discomfort while preserving technique and effort in the face of adversity in both training and competition).

12.Regaining psychological control after unpredictable and unforeseen occurrences particular in competition environment.

Jones et al. (2007) defined four traits of those who are mentally strong:

1.Attitude is individual mental ability with highly knowledgeable and capable at maintaining concentration. He/she also seems to possess confidence in his athletic ability.

2.The individual practice method used is to continue challenging practice and employing in a competitive environment.

3. Competition, individuals with strong mental skills undertake effectively under pressure and they can thrive outstandingly under greater hardship.

4. After the game, psychologically tough players are successful, with the ability to bounce back from setbacks, and having confident to continue competing throughout the period.

*The relationship of mental toughness and gender and age*

Mental toughness differs by gender. Male tennis players have a greater MT level than female athletes, according to Masum (2014). It coincides with Dolly et al. (2017) study, which found that male gymnasts have better mental toughness than

female gymnasts. Rawte (2020) conducted a study on mental toughness based on gender differences. The outcomes are more intellectually demanding than those of females. However, there were no significant difference in term of age and gender and sport age mental toughness between professional male and female basketball players, according to statistics (Dereceli, 2019). Kumar (2016) conducted research on the mental toughness of basketball male and female basketball players. Male basketball players were discovered to have a higher mean score than female basketball players, indicating that male basketball players are more psychologically robust than female basketball players. On the variables of mental toughness and sports competition anxiety level, there is no significant difference between male and female basketball players. However, Kazım and Temel (2018) discovered that mental toughness had no relation to sports participation, age, or gender. However, students possess mentally powerful and challenging for mental toughness.

The association between mental toughness and competitive anxiety among athletic students was investigated by Kalinin et al. (2019). The participants were secondary school handball players ranging in age from 13 to 19. The researchers discovered that increasing mental toughness has an impact on anxiety levels. As a result, any intervention that improves athletes' mental toughness will also help to reduce sport anxiety in an indirect way. According to Ahokas et al. (2001) Parker and Brotchie (2004) Douma et al. (2005) Solomon and Herman (2009), the confirmation of different research in the explanation of the fact that women suffer higher anxiety than men due to hormonal swings. This is taken into account because mental toughness and anxiety are associated with gender differences. These findings suggest that different genders may have distinct psychological aspects that are related to mental toughness and relevant elements such as anxiety.

*The relationship of mental toughness and level of sport participation*

García and Santana (2018) examined mental toughness in soccer players of various skill levels. There were 242 male soccer players in attendance, ranging in age from 14 to 19, who competed in official under 16 and under 19 competitions. The goal was to evaluate mental toughness in two groups of soccer players with varying degrees of skill. The goal was to determine mental toughness in two groups of soccer players with varying degrees of skill. According to the findings, certain disparities in

mental toughness can be seen in children as early as preschool, depending on their performance level. In this regard, the study showed the psychological profile of female soccer players, which focused at two different levels: professional and amateur. Female professional players had greater motivational scores, whereas female amateur players had higher stress control and performance evaluation influence scores (Ruiz-Esteban et al., 2020). Cowden (2017) found that higher-level psychologically tough athletes perform better than lower-level athletes in his comprehensive review. Therefore, mental toughness is examined to crucial for all type of athletes and it is necessary to maintain the high level of mental toughness according to their age, gender and level of play. Because it can lead to optimum performance and sport success.

*2.1.3.4 Measurement of mental toughness*

Aside from attempting to define mental toughness, many efforts have been made to construct metrics of the notion. To date, a number of tests have been devised to assess mental toughness. It is critical that many psychometric measurements have been generally accepted by peers. However, specific area of mental toughness measurement deems to be important according to soccer population. This is due to the lack of a sufficient, clear definition of mental toughness that can aid in the development of a decent measurement tool in soccer. Several research have examined into psychometric measures of mental toughness. On mental toughness measurement research, the following is provided. Gould et al. (2002) examined the psychological features of 115 professional rugby players at three distinct levels of play to support studies that sought to identify and describe certain psychological qualities. Using the Psychological Performance Inventory, the researchers assessed mental toughness and hardiness PPI; Loehr (1995). Mental toughness is assessed using the following characteristics: self-confidence, negative energy control, attention control, visualisation and imagery control, motivation, positive energy, attitude control. Following the PPI, a variety of alternative metrics focusing on distinct models have been established. Clough et al. (2002) presented the 4Cs model of mental toughness and produced the Mental Toughness Questionnaire 48 (MTQ48) to examine their proposed features of mental toughness, based on Kobasa's idea of hardiness from

1979 and their practical work with rugby league players. The MTQ48 measures an individual's overall mental toughness as well as four sub-components: (a) control (emotional and life), a tendency to feel and act in a powerful manner, (b) commitment, a tendency to engage in rather than be alienated by an encounter, (c) challenge, a belief that life is changeable and to see this as an opportunity rather than a threat, and (d) confidence (interpersonal and in abilities), a strong sense of self-concept. The MTQ48 has been found to have adequate reliability, face, concept, and criterion validity (Clough et al., 2002). Additionally, an 18-item (MT18) was developed and used to provide better accessibility for athletes (Clough et al., 2002).

The construct of mental toughness was studied by Middleton et al. (2004). The goal is to contribute to the mental toughness test by providing influential work and analyse the construct validity of responses to Loehr (1995) questionnaire. PPI stands for Psychological Performance Inventory (Middleton et al., 2004). The PPI is a 42-item self-report test that was created to assess mental toughness. Self-confidence, negative energy, attention management, visual and imagery control, motivation level, positive energy, and attitude control were among the seven criteria provided through six questions each (Middleton et al., 2004). All of the PPI's questions were graded on a six-point Likert scale, with one being false and six being true (Middleton et al., 2004). Later, Middleton et al. (2005) published a second study titled Developing the Mental Toughness Inventory (MTI), the goal of which was to introduce the Mental Toughness Inventory (MTI). Middleton et al. remarked at the outset of their analysis that, despite general agreement on the importance, influence, and benefits of mental toughness, there is still a significant lack of high-quality studies on the subject (Middleton et al., 2005). 117-item MTI questionnaire used to assess self-efficacy, task value, potential, task familiarity, personal bests, stress reduction, mental self-concept, positivity, perseverance, positive comparison, task specific attention, goal commitment, and overall mental toughness. Across both sub-elite and elite athlete groups, the reliability coefficients for each of the components ranged from .82 to .94. The CFA had a decent match for each sample individually, but multi-group CFA revealed that the MTI factor structure was stable across both groups. The MTI is a

valid and reliable measure of mental toughness, according to the findings, and the researchers confirmed that the MTI has direct relevance and utility in research contexts (Middleton et al., 2005). "Making the Leap from Good to Great: Comparisons between sub-elite and elite athletes on mental toughness" is the title of the final study considered by Middleton et al. (2005). The MTI was verified in a previous study by Middleton et al. (2005) and the goal of their next study was to see how mental toughness differs by age, gender, and between elite and sub-elite athletes (Middleton et al., 2004). This study investigated the mental toughness disparities between elite and sub-elite athletes, as well as between older and younger athletes and male and female athletes (Middleton et al., 2005). The findings of this investigation showed several intriguing and important findings. Mental toughness was found to be higher among older athletes, men, and sub-elite athletes. Furthermore, from the ages of 12 to 16, mental toughness was shown to decline in both sub-elite and top athletes, and to persist until adulthood for sub-elite athletes before making major advances (Middleton et al., 2005). The creation of effective programs expressly designed to help athletes acquire, develop, and sustain mental toughness could help to improve this falling rate. The MTI was further validated as a good test for mental toughness as a result of this research activity, and the MTI was considered as a highly valid and reliable test of mental toughness (Middleton et al., 2005). Middleton et al. (2005) found characteristics with face validity, intuitive appeal, and support from recent qualitative research on mental toughness (Fourie & Potgieter, 2001; Jones et al., 2002). In addition, the MTI's outstanding psychometric qualities are demonstrated in the current quantitative study (Crust & Swann, 2011). The MTI is a solid instrument in theory, conceptualization, and internal qualities when considered as a whole. Combining qualitative and quantitative research approaches has substantially aided the development of the MTI. Multi-method research, which incorporates both quantitative and qualitative approaches, has various advantages (Brewer & Hunter, 1989), and it is especially suggested in areas where solid conceptual and theoretical foundations are required. The development of a reliable and valid MTI based on a conceptual and theoretical framework has emerged from combining the best of qualitative and quantitative methodologies. In addition, the MTI gives a valid and trustworthy measure of that model. These findings imply that the MTI is strong on

conceptual, between-network, and within-network grounds, and that the MTI will be directly relevant and beneficial in both practical and research settings. Regarding the various areas, Julvanichpong (2010) constructed a Thai version of the MTI, which was produced and proved to be good in terms of content and construction validity and reliabilities. The original version of MTI was completed by Middleton et al. (2005). Julvanichpong (2010) created the Thai version of the mental toughness inventory. The back translation was also used to assess the Thai version's construction, content, validity, and reliability. Later, Choosakul and Julvanichpong (2018) investigated at the structural relationship between mental toughness and success in Thai sport. This study included 917 individuals. The goal was to look at the impact of MT structural linkages on athlete success in Thai contact sport athletes and to look at their norm scores. Meanwhile, the validity and reliabilities of the content and construction of the result have been established. MTI's findings appear to be applicable to a wide range of sports, both nationally and locally. This ensures that the instrument's use in research is safe. As a result, the researcher utilises this as the major technique for assessing mental toughness in soccer players, in addition to particular soccer skills testing.

One component of successful athletic performance is psychological skill. From above literature reviews, mental toughness is one of the essential psychological aspects and can be developed from experience. Higher mental toughness is probably going to yield better results than lower mental toughness. Similarly, soccer players also showed a tendency to perform better than those with poorer mental toughness.

**2.2 Psychological Skills Training**

"Psychological skills training (PST) is the systematic and consistent practice of mental or psychological abilities with the goal of improving performance, increasing enjoyment, or boosting self-satisfaction in sports and physical activities." (Weinberg & Gould, 2007). Previously, PST is believed to process only in high level athletes (Weinberg & Gould, 1999). Nevertheless, PST has been proven to be effective in a variety of athletes of all sorts and levels, according to several studies (Hellstedt, 1987; Orlick & McCaffrey, 1991; Weiss, 1991). The fundamental goal of mental skills training is to assist athletes of all levels and disciplines in developing

their mental abilities to improve their performance and personal well-being. Mental training is the act of strengthening and conditioning the mind to maximise an athlete's performance potential (Vealey, 2007). To apply psychological skills to other aspects of human life to accomplish personal goals. As a result, it's crucial to emphasise and commit to develop these mental skills set. Sport psychology is defined as "a science in which psychological principles are utilised in a sport or exercise situation," according to a general definition (Cox, 1998). One of the most appealing aspects of sports psychology is psychological preparation, which plays a significant role in reaching the best level of performance. Sport psychology is now widely recognised as an interdisciplinary scientific field that develops and implements relevant and effective psychological skill training methods (Morris et al., 2005; Murphy, 2009; Vealey, 2005; Watt, 2005).

*2.2.1 Theoretical model for psychological skills training*

*Athlete-Centered Sport Model*

According to many sport literatures (Clark et al., 1994; Headley-Cooper, 2010; Kidman, 2005; Kidman & Lombardo, 2010; Lyle, 2005; Miller & Kerr, 2002), this model drew mention of coaching philosophy. the improvement of each person's perception along with their physical ability. Through this process, "athletes acquire and accept responsibility for knowledge, growth, and decision-making that will enable them to optimise both their performance and their enjoyment" (Kidman & Lombardo, 2010). First, the model emphasises respect, trust, responsibility, accountability, and the idea that sport is just one element of life. Second, it promotes the athlete's holistic development and the development of life skills through sport, such as gaining independence, leadership, teamwork, and decision-making abilities. Thirdly, employ engaging questions and instructional activities to facilitate comprehension rather than lecturing. Fourth, creating a high-quality team culture where players take ownership in setting and upholding the team's direction, including how much pleasure they are having, how they perceive themselves as a part of a bigger picture, and what constitutes "success." Finally, making utilisation of tools including feedback systems, outside assistance, and competent assistant coaches (Clark et al., 1994; Headley-Cooper, 2010; Kidman, 2005; Kidman & Lombardo, 2010; Miller & Kerr, 2002).

The foundation of the athlete-centered coaching theoretical approach is Deci and Ryan (2008) Self-Determination Theory, which emphasises the autonomy, competence, and relatedness that are fundamental psychological demands. The development of these demands has been associated to improve psychological well-being, as well as to greater perseverance and performance in experiencing activities, according to research on self-determination theory (Deci & Ryan, 2008). It is suggested that these results will also be connected to the athlete-centered coaching principles, which include empowering the athlete, developing partnerships, and encouraging autonomy. These principles are drawn from Self-Determination Theory. According to Lyle (2005), performance coaches should implement an athlete-centered coaching strategy since it strengthens the bond between coach and athlete and boosts team performance, athlete motivation, and coach effectiveness. A coach that adopts an athlete-centered approach, as stated by Kidman and Lombardo (2010), would increase coachable moments and/or structure the athletic experience to maximise the likelihood of such occurrences occurring in order to improve life skills. It has been claimed by researchers that an athlete-centered coaching strategy lessens the "win-at-all-costs" mentality that dominates sport. It is common knowledge that winning games, earning money, and becoming champions are the main priorities of coaches, athletes, and athletic organisations (Kidman & Lombardo, 2010). Moreover, coaches' attention to players' personal welfare may be subordinated to these demands for performance perfection (Miller & Kerr, 2002). Indeed, Kerr and Stirling (2008) suggest that the most effective method to lessen the "win-at-all-cost" mentality that has been associated with incidents of athlete exploitation is to adopt an athlete-centered mindset, which would improve athlete safety.

There is an absence of empirical research on athlete-centered coaching, despite claims that it improves performance, fosters life skills, and protects against athlete maltreatment. Kidman and Lombardo (2010) research revealed a correlation between athlete-centered coaching and enhanced player involvement, competence, motivation, and communication both on and off the field. Both top coaches who employed an athlete-centered approach and teenage athletes who had received athlete-centered coaching participated in the research. The senior boys' high school volleyball

team was observed by Kidman and Lombardo (2010), who employed a multi-method approach to interview the head coach, two players, and the players in many group settings. Though this is a single team's experience with athlete-centered coaching, these conclusions are quite thorough. Additionally, Kidman and Lombardo (2010) conducted interviews with head coaches to learn about their perspectives on athlete-centered coaching behaviours.

*2.2.2 Psychological skills training*

PST is systematic and consistent practice of mental skills in sport and physical exercise with the goal of improving performance, increasing enjoyment, or achieving higher personal satisfaction." (Weinberg & Gould, 2007; Weinberg & Gould, 2014). PST is divided into three parts, according to the findings of the studies: education, acquisition, and practice (Ritz, 2012; Wann & Church, 1998; Weinberg & Gould, 2007). General structure of PST in this study relies on Weinberg and Gould (2007) strategy. First phase of the PST program was educational phases. This phase is to learn to comprehend psychological skill in advance for their performance enhancement. In theoretical aspect, numerous athletes are not familiar with psychological skills and its instruction (Weinberg & Gould, 2007). The education phase assists athletes in recognising fundamental psychological skills/methods and realising their own personal usage or patterns for each skill/method (Vealey, 2007). The need of developing athletes' understanding of the significance of psychological abilities in performance and personal life excellence is an essential component of the education phase (Ravizza, 2001).

The acquisition phase is the second part of the PST program, and it focuses on methods and procedures for learning specific psychological abilities (Weinberg & Gould, 2007). The practice phase was the final stage of the PST program. The practice phase has three main goals. The first is to automate abilities through overlearning. Second, players must be taught to incorporate psychological skills into their performance circumstances in a systematic manner. Finally, to practice abilities that athletes will use in competition (Weinberg & Gould, 1999). Then, to improve practitioner development, implementation, and evaluation, a number of psychological skills were merged (Wann & Church, 1998). PST should be separated into three parts,

according to the findings of the research: education, acquisition, and practice (Ritz, 2012; Wann & Church, 1998). The PST program's education component teaches athletes about the relevance of psychological skills in performance and personal growth (Ravizza, 2001). Throughout the education phase, participants learned the importance of PST and how it affects sports performance. The second step of the PST is the acquisition phase. During this time, athletes learn how to use the most effective PST program. Formal sessions with an instructor to teach athletes vital skills that they can practice on their own until they are comfortable and adapt with them (Weinberg & Gould, 2007). The final phase is the practice phase, during which the athletes devote their own time and effort to PST. It is necessary to perform both competitive and practice training (Horn, 2008).

On a personal level, sport psychology services are only considered required for problematic athletes. A considerable volume of research outputs on sport psychology has recently resulted in the incorporation of psychological skills training (PST) into the scope of practice for all competitive sports, according to several authors. (Moran, 2016). The systematic acquisition and practice of psychological skills is referred to as PST. The PST methods and approaches derived from a variety of sources, especially in the field of general psychology. The teaching of specific psychological abilities that can be used to enhance sport performance. The utilisation of PST was to ensure that individuals attain high-level performance in sports by acquiring and using needed psychological skills (Gardner, 2009). There is a substantial amount of empirical data demonstrating the positive effects of PST on mental ability and sport performance. PST is applicable for all athletic levels involving professional, elite, and young.

1) Mental practice as a tool for learning

Mental and physical practice are utilised in conjunction, the outcomes are frequently excellent (Caliari, 2008; Grouios, 1992; Hinshaw, 1991; Landers, 1983; Smith et al., 2008). Because mental practice is beneficial to sports performance, the researchers have incorporated the following evidence below. Caliari (2008) revealed the effect of mental practice on forehand performance in table tennis. A week later, the pre-test was followed by an experimental session that was repeated weekly for six

weeks. One week following the final experimental session, a post-test (10 trials) was conducted. The mental practice groups were instructed to “imagine the trajectory of the racket towards the target” and “take the position of the expert.” To determine the duration of mental practice, the participants were required to deliver a vocal signal (“go/stop”) at the start and conclusion of each imaging session. The participants were then instructed to do a physical practice session right following the mental practice trial. The findings of this study revealed that mental practice can help enhance forehand performance in table tennis. The current findings are supported by an examination of the task's features to identify important signals for mental practice, as advised by Paivio (1985) and Hardy et al. (1995)

The results indicated that when learners just physically practiced with a focus on the implement's trajectory, their performance improved over time, but not as much as when they mentally trained prior to each physical practice attempt. The current findings imply that mental preparation provides enough time to effectively employ visuospatial cues. According to a meta-analysis, 60 studies yielded 146 effect sizes, with an overall average effect size of .48, indicating that studies involving cognitive tasks had larger average effect sizes than studies involving motor or strength tasks, and those published studies had larger average effect sizes than unpublished studies (Landers, 1983).

2) Mental practice time

Mental practice for 1-3 minutes is more helpful than mental practice for 5-7 minutes when an athlete maintains a consistent physical practice (Etnier & Landers, 1996). According to the findings of the study, mental practice performed before physical practice may be more effective than mental practice performed after physical exercise. On the other hand, devoted time for PST is varied depending on what is being practiced and how well it is being taught. Psychological skills training often takes 15 - 30 minutes before or after training and takes place three to five times a week. Miçooğulları (2013) conducted his research using 20 - 30 minutes PST program before and after physical practice. However, some of the studies indicated that mental practice before sport skill exercise is more effective according to Corbin (1967) theory that physically practicing after mentally practicing could operate as a

stimulant for getting the most out of mental practice. Therefore, cognitively practicing may allow one to practice the efferent pathways required to do the task (Cuthbert et al., 1991), later physically practicing may aid to cement this rehearsal in memory. This was more beneficial than doing physical practice alone or doing sport skills practice first and then psychological skills training (Etnier & Landers, 1996). In this study, the duration of psychological skills training is two hours of training for one session including practical skills training. 30 minutes for psychological skills training (Miçooğulları, 2013). 1.30 hours for actual practical skills training according to Haleva and Meckel (2020). The session takes place 4 days a week. Monday to Thursday, six weeks period with three stages.

*2.2.3 Psychological skills training types*

Psychological skills training for performance improvement highly involves two main techniques including somatic and cognitive techniques. The main goal of somatic technique is to diminish physiological arousal, which is linked to somatic anxiety. The first category of techniques for stress reduction is progressive relaxation, which involves a person feeling physically tight and then relaxing. As the relaxation techniques have several assumptions including the difference of tension and relaxation can be learned. Secondly, these two are incompatible, tension and relaxation can occur separately. Muscle tension is reduced as the body relaxes because of relaxation techniques. Cognitive technique is a method of relaxation that focuses on calming the mind rather than progressive relaxation and breath control. The justification for cognitive operation involving the mind is that it relaxes the body. As a result, both psychological and physical factors contribute to a relaxed state, but they do so in distinct ways.

*2.2.4 Adult Athletes*

In top sports, the relevance of psychological skills training in athletic performance is frequently mentioned. Adults in amateur, semi-professional, or professional leagues are considered elite athletes. In a high-intensity sport, the individual athlete is under enormous strain in a short length of time. Individual athletes might benefit from psychological skill training to improve their performance, enjoy themselves more, or attain self-satisfaction (Birrer & Morgan, 2010). This is a

goal-oriented, organised, and regulated methodology that enables athletes to quickly master logical skills. The fundamental four strategies utilised in sport psychology therapies are visualisation, goal setting, self-talk, and physical relaxation techniques (Birrer & Morgan, 2010). These techniques can assist athletes improve their performance and contribute to their team's success. These four fundamental strategies serve as starting points to an athlete's more advanced and sophisticated psychological abilities, such as cognitive reconstruction. A sport psychologist must first understand the athlete's needs to observe meaningful improvements in their performance. The fundamental tactics will not assist an athlete since they are too generic. It might be difficult to discern between psychological demands imposed by a certain sport. There are several models that explore the principles around a sport's most significant requirements. Continuity of impact, training years, injury risk, motivation, and self-constructs are among the concepts included in these models. When athletes are attempting to improve their performance, each model offers a distinct issue. Finding the right technique for an athlete is critical since each athlete has unique requirements for improving their performance. It is critical that they improve their performance so that their team may be more successful on the field. The use of psychological skills is various involving both somatic and cognitive approaches. Relaxation, self-talk, imagery, and goal setting are some of the most used psychological skill trainings in sports particularly in team sport such as soccer, basketball and so on. Relaxation, imagery, self-talk, and goal setting have all been used as part of a mental skills therapy package in recent decades.

*2.2.5 Relaxation*

Under the broad category of relaxation, there are four common methods that may be effectively classified. Progressive relaxation, autogenic training, meditation, and biofeedback are examples of these techniques. All of this leads to the relaxation response, which entails physiological changes involving the parasympathetic nervous system, such as a decrease in heart rate, oxygen intake, respiratory rate, and skeletal muscle activity. Moreover, two techniques involve thought stopping and breath control fall under this category in response to stress. Besides, improve athletic performance.

1) Progressive relaxation

Jacobson (1938) described progressive relaxation technique form as the cornerstone for many modern relaxation procedures. This technique involves tensing and relaxing specific muscles. Jacobson named the techniques progressive relaxation because the tense and relaxing progresses from one major muscle group to the next, until all muscle groups are completely relaxed. All progressive relaxation techniques are variants (Jacobsen, 1929; Jacobson, 1938). It was Jacobson's central argument that being anxious or tense in any area of the body when the muscles are totally relaxed is impossible. Jacobson also felt that relaxing the related skeletal muscles might lessen the anxiety and tenseness of involuntary muscles and organs. A worried mind, according to Jacobson, cannot exist in a calm body. Another physically focused relaxation technique that may aid in the decrease of somatic anxiety is breathing control. It is one of the simplest and most efficient techniques to calm down and relax. Individual breathing is likely to be smooth, deep, and rhythmical when a person is calm, confident, and in control.

1.1 Methods for progressive relaxation

Subjects are instructed to tighten muscles before relaxing them, which aids athletes in understanding the difference between tension and relaxation. Starting with the muscles of the left arm, work your way to the right arm, then the left and right legs, abdomen, chest, and shoulders. The training takes about 15 minutes for practice, nevertheless, it takes several months to complete to automate the calming reaction while under stress.

1.2 The goals for relaxation training

The objective of relaxing training is to generate a relaxation response in order to combat stress in a certain situation. With the use of progressive relaxation and cognitive methods, relaxation training is helpful for enhancing sports performance (Greenspan & Feltz, 1989).

2) Autogenic training

Autogenic training is based on early hypnosis research and is quite similar to autohypnosis. It is based on sensations linked with the body's limbs and muscles. Schultz and Luthe (1959) were the first to invent the technique. Comprise of two

bodily sensations according to autogenic training which is associated with relaxation response (Schultz & Luthe, 1959). These can be explained through the physiological change which is dominant by parasympathetic nervous system when using autogenic training, therefore, the body feels relaxed.

2.1 Methods for autogenic training

There are three components to be included. The limbs feel heavy, and the upper and lower limbs are heated. Second, imagery is a key component of autogenic training, as it allows people to visualise relaxing surroundings while focusing on the first component. Finally, certain themes are designed to aid in the relaxation response, which is to ensure that the body is relaxed and improve athletic performance.

2.2 The goals for autogenic training

The main objective is to effectively generate the relaxation response to be relaxed. Autogenic training helps athlete to improve athletic performance (Spigolon & Dell'Oro, 1985). Groslambert et al. (2003) revealed that autogenic training was beneficial in French biathlon. In this study, the experimental group showed higher progress in terms of stability control in shooting after six weeks of autogenic training in addition to actual training. Later research used autogenic training to teach athletes how to relax by giving them instructions on their own (Greenberg, 2009).

3)Meditation

Meditation is a type of relaxation that is closely associated with the principles of selective attention. When someone practices meditation, he tries to focus his attention on a single idea, sound, or object without judging it. When meditation is performed in a quiet setting with a passive attitude and low muscular tone, the relaxation response is elicited. Meditation as a method of relaxation and mental control dates back over four thousand years to Eastern cultures. Maharishi Mahesh Yogi, an Indian yogi, was the person most responsible for the spread of meditation to Western cultures.

3.1 Methods for meditation

The participant sits in a comfortable position with his or her eyes closed. There are many different types of meditation, such as transcendental meditation, Tai chi, Chakra yoga and Rinzai Zen Mudra yoga, Sufism, Zen meditation, and Soto Zen

(Greenberg, 2009) all of these training can help with meditation. Although it is evident that many types of meditation can reduce anxiety and tension by inducing a relaxation response, it is unclear if their practice might improve athletic performance. Relaxation, on the other hand, has a direct effect. According to meditation training, meditation reduces stress, which is linked to improve athletic performance. Integrative mind-body training (IMBT), a contemporary meditational method to regulating the autonomic nervous system, is one essential training (Tang et al., 2009; Tang et al., 2007; Tang & Posner, 2009). This training has its origins in Eastern culture, with the goal of creating a mental state that allows for better attention and self-regulation of autonomic nervous system (ANS). The integrated mind body training is an attention state training technique that can be used to increase arousal control, attention, and performance by inducing a mental state of mind. Tang et al. (2009) found that integrated mind body training improved autonomic nervous system regulation when compared to traditional relaxation training.

3.2 The goals for meditation

Various output for meditation has been shown to improve gross motor skills coordination, standing wide jump, agility tests, and the 50-meter sprint, according to several studies (Reddy et al., 1976). Only a little amount of benefit in terms of fine motor skills improvement (Hall & Hardy, 1991).

4) Biofeedback

Biofeedback is a modern technique in which people influence the autonomic nervous system's function (Davis et al., 2008; Greenberg, 2009; Tenenbaum et al., 2002). Biofeedback is a physiologically based technique that teaches people how to manage their physiological and autonomic reactions. It usually entails the use of an electrical monitoring equipment that can detect and magnify internal reactions that we aren't aware of. Although most studies have utilised muscle activity as measured electromyography, the electronic equipment give visual or aural feedback of physiological responses such as muscle activity, skin temperature, or heart rate (Zaichkowsky & Takenaka, 1993).

4.1 Biofeedback training

A participant monitors an auditory signal of her own heart and experiments with different thoughts, feelings, and sensations to slow of heart rate. Once the

participants learn to recognise the feeling associated with reduction of heart rate.

5) Hypnosis

Hypnosis is a method of communication that involves the use of psychological advice. Hypnotic individuals are more receptive to instructions while under hypnosis. The effect of hypnosis is that the hypnotist is able to develop better control over their brain and their actions. The hypnotist uses auditory, visual, and tactile cues to induce the hypnotist into a trance state. Meanwhile, the hypnotist is instructed to relax, imagine and focus on the hypnotist's advice. Therefore, self-hypnosis is that the hypnotic person has to relax. Ready to accept advice from a hypnotist. A hypnotherapist uses a number of therapies to correct the hypnotic person's mental problems when the hypnotic person enters a hypnotic state. Hypnosis is widely used in medicine and psychotherapy, sports training, military applications. self-development staff training and confessing to the police Numerous studies have proven that hypnosis is a tactic used in psychology and that hypnosis can help reduce stress in athletes.

Hypnosis appears to improve athletes' cognitive processes critical to performance, such as self-confidence, attention and memory, according to Li and Li (2022) as well as technical skills. Hypnosis has been shown to improve technical skills in sports such as precise throwing (Jalene & Wulf, 2014) and hitting the wall (Barker et al., 2010). Rapid recovery and reduced exhaustion (Niu, 2013). Hypnotics can help athletes with sleep disturbances by encouraging them to relax and to focus on their thoughts and emotions (Becker, 2015). This can also help in reducing stress. This has a positive effect on training and competition.

6) Though stopping

Thinking stopping is a strategy that helps to change the negative thoughts that arise in different situations. To promote optimal athlete performance, there are 3 steps to implementing this strategy. 1. Able to identify or recognise negative thoughts that occur to oneself. 2. Say the word “stop” to yourself. 3. Replace it with positive thoughts. The obstacles that arise in training and competitions cause athletes to think negatively. For instance, it is too hard; I cannot do it. I cannot stand it. It is not a foul. I did not hit the leg. There is nothing wrong with having negative thoughts because they usually happen. The key is that when negative thoughts arise, we stop them and

replace them with positive or constructive thoughts on the situation. Replace it with a positive one, for example, in a few moments, I can. We cannot control the referee. aiming to intercept the ball. In fact, some psychologists claim that the combination of thought stopping is most successful when it is combined with thought redirection to accentuate positives in an otherwise negative scenario or to concentrate attention back on the work at hand. Thought stopping has been reported to be effective in sports, there are a number of theoretical issues with it. According to Daniel Wegner's theory of ironic effects, attempting to influence ideas and mental control necessitates a delicate balance between two opposing processes: the effortful operating process and the unconscious monitoring process. While the operational process seeks to achieve the intended mental state, the monitoring process looks for inconsistencies and mental control failures on a constant basis. When situational conditions diminish available mental capacity such as when we are stressed, the monitoring process overpowers the purposeful operating process, resulting in the unintended impact. These undesirable consequences have been demonstrated in word recall tasks, movement error tasks, and, most importantly, in thought suppression tasks. As a result, an athlete's attempt to halt or avoid thinking a particular idea may actually enhance the likelihood of the thought occurring. Furthermore, athletes with anxiety dispositional difficulties are more likely to suffer from this problem.

7) Breath control

For humans, breathing is a basic physiological need. Depending on the subject's condition, the respiration rate and frequency might also change significantly at the same moment. (Migliaccio et al., 2023) More specifically, breathing in sports can either have the physiological consequence of restricting performance or, conversely, breathing can control the athletes' psychological state (Migliaccio et al., 2023). Controlled breathing is a practice that allows athletes to control muscle tightness, especially in competitive or stressful situations. There are three types of events that result in self-control: 1 ) the nervous system is activated, which leads to increased muscle contraction and poor performance. 2) The confidence of the athletes will be lower and 3 ) How does an athlete think of playing if he/she is stressed and lacks confidence. In addition, what an athlete thinks of his uncontrollable abilities, first of all, the athlete needs to know that he is out of control and must keep a record

of all the things you cannot control. Taking notes helps in one's own behaviour and second. Practicing is to discover our own uncontrollable behaviours which assist us for focusing on unflavoured behaviours, when it occurs and lead us back to good control over our abilities in time quickly and smoothly.

7.1 Breathing control technique

The correct breathing practice requires breathing from the diaphragm, which has the following techniques:

1. Athletes think that the lungs are divided into 3 parts (upper-middle-bottom) by rhythmic training.

Rhythm 1 : Have the athlete try to take a full breath first by pulling the diaphragm down and pushing the abdomen out.

Stroke 2 Have the athlete breathe until the middle is full. Expand the chest cavity by lifting the ribs and chest higher than before.

Third stroke, take a full breath in the upper part. by raising the chest and shoulders slightly

2. The first training session may be divided into parts when the athlete is able to complete all three strokes. In which we hurry to train all three parts to be continuity in the same rhythm.

3. When the athlete has completed all three breaths, the athlete should hold the breath for 2 -3 seconds and then exhale by contracting or deflation. Lower the shoulders and neck to expel the air in the lungs. Finally, the athlete should try to inflate the stomach further to expel any remaining air. It should also be emphasised that the athlete relaxes all muscles after the exhalation has been exhausted.

Once the athlete is able to breathe properly, do this at least 3 0 -4 0 breaths per day to get used to breathing exercises and activities of daily living, such as before breakfast, dinner, before training sessions.

7.2 Breathing control with 4 seconds breathing in and 8 seconds breathing-out (Kemarat, 2021)

Techniques are as followed:

-The practitioner slightly separates the upper and lower lips while exhaling fully.

-The practitioner breathes in slowly through the nose for 1-2-3-4 seconds,

exhales slowly. 1-2-3-4-5-6-7-8 seconds

-Follow the steps in item 2 for 9 times.

8) 4-7-8 Breathing

The develop of the 4-7-8 breathing technique as a breathing pattern was based on the yoga pranayama technique, which helps users manage their breathing (Weil, 2015). Breathing method is frequently used to reduce stress in accordance with the fight-or-flight reaction The benefits of 4-7-8 breathing is to reduce anxiety, reduce blood pressure and increase concentration (Weil, 2015).

How to practice 4-7-8 breathing

4-7-8 breathing starts with 4 seconds of breath holding, 7 seconds of holding your breath, and 8 seconds of exhaling. This practice aid athletes for relieving anxiety that occur in pressured conditions both in training and competition. Moreover, this technique influence body's response when encountering the stress.

The steps for training are as follows:

1. The participant slightly spreads lips apart while exhaling fully.

2. The participant breathes in through the nose for 4 seconds, then holds his breath for 8 seconds, then exhales through the nose and mouth for 7 seconds.

3. Follow the steps in items 1 and 2 for a total of 4 cycles.

*2.2.6* Imagery

Imagery can be defined as using one's senses to create or recreate an experience or visual image in the mind that at times may seem to be as real as seeing the image with our physical eyes (Vealey & Greenleaf, 2010). To have a better grasp of imagery, consider the following definitions: first, an image may be generated in the mind without any external stimulus. Second, an image is generated using information stored in the sensory store, working memory, and long-term memory. According to Parnabas et al. (2015) mental imagery is the process of retrieving a memory that has been stored in the brain as meaningful visuals. Lastly it may include one or more bodily senses.

Imagery is the absence of actual movement, mental imaging is a cognitive rehearsal used to picture athletic performance in the mind (Murphy, 1994). Imagery is

an excellent performance improvement technique, according to research, and is one of the psychological abilities that sports psychologists and players utilise the most (Morris et al., 2004; Morris et al., 2005; Murphy & Martin, 2002). The individual's imaging viewpoint is one factor that can influence how successful imagery is used (Morris et al., 2005). The imagery is involved with the sensory modes of vision, hearing, smell, taste, and proprioception in general. Tactile and kinaesthetic information to the brain regarding movements in the joints and muscles is referred to as proprioception (Cox, 2012). This is particular important toward physical movement activity and sports. There are two forms of mental imagery: internal imagery and external imagery (Ampofo-Boateng, 2009). Internal imagery refers to athletes imaging themselves performing the activity, and external imagery refers to athletes imaging themselves from the perspective of a third party. In other words, internal imagery refers to the process of seeing competitions in your mind. External imagery occurs when athletes see their opponent in a match or view competitions through video clips. The word "perspective" was used by Mahoney and Avener (1977) to describe whether a visual is internal or external. They suggested that external imaging occurs when a person sees himself/herself through the eyes of an outside observer, similar to viewing oneself on television. Internal imagery entails the person imagining their selves within their own body and feeling the sensations that may arise while performing in a real circumstance. If the successful use of imagery is influenced by imagery perspective, then researching the usage of imagery views is essential to knowing how to utilise imagery efficiently (Morris et al., 2005).

*PETTLEP Model*

The PETTLEP model encourages individuals to establish imaging rehearsal conditions that mimic as nearly as possible the circumstances of physical practice or performance in order to increase the possibility for overlap in neural activation between actual and imagined actions (Holmes & Collins, 2001). Physical, Environment, Task, Timing, Learning, Emotion, and Perspective are the seven aspects outlined in the model, each of which is represented by a different letter of the PETTLEP. The following are the definitions for each. The physical character of imaging is defined as the physical nature of imagery, which includes body posture,

clothes, and athletic equipment that is unique to the job or environment. Environment can be defined as the physical environment in which imagery is performed, task can be defined as the characteristics of the task and degree of skill, timing can be defined as the temporal character of the task, learning can be defined as the evolution of imagery content with learning and refinement of behaviour, emotion can be defined as affective and emotional response to a situation, and last but not least, perspective can be defined as the visual perspective adopted.

Smith et al. (2008) reported the effect of physical practice with PETTLEP-based (physical, environment, task, timing, learning, emotion, and perspective imagery and PETTLEP + physical practice treatments on golf bunker shot performance. Thirty-two male golfers from the county or international level were randomly allocated to one of four groups: PETTLEP imaging, physical practice, PETTLEP plus physical practice, or control. For six weeks, each group completed their assigned duties. The pre- and post-tests consisted of 15 bunker shots, with points granted according on the distance between the ball and the pin. PETTLEP + physical practice participants improved more than PETTLEP and physical practice participants. However, there was no significant difference between the PETTLEP and physical practice groups. These findings confirm PETTLEP's usefulness in improving golf play, particularly when paired with physical exercise. Holmes and Collins (2001) found slow motion images may have aided the performers' learning in the same way that the other timing conditions did because the job was new to them. The researchers discovered benefits in a soccer dribbling task whether participants imaged in real-time, slow motion, or a combination of the two (Munroe et al., 2000). There is also theoretical justification for using real-time speed images in the literature. Because athletes tend to rush through actual performance during competition due to increased anxiety levels, Nideffer (1985) proposed that images should always unfold in real time. He reasoned that emphasising real-time images would allow athletes to see themselves performing flawlessly and at appropriate execution speeds during competition (via imagery). Real-time visuals, according to Nideffer (1985) would minimise athletes' anxiety levels during competition, allowing them to perform at their best. The use of imagery is an important part of psychological skill development. A specific motion or series of movements is mentally practiced through imagining

without any visible physical effort in imagery. Many elite athletes, according to studies, use imagery on a regular basis (Jones et al., 2002). These athletes utilise images to generate or reproduce an experience during training and competition in their respective sports by using all their senses (Morris et al., 2005). The use of imagery has been proven to increase athletes' performance as well as control motivation, confidence, and anxiety (Cumming & Williams, 2012). Imagery may be used to acquire new abilities, improve existing skills, practice tactics, and prepare for competitions. According to prior research, after physically practicing a sport skill, the athlete should spend some time mentally rehearsing the skill's performance. Mental preparation might take place before physical preparation. Landers (1983) indicated that expert performers gain more from mental preparation than novices, depending on their ability level. The interaction of mental and physical practice in the development of the Pacific Coast one-handed basketball foul shot. Based on varsity, or novice experience, the researcher divided 144 high school boys into physical and mental practice groups. Before and after 14 days of practice, all participants were given a 25-shot pre-test and a 25-shot post-test. For the junior varsity and varsity groups, mental practice was almost as beneficial as physical practice, while for novices, mental practice was less significant than physical practice. In a wand-juggling test, Corbin (1967) reported comparable findings.

*The application of sport imagery*

Four functions of applied sport imagery including where, when, what and why. The further explanations are discussed below

1) Where do athletes employ imagery in their training? At first view, this appears to be a simple question. Athletes, it appears, use imagery in practice and competition. The real answer, on the other hand, is not quite so straightforward. While the majority of imagery research has focused on practice circumstances (e.g., using vision to enhance skill learning), athletes say they use imagery more in competition than training (Barr & Hall, 1992; R. Hall et al., 1990) As a result, they use images for performance enhancement or execution rather than skills learning. Athletes also report using imagery in locations other than practice and competition (Salmon et al., 1994).

In fact, some athletes (for example, professional soccer players) claim to use more imagery outside of practice than within it (Salmon et al., 1994).

2) When do athletes employ imagery in their training? As previously said, athletes primarily use images in conjunction with competition (Barr & Hall, 1992; Rodgers et al., 1991). They also use it more soon before a competition than during or immediately after one. Athletes employ imagery more during practice than before or after practice when it comes to practice (Salmon et al., 1994). Athletes employ imagery outside of competition and practice during breaks in their everyday activities (e.g., at work and school), and many use imagery shortly before going to sleep (R. Hall et al., 1990; Rodgers et al., 1991).

3) Why do athletes employ imagery in their training? The numerous functions of athletes. They could, for example, be employing imagery to assist them enhance their performance of a specific skill (i.e., to facilitate learning) or to psych themselves up for a big competition. They could be employing imagery to assist them stay focused on the task at hand, or for all three of these reasons. When it comes to athletes' use of imagery, it is vital to distinguish between function (i.e., why they're imagining) and content (i.e., what they're picturing)

4) The content or "what" of imagery was divided into three categories: session imagery, nature of imagery, and kind of imagery. Visual, kinesthetic, auditory, and olfactory imagery are the four types of imagery; however, it could be argued that the sense of taste (gustatory) should be included as a potential imagery type, and that each type of imagery, not just visual imagery, should be evaluated in terms of vividness and perspective (internal and external). The facilitative (positive) and debilitative (negative) qualities of imagery have been the focus of research on the nature of imagery. Visual and kinesthetic imagery have been the focus of research in relation to kind of imagery, while visual imagery has focused on internal and external perspective.

*Imagery's neural mechanisms*

The same neuromotor pathways that are activated during physical execution of a specific motor task are thought to be activated during mental practice (Kosslyn et al., 2001; Martin et al., 1999). As a result of the neuronal pathways being activated during mental imagery, the motor programs in the motor cortex, which are responsible for movement, are strengthened. As a result, mental imagery may help with skill learning by developing optimal coordination patterns and stimulating the associated motor neurons of the muscles required to do the motor task (Mackay, 1981). In a summary, mental practice activates peripheral activity, which sends afferent information to the motor cortex, strengthening the motor program.

*Psych neuromuscular Theory*

According to the psych neuromuscular theory, imaging produces subconscious neuromuscular rhythms that are identical to those used during actual movement. Even if the imagined event does not result in overt muscle activity, the brain sends subliminal efferent orders to the muscles. The neuromuscular system is essentially given the opportunity to "practice" a movement pattern without exercising a muscle. Jowdy and Harris (1990) stated that the increased electrical activity in the muscles is linked to mental practice and imaging, irrespectively of the utilizing of imagery forms (kinesthetic or visual). Two studies also revealed additional evidence of subliminal electrical activity in the muscles of passive limbs during visualization (Slade et al., 2002; Smith & Collins, 2004). Subliminal activity, on the other hand, does not always reflect the electrical activity of the physically engaged limb. Nonetheless, imagery is thought to help the brain create a motor schema for performing a specific motor pattern.

*Symbolic Learning Theory*

Symbolic learning theory differs from psych neuromuscular theory in that subliminal electrical activity in the musculature is not required for practice and imagery work (Janssen & Sheikh, 1994). in which the individual physically organises her actions in advance, before a physical response is necessary, motor sequences, task goals, and alternative solutions are all examined intellectually. In softball, the shortstop is a great example of this idea in action. Prior to each pitch to the batter, the

shortstop mentally goes over all of the possible outcomes and how to respond to each one. When there is one out in the eighth inning, the bases are loaded, and the game is tied, the shortstop's play will be determined by the sort of ball hit to her. Before each pitch, the shortstop can increase her odds of making the perfect play by mentally practicing the numerous cues and possible responses. According to symbolic learning theory, memory aids learning achievement. Memory is used to operate brain processes. This will enable people who study to remember for a long time in symbolic form, theory of learning. The symbols specified by Weinberg and Richardson (1990) are as follows: Learning skills might be challenging at times, resulting in delayed progress. Use memorizing, practitioners may acquire principles, skills, and procedures faster. To build an image in the mind, learn to use symbols. This is a review of the skills in mind before really performing it by recognizing the brain that is responsible for gathering information through auditory perception. As they stated that pictograms helped me recall them, and they helped me remember them.

*Paivo's Conceptual Model of Imagery*

*Paivio (1985)* established a framework for understanding how imagery affects motor performance in humans. He claims that imagery has two primary purposes, which can be applied at either a specific or a general level. Play tactics and skill rehearsal (cognitive specific imagery; CS) are part of the cognitive function (cognitive general imagery; CG). At the most basic level, the motivational function is imagining objectives and the acts required to realise them (motivational specific imagery; MS). Images link to general physiological arousal and influence at the general level (motivational general imagery; MG). Hall et al. (1998) looked into Paivio's proposal discovered two distinct components of MG imagery. MG-Arousal (MG-A) imagery is linked to arousal and stress, whereas MG-Mastery (MG-M) imagery is associated to self-control, mental toughness, and self-confidence. The dual functions of images have been supported by research. The usage of CS imagery has been addressed in the majority of imagery studies. In light of the findings of these experiments, it is widely believed that CS imagery aids in the learning and performance of motor abilities (Driskell et al., 1994; Hall et al., 1994). This is a consistent finding across a wide

range of sports talents, including darts, basketball free throws, and strength tests. Athletes utilise imagery to rehearse game plans, strategies, and routines in addition to practicing specific sport skills. The CG function of imagery is represented by this type of imagery. Case studies have proven the performance benefits of CG images for rehearsing football plays (Fenker & Lambiotte, 1987), wrestling techniques (Rushall, 1988), pommel-horse routines in gymnastics (Mace et al., 1987) and full slalom canoe races (MacIntyre & Moran, 2007).

The motivational function of imagery has been demonstrated through the use of imagery in experiments. Hall et al. (1990) discovered that athletes who were encouraged to imagine themselves successfully doing a simple motor activity practiced more voluntarily than a control group. Martin and Hall (1995) taught novice golfers how to learn a putting task by using imagery. These golfers practiced the activity more freely than the control group, and they also had more realistic self-expectations and followed their training plans more closely. The motivational function of imagery has been demonstrated through the use of imagery in experiments. Hall et al. (1990) discovered that athletes who were encouraged to imagine themselves successfully doing a simple motor activity practiced more voluntarily than a control group. Martin and Hall (1995) taught novice golfers how to learn a putting task by using visualisation. These golfers practiced the activity more freely than the control group, and they also had more realistic self-expectations and followed their training plans more closely. Even so, because it operates in a steady or largely predictable context, cognitive specific imagery is well suited for close-skills sports. Closed skill movement patterns can be designed ahead of time. In a soccer training session, we are familiar with the location, team, members and environment. We usually enhance soccer skills through training, such as setting a challenge goal for each training session. As we know without optimal training, result in less effective outcome for the competition. As a result, in soccer skills training, cognitive specific imagery is critical for skill development. Because in soccer trainings involve practicing in technical skills which is main component for soccer players

Paivio (1985) made a distinction between the two purposes of imagery: the cognitive purpose which is learning of skills and methods and the motivating purpose as is motivational and arousal involved in sport situation. Both processes influence behaviour at both the specific and broader levels. The four forms of imagery that are provided by the functions and levels of the model distinction are reflected in the substance of the visuals. These imaging categories include cognitive specific (CS; picture of the skill), cognitive general (CG; image of routines and tactics), motivational specific (MS; image of goal and response to goal), motivational general (MG; image of controlling the general physiological and emotional arousal) (Hall et al., 1998; Paivio, 1985) Later, Paivio's model of imagery was updated by Hall et al. (1998) as cited in Pakulanon (2016) to include five types of imagery, which they grouped into two categories: Motivation General-Mastery (MG-M; imagery of confidence and mastering obstacles) and Motivation General-Mastery-Arousal (MG-A; imagery of anxiety and arousal). The Sport Imagery Questionnaire (SIQ), created by Hall et al. (1998), captures the imagery used by athletes and gauges how frequently participants participate in five different forms of imagery.

Playing soccer can have both closed skills and open skills such as free kicks, corner kicks, penalty shootouts (closed skills), open skills such as dribbling, receiving and passing the ball. Ball control and goal scoring regarding the situation in the competition is constantly changing, there are players of the opposing team involved. Changing the tempo of playing from slow to fast However, dribbling, receiving-passing, controlling and shooting. This can be a closed skill in training situations. Because there are static things such as places, people around, so using visualisation to enhance football skills in playing in a static environment will help develop basic abilities to build on in competitive situations.

*2.2.7 Self-talk*

Several researchers described as occurring verbalisations or remarks about anything, as well as improving athletic performance and skills (Howland, 2007; Vealey, 2007). Self-talk is an overt inner conversation in which an athlete interprets instructions and reinforcement for oneself. Hardy, Hall, et al. (2001) gave one of the finest descriptions of the nature function of self-talk. Athletes use self-talk during

practice and competition, according to empirical studies (Cutton & Landin, 2007; Hardy, 2006; Van Raalte et al., 1994; Van Raalte et al., 2000). Self-talk has structural correlates, with neuronal activity in a number of brain locations linked to overt and subvocal self-talk, including in Broca's region in the left frontal cortex and Wernicke's region in the left posterior superior temporal lobe (Gibson & Foster, 2007). Which these two are responsible for speech production and analysing info from auditory part in order to get the word meanings, respectively.

1)Structure and forms of self-talk

Self-talk can be either positive or negative, and recognising which you lean toward and help you start making proactive adjustments in how you approach life's difficulties. Positive self-talk is the exact opposite of negative self-talk. It is not about narcissism or deluding oneself into believing false information. Jantz (2019) mentioned that it is more about extending compassion and understanding to yourself for who you are and what you have gone through. Our internal narrative shifts to concepts like "I can do better next time" or "I choose to learn from my errors rather than be held back by them" when we use positive self-talk. Negative self-talk is our negative self-talk habits are all too common; we rely on preconceived notions that we are "not good enough," "always a failure," or "cannot do anything correctly." Because our brains are built to remember negative events over good ones, we remember the instances when we did not quite get it right more than the times when we did. These signals are then replayed in our thoughts, fuelling negative emotions (Jantz, 2016).

The impact of three forms of self-talk on skill performance: instructional, motivational, and energetic (Goudas et al., 2006). The findings revealed that all three forms of self-talk boosted amateur athletes' throwing ability. After implementing a three-day self-talk training program in a swimming task, Hatzigeorgiadis (2006) investigated participants' perceptions of the usage of IST and MST. Motivational and instructional techniques were used to enhance participants' attention to the activity, according to their perceptions.

In a comparable study, Hatzigeorgiadis et al. (2007) found that IST increased accuracy performance more than MST, whereas MST merely improved power task performance. The impact of IST and MST on the perspective of 38 basketball players

was examined by Chroni et al. (2007). The players acknowledged that they employ MST in the dribble and shot, and that none of the interventions take precedence over the other in the pass. Tod et al. (2009) investigated the effects of motivation and IST on vertical jump kinematics and performance. Their findings revealed that self-talk had considerably more beneficial impacts than the control group. According to Perkos et al. (2002), the IST can be used as an appropriate tool for less complex skills by 62 young and novice players during the study. Tsiggilis et al. (2003) investigated the effect of IST on self-confidence and handball throwing performance skills in 46 physical education students and found no significant differences in skill performance or self-confidence confidence between the IST and control groups. Instructional self-talk is intended to aid performance by inducing desired movement through the use of proper attention, technique, and strategy execution (Theodorakis et al., 2000)**.** The researchers also state that motivational self-talk is intended to improve performance by increasing confidence, effort, and energy expenditure, as well as creating a positive mood. Some of example of instructional self-talk in basketball motor skills are for accuracy passing, “move your fingers to target carefully,” and for speed passing, “move your fingers to target quickly.” Where, motivational self-talk is "I can move my fingers carefully over the target" for a precise pass and "I can move my fingers to aim quickly" for a fast pass.

Hatzigeorgiadis et al. (2004) discovered that motivating self-talk enhanced distance in water polo throws whereas instructional self-talk and the control condition had no effect. Boroujeni and Shahbazi (2011) found that the instructional self-talk (IST) performed better than the other groups, significantly in passing and shooting accuracy in basketball players. IST is most effective on skills that require precision and timing, and motivational self-talk (MST) is most beneficial on skills that require speed. According to the Sport Psychology Concepts and Applications 7th Edition (2012). The authors discuss research that focuses upon the where when, what and why of self-talk. They referred to these factors as the 4 Ws of self-talk. The where refers to both sporting and non-sporting sites, sporting involve practice and competitive environment. Non-sporting relates with home and any quite place. The when, self-talk is most frequent during competitions and practice sessions respectively. Additionally,

it either takes place before or during competition. As the season goes from preseason to early season to late season, self-talk increases in a linear fashion. Team sport report use self-talk less degree than individual athletes as well as high skilled level athletes than low skilled athletes (Hardy, Hall, et al., 2001; Hardy et al., 2004). Third, "what" denotes the content of self-talk. It entails structure as well as task instructions. Structure is the use of cue words, phrases, and sentences, the most prevalent of which are phrases, is referred to as self-talk. Most of the task instruction is particular rather than generic. Self-talk can take the shape of uttered words or unspoken thoughts. Either positive or negative thoughts are present. Some of example evidence bases exists to support the use of self-talk for the purpose of enhancing self-confidence. Self-talk is a strategy used by both junior and professional tennis players (De Francesco & Burke, 1997). The why is self-talk serves two major purposes: cognition and motivation.

Self-talk is a tool for utilising to assist skill improvement execution, and strategy formulation. Hardy, Gammage, et al. (2001). Self-motivational talk's component is critical for establishing self-confidence, concentrating attention, regulating arousal, and maintaining drive. Self-talk has been used in various studies for performance improvement and specific skills in sports (Hardy, 2006; Hardy, Hall, et al., 2001). In male rugby players, the use of self-talk influenced vertical jump (Edwards et al., 2008). Self-talk improves stress management and shooting ability in basketball (Shaari et al., 2019) In soccer, self-talk is critical for improving mental abilities in players (Miçoogullari, 2016; Premananda & Bhowmik, 2017). Self-talk improves psychological well-being and mental toughness (Miçooğullar & Kirazci, 2016). Majority of the self-talk is involved cognitive element which needed to practice daily in the following techniques below.

1.Though stopping

Though stopping refers to a shift from negative to positive thinking for the sake of relaxation

2.Self-talk

Self-talk is linked to the activation of a new anticipation process that leads to higher confidence in a certain activity. Self-talk can be internal or external.

3.Pep-talk

Most pep talk methods involve increase activation level of athletes in promoting courage for the task the athlete encounter. The emphasis is on the team's missing component. If a team looks to take an opponent for granted, it must be instilled in them that any team may pull off an upset on any given night. Personal challenge, tales, poems, quiet, logic, and vocal inflections are all aspects of an effective pep talk. 4.Rational though

Reason, the ability to make sense of things, and the application of logic to establish and verify truths are all examples of rational thinking (Thefreedictionary, 2012). Therefore, stress is decreased.

*Self-talk in sport*

The previous mentioned context, self-talk can have an impact on athletic performance. Several research had discovered a link between performance enhancement, positive self-talk which promotes confidence and belief in one's abilities, and instructional self-talk which involves attention on skill tasks, therefore helping skills execution such as shooting and passing (Hatzigeorgiadis et al., 2004; Zourbanos et al., 2013). Theodorakis et al. (2012) revealed the performance assessment in areas such as particular motor activities, parts of more advanced sports, or in simulated tournaments were done laboratory setting. Due to the scarcity of studies on football performance, it is difficult to make firm conclusions about the significance of self-talk in the soccer.

*2.2.8 Goal setting*

Goal setting is a motivational concept that motivates athletes to be more productive and effective (Latham & Locke, 2007; Locke & Latham, 1990). In the sport psychology literature, three main categories of objectives have been identified: outcome goals, performance goals, and process goals (Kingston & Hardy, 1997).

1)Outcome Objectives

Outcome objectives focus on the outcomes of sporting events and usually involve some sort of interpersonal comparison. A typical outcome goal might be to win a basketball game, first place in a volleyball tournament, defeat an opponent in tennis, or finish the season with a winning record. It is very typical for coaches to

speak in terms of the number of wins they hope to have in a particular season.

2)Performance Objectives

Performance objectives define the result of the athlete's performance, which will be attained relatively independently of other performers and the team. Individual athletes may set performance goals such as striking out seven batters, scoring twenty-five points in a basketball game, serving five aces in a basketball game, serving five aces in a tennis match, or getting fifteen kills in a volleyball game. Athletes and coaches should focus on the surface, prefer performance objectives over outcome goals for two reasons. To begin with, if performance objectives are met, there is a strong chance that outcome goals will be met as well. Second, even if result goals are not met, personal pleasure may be gained by achieving performance goals.

3)Process Objectives

Specific behaviours displayed during a performance are the subject of process objectives. An example for athlete's process goal may be to keep the left elbow straight while driving a golf ball, to keep the elbow down and wrist firm while backhanding a tennis serve, or to concentrate on the spiker rather than the ball during volleyball blocking. Each of these actions demonstrates correct and efficient technique for doing a certain sports job. Improved performance and outcome should be the consequence if the athlete is successful in defining and fulfilling process goals. Goal setting requires deliberately establishing, updating, and evaluating progress toward a target. For example, a weightlifter may set a goal to improve his/her squat technique. A football kicker, for example, might mentally practice kicking field goals during rest days to prepare for upcoming games. Mental imaging is a form of mental activity that resembles a real experience but does not take place in its presence.

*Type of goals setting in team sports*

Several numbers of factors to consider when creating a goal-setting framework for coaches to utilise. The planning phase, the meeting phase, and the evaluation phase are all important parts of a team's goal-setting process (Cox, 2012). The planning phase is where the researcher conducts a need assessment before beginning the goal-setting planning phase, the researcher begins to focus on the team's overall strengths and shortcomings. There were strengths and drawbacks highlighted. The

researchers put down specific abilities or activities as team objectives after establishing the lists of team needs for enhancement. For example, the researchers in the study found flaws in psychological elements such as team cohesiveness, self-confidence, and anxiety regulation. The initial meeting is the most basic part of the meeting process. The coach conducts the initial meeting, during which conversation and reflection are conducted based on previous performance and projected future performance. Goals for outcome, performance, and process should all be taught so that athletes can perform in accordance with them. Winning and losing are common outcome goals, such as a goal to win first place in a swim competition or the state championship. The actual performance of an individual in comparison to their personal level of excellence is referred to as performance goals. Athletes may aim to develop their shooting abilities to be more precise to the set target for 5 consecutive shots or increase their dribbling skills to be as quick as possible without dropping the ball 2 seconds faster than the previous attempt. Goal setting is used by soccer players to create personal performance goals in dribbling, passing, shooting, and ball control, for example. Process goals are generally focused with an athlete's ability to perform a certain skill, demonstrate a specific technique, or execute a specific plan. Soccer players may place one foot firmly on the ground when shooting and another foot hit in the middle of the ball, or they can dribble the ball while maintaining ball control in their foot well are some of process goal examples. While there are arguments for focusing on one sort of goal over another, research shows that all three forms of goals can improve performance. Athletes who employ process and performance goals rather than outcome goals, according to studies, have less worry, more confidence, better attention, more satisfaction, and better performance. (Kingston & Hardy, 1997; Pierce & Burton, 1998)

During the season and at the end of the season, there is an evaluation phase. Individual and team goals are routinely considered. Following the training session and competition, the process and performance goals should be established. Every match and yearly soccer skills testing should include a statistical analysis of individual and team performance, which should be released after the game and the test. As a result, athletes can evaluate their own individual objectives. For improved evaluation of

process and technique goals, video recording should be employed. As it involves success and failure, the outcome is easy to monitor. Because it is clear that an athlete is lacking his or her performance goals at this stage, the coach has set up a one-on-one session with the athlete on his or her schedule. As a result, the athlete's commitment, and capacity to achieve the goal may be assessed. For a successful goal-setting process, constant monitoring, reflection, and assessment are critical. The researcher educates the SMART concept as well as develop individual targets in a later discussion. When creating goals, athletes and coaches should use the term SMART. Goals should be specific, measurable, action-oriented, realistic, and timely. After taking the necessary time to identify personal goals, the meeting calendar is established. The athlete's objective statements are compared to those prepared by the coach during the planning phase at the first meeting. As a result, the coach and the athlete decide on specific targets. The athletes must be willing to pursue the objectives. According to Fairall and Rodgers (1997) assigned objectives are just as successful as participative or goals are set upon a person for achieving desired outcomes. Meanwhile, fundamental soccer skills are being noted among soccer players, and they need to be improved. As a result, the present study's need evaluation is to (a) enhance dribbling abilities, (b) pass, (c) shoot, and (d) control the ball. Soccer multi-faceted tests are used to assess soccer skills above.

*Goal setting theory*

Goal Setting Theory is a well-known theory that has been widely used in goal-setting research and practice (GST). Goals, according to Locke and Latham (2002) can improve performance through four processes. Setting objectives, for starters, focuses effort and attention away from non-goal-related activities. Second, objectives may energise a person while performing a job, with more demanding goals requiring more effort than easy ones. Third, objectives have an impact on goal-related task perseverance. Finally, objectives can influence behaviour through influencing the use of task-relevant techniques and information. Several modifiers of the goal-setting performance connection are also proposed by Locke and Latham (2002). High levels of commitment to goals, for example, are predicted to improve performance, especially when the goals are tough (Klein et al., 1999). In sport and performance,

goal setting is a common technique (Weinberg et al., 2011). Athletes frequently seek a variety of short, medium-, and long-term objectives, which may include winning an event as outcome goals, achieving a personal best which is performance goals, or refining technique or strategy recognised as process goals**.** These objectives can be used individually or simply setting objectives or in combination which focus on both outcome and process which might be linked with the same or different goals.

The relevance of goal achievement and the extent to which individuals feel the goal is feasible can help people commit to their goals. Feedback and task difficulty are also modifiers of the goal-setting performance connection. Goal setting requires feedback because it educates people about their progress toward their objectives and helps them to make any required modifications to their effort or task-relevant methods. Furthermore, goal setting may be less successful for complicated activities, where the capacity to identify acceptable goal methods may be more essential than the complexity of the task. Furthermore, goal planning is a common activity among high-level athletes (Orlick & Partington, 1988) and research supports the GST concepts in athletic situations is stated by Kyllo and Landers (1995). SMART is applied to the sport context, and guidelines for applied goal setting in sport have been created, which are linked with the core concepts of GST. Athletes are advised to create objectives based on the SMART principles. The term of SMART was first known used by Doran (1981). The aforementioned elements promote athlete goal setting for effective performance, which is critical for this study's population of soccer players to achieve optimal athletic performance.

With aforementioned theoretical aspects and principles has been described, this study adopted the four techniques for implementing PST in soccer players. Goal setting with SMART principle to analyse and keep track on progress for sample group performance, breathing control for calming down the temper, external imagery to visualise particular situation in soccer scenario and self-talk usage is for motivating their selves in unflavoured situation and soccer performance improvement.

**2.3 Fundamental aspect of soccer skills**

2.3.1 Background

Soccer is one of the most well-known sports in the world (Kurt et al., 2012). For example, there are more than 30 million recreational soccer players in Brazil, a country with a population of over 180 million people (Bloomfield et al., 2007). Soccer is a sport in which players compete as part of a team. To succeed, highly specialised players in certain roles and responsibilities must assist one another. Each player on a good soccer team should be trained not just for conditional qualities like endurance, strength, speed, or agility, but also for technical and tactical attributes. As a result, depending on his or her playing position, each player should have distinct physical, physiological, and psychological characteristics (Gil et al., 2007)

2.3.2 Soccer skills

According to Bate (1996), all sports, to various degrees, require the use of cognitive, perceptual, or motor skills. Soccer requires all three categories of ability since it is played in a fast-paced setting. (Bate, 1996). ‘‘The learned capacity to bring about pre-determined consequences with greatest certainty frequently with the least investment of time or energy or both," according to the traditional definition of skill (Knapp, 1963). Soccer is a free-flowing sport that necessitates the application of a variety of skills in a dynamic environment. As a result, while there are certain ‘‘closed skills" such as taking a free kick, soccer is mostly a ‘‘open skill" sport (Knapp, 1963). The basic soccer skills including dribbling, passing, shooting and ball control are discussed below.

*Dribble*

The finest dribblers make it appear as if the ball is tethered to their feet. These players can also quickly switch from one foot to the other. Inside and outside hooks, stepovers, spins and turns, and the Cruyff turn are all examples of dribbling. The research revealed similar results that soccer is a dynamic, high-intensity sport that requires skillful mobility (Bloomfield et al., 2007; Cometti et al., 2001; Mohr et al., 2003)For the more crucial moments of a match, like winning possession of the ball, dribbling around an opponent, or scoring a goal, technical skills are considered critical

to performance. In such key moments of the game, the speed and accuracy of dribbling are important. It is no wonder, therefore, that dribbling, or sprinting while maintaining possession of the ball, is seen as a crucial part of a young player's training (Malina et al., 2005; Reilly et al., 2000).

*Receiving-Passing*

Receiving a pass is an essential skill. When the ball is passed to you in a game, you must "catch" it on your foot and immediately control it. Soccer players practise their "first touch" to improve their ability to control balls passed to them. The talent is demonstrated in the video below, along with instructions on how to practise it. Kicking, pushing, or heading the ball to a teammate or a location where a teammate may rush to the ball is known as passing. A player can softly tap the ball to a teammate a few feet distant or kick it hard along the field to advance it. The ball may either slide along the ground or be kicked high into the air. Passing allows players to create attacks or move the ball away from opponents. Passes can be on the ground or in the air, and they can span small or long distances, these are type of passes. Short-range aerial passes are the simplest to pull off, while long-range air passes are the most challenging. There are benefits and drawbacks to each sort of pass. All players, especially goalkeepers, must master the art of passing. Passing can be done for a variety of purposes, including removing the ball from a potentially dangerous area, aiding your side in keeping possession, or attempting to generate a scoring opportunity. The researchers affirmed that soccer players need to be able to transfer the ball to a teammate accurately, and numerous researchers have created tests to assess this feature (Haaland & Hoff, 2003; Rosch et al., 2000; Rostgaard et al., 2008).

*Shooting*

A soccer match's obvious goal is to score more goals than the other team. As a result, the ability to score goals is one of the most highly appreciated and significant skill components in the game (Jinshan et al., 2003). Without goals, soccer would be a void. The only way to score is to shoot, unless a player’s head the ball, score an own goal, or get a fortuitous deflection. This may be done from nearly any location on the field, but the closer the player is to the opponents' goal while taking a shot, the higher chance of achievement. There are a variety of ways to score a goal; nevertheless, you

should always strike the ball as hard as can without compromising precision. Basic shot, curved shot, chip, scoop and lob, full and half volley, bicycle kick, and heading are all shooting types.

1)The simple shot

Whether a shot is long- or short-range, placed or blasted, certain rules apply. To avoid the ball flying over the crossbar, aim it either side of the goalie and keep it down.

2) The curving shot

It takes a precise stroke, both in terms of the section of the foot utilised and the impact location on the ball, to perform this shot successfully. Connect with your instep on the ball's base for an inswinging strike the same location on the outside of your foot for an outswinger.

3) Chip, scoop and lob

When a goalie is off his line, a goalkeeper can be beaten by lofting the ball above his head and weighting the shot so that it falls under the crossbar. The chip, scoop, and lob are the three techniques for doing this, and they all rely on touch, time, and judgment.

4) Volleying kick

A perfectly struck volley into the net is one of the most gratifying sights in soccer. This method, which involves hitting a moving ball, is also utilized to execute quick crosses, clearances, and passes. Volleyball requires a high level of foot-eye coordination. When done correctly, the effects may be breathtaking. The full volley is when the ball comes at you without touching the ground, you employ the full volley. A well-executed full volley demands impeccable timing, poise, and focus. Half volley is when the ball bounces just before you strike it, you accomplish a half-volley. As a result, it is occasionally on the increase at the time of impact. If you can hit the ball at the same time, it hits the ground, the shot will gather greater momentum since the ball will not bounce and will lose less energy.

5) Bicycle kick

When a cross appears to be misplaced behind you, you might use the bicycle kick. Alternatively, by flicking the ball up to strike, up for an overhead kick with your back to the goal.

6) Heading

For any young players learning the game, heading the ball is counterintuitive since they believe it would injure them. It is, nevertheless, a necessary talent to learn because the ball is in the air for around 30% of the time throughout a match. There are several types of headings, including basic, flick, defensive, and diving headers.

6.1 Basic heading

Passing and goal attempts are made with the basic header. It is made with the forehead because it has the most power and accuracy and does not hurt like the top of the head. Bend knees and arch back as jumping for the ball, forming a bow. Tilt head back first, then use the neck muscles to quickly bring it forward.

6.2 Flick header

The flick header is used to direct the ball in a sideways or backward direction. It is beneficial when a midfielder wants to flick the ball back to a defender; or when a striker wants to bring the ball inside the penalty area without exposing his/her intentions from a near-post cross or corner; a defender facing upfield wants to head the ball back to his goalkeeper.

6.3 Defensive header

The most crucial element for defensive header is required to gain adequate height and distance on the ball. It's typically safer to steer it away from the field's centre.

6.4 Diving header.

Strike the ball with the player entire body, like a battering ram. Because a player run the danger of receiving a kick in the face from a defender, this talent is typically only utilised to try to score. When the ball is between his/her neck and knee height in front of you, this is an option.

*Ball control*

The key to controlling a game is possession because a side is only in possession when one of its players has control of the ball. One of the essential soccer skills is achieving this. If the players cannot manage to successfully control the ball, no matter how well a pass is delivered, it will be squandered. When the ball is played gently to the feet, it is simplest to control, but players must be prepared to reach it at any height, from any angle, and at any pace. The first touch of a player is important. The finest players can control the ball and place it exactly where they want it with the same touch, they used to control it, giving them time and space to plan their next move. Other parts of the body, including as the thigh, chest, and head, can be used to control the ball.

1)Control with thigh

The athletes catch the ball with the top portion of their thigh and can successfully control it.

2)Control with chest

The ball is typically crossed from the distant location where the ball was in the air before the athlete stopped the ball with his/her chest.

3)Control with head

The heading is hard, and a degree of bounce is unavoidable, but there are occasions when there is no other option.

4)Control with feet

Getting into a position to receive the ball early is the easiest method to control the ball with your feet. Kick a ball against a wall and control the rebound at various heights, strengths, and angles to practice this. As you gain experience, have a teammate rebound the ball for you so that you can make rapid changes. The inner and sole of the foot are used in basic foot-trapping procedures. The players will be able to go to the outside, top, and side volley traps gradually.

4.1 The inside of the foot

This is the simplest method of ball control. Instead of landing precisely at your feet, the ball should land approximately a step ahead of you.

4.2 The sole of the foot

The easiest way to control a ball that is falling near your feet is to pin it to the ground with the underside of your foot.

4.3 Outside foot

Use the outside of the opposite foot if the proximity of opponents prevents you from using the inside of your preferred foot.

4.4 Cushion for the feet

This is a tough strategy to master since the player requires to use the narrowest area of the foot to control a descending ball.

4.5 Trap on the side

When the ball is too high to trap yet too low to chest down, this technique is utilised. For effective performance, the method necessitates flexibility.

Soccer skills are various, soccer players can use any part of body to play the ball except arm and hand, therefore it is crucial for soccer players to practice their soccer skills for optimal performance level. Dribbling, ball control, passing and shooting are essential soccer skills.

**2.4 Mental Toughness Inventory (MTI) and soccer specific skills test**

2.4.1 Mental toughness inventory (MTI)

The original version of MTI was completed by Middleton et al. (2005) Later, Julvanichpong (2010) created the Thai version of the mental toughness inventory. The back translation was also used to assess the Thai version's construction, content, validity, and reliability. The inventory included a self-report scoring system with an 8-point rating scale. (From 1 to 8, 1 means it is not true for me and 8 means it is true for me). In the following time, MTI was also used in rugby group (Tienphati et al., 2016). The MT was represented by 12 different components in the inventory. Each component had three minor components. The following elements can be found in the questions: Self – Efficacy (item of 4, 16, and 28), Positive Comparisons (item of 8, 20, and 32), Task Value (item of 9, 21, and 33), Potential (item of 6, 18, and 30) , Task Familiarity (item of 10, 22, and 34), Personal Bests (item of 2, 14, and 26), Stress Minimisation (item of 3, 15, and 17), Mental Self – Concept (item of 12, 24, and 36), Positivity (item of 11, 23, and 35), Perseverance (item of 7, 19, and 31), Task Focus (item of 5, 17, and 29), and Goal Commitment (item of 1, 13, and 25). The questionnaire's Cronbach Alpha Coefficient value is .95.

2.4.2 Loughborough Soccer Passing Test (LSPT)

LSPT is a testing regimen designed to evaluate passing ability in the absence of any complicating factors. The LSPT was initially introduced as a timed short distance passing exam (Ali et al., 2003). LSPT was validated in several studies with the soccer population such as semi-professional and elite university soccer players (Ali et al., 2007). In the following period, the LSPT was used in many researchs (Ali et al., 2007; Foskett et al., 2009; Gant et al., 2010; Lyons et al., 2006; Stone & Oliver, 2009) Moreover, LSPT also validated in female soccer population (Ali et al., 2008). Adolescent players (O'Regan et al., 2006).

*The reliability and validity of LSPT*

Ali et al. (2007) studied the LSPT's reliability and validity. To see if there were any variations in physiological characteristics between groups, the Paired Student's t-tests were utilised. Student t-tests were also utilised to see if there were any variations in skill scores between trials and groups (paired t-test). Criterion validity was determined using median-split analysis. To examine dependability between sets of scores, Pearson's correlation (r) and intra-class correlation coefficients (ICC) were utilised.

Three LSPT variables for elite and non-elite athletes described as follows, mean time taken was 40.2 (s) vs 42.2 (s), penalty time was 3.3 (s) vs 10.3 (s) and total time was 43.6 (s) vs 52.5 (s). The LSPT, the time only, penalty time, and total time were less in elite players (elite: 43.6 s; non-elite: 52.5 s). Later, Ali et al. (2008) investigated the validity of LSPT in elite and non-elite female soccer group. The variable means for time only, penalty time and total time were 54.6 vs 61.6 (s), 22.8 vs 35.9 (s) and 77.4 vs 97.5 (s) respectively. In this study, mean time only was 57.30 (s), penalty time was 28.43 (s) and total time was 85.73 (s) in the control group. In experimental group, mean time taken was 52.45 (s) penalty time was 26.31 (s) and total time was 78.76 (s).

*The LSPT procedure*

The LSPT players must make 16 passes as rapidly as can against coloured target zones, with penalty time earned for imprecise passing and poor ball control. Passing, dribbling, and ball control are three soccer abilities that participants demonstrate. Participants begin with a ball in the middle rectangle and proceed to pass the ball to the designated colour targets when the examiner calls for it to be played into the passing area. The examiner announces the following pass as the ball is being played. Before proceeding onto the following pass, the participants must bring the ball within the inner rectangle with the fastest performance possible and pass the ball to the colour target zones situated on regular gymnasium benches. In this study, movement time is considered as gross motor skill whereas, fine motor skill is penalty time. Nonetheless, the order of passes is predetermined, the participant has almost no control over where he or she passes, and the time and weights of each pass stay essentially consistent. Despite the fact that rigorous rules exist, the investigator is in charge of determining the correctness of the pass and therefore the performance. Two trails for performing test. It takes no more than 50 seconds individually per trail, two sets performance.  35 minutes in total for twenty-two participants.

The dimension of the LPST at the testing venue. Four traditional gymnasium seats were installed on each of the four lines that make up the 12 x 9.5 m grid, as indicated inside of the benches. Each card is 0.6 x 0.3 m long and comes in four colours: green, blue, red, and white. Cards were attached to the centre of each bench, and a 0.1 x 0.15 m piece of metal was taped vertically in the centre of the target zones. The strip was only attached to the bench on the top, leaving the bottom hanging free, so that when the ball contacted the strip's centre, the player could hear confirmation of a good pass. Yellow tape was used to designate the inner 1x2.5 m and outside 2.5x4 m rectangles, and the passing zone was the area between these lines. Coloured cones separated the three zones, with a third cone in the centre of the inner rectangular space.

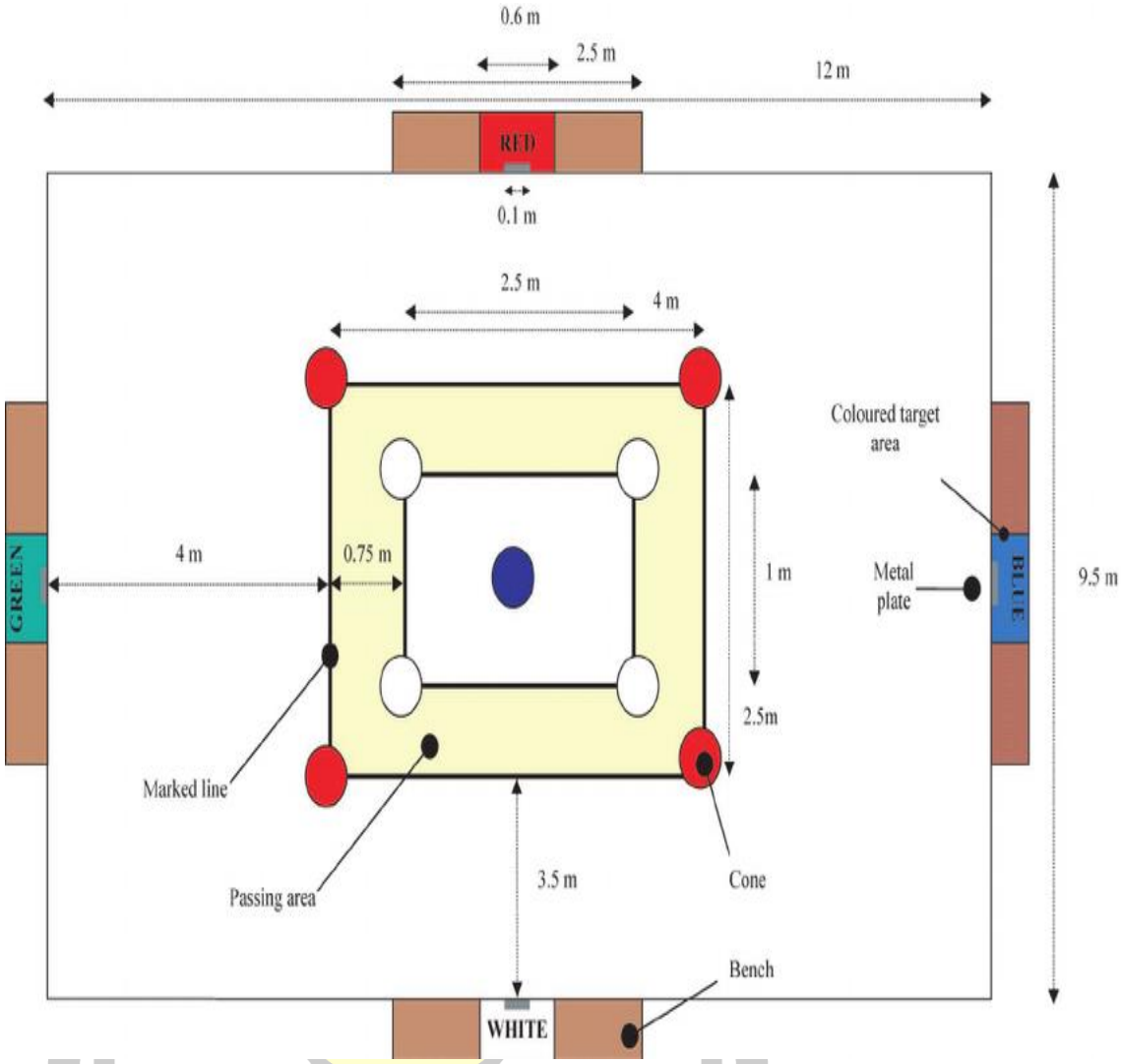



*Figure 2* Loughborough Soccer Passing Test (LPST) Ali et al. (2007)

*LSPT measurement*

As previously said, participants must demonstrate a greater level of proficiency in soccer abilities, with three criteria to consider: Time taken, penalty time and performance time. For soccer players to be able to compete during the tournament, they must have adequate performance time, accurate passing, and overall performance time. Four distinct colours including white, green, red, and blue with the scoring zone of each target being displayed in a different colour and having a restricted length. The ball landed in a colour scheme scoring zone, and at the overlap of colour and no-colour zones, the award points differed based on which scoring zone the participant landed the ball in. Furthermore, on the land of the ball at the junction

zone of colour and no-colour, the examiners' opinions on giving points may be different. The examiner records the time taken or movement time to complete sixteen passes and award penalty time for the following errors: 5 seconds for completely missing the designate target areas or hitting on the wrong bench, 3 seconds for missing the target area, 2 seconds for passing the ball from outside of the designated rectangular area, 2 seconds for the ball touching any cone, and one second for every second over the excess allocation of 43 seconds to complete the test (16 passes). If the ball strikes the ten centimetres strip in the centre of the target, one second is subtracted from the overall time. This is the final summary for a flawless passing grade. As a result, overall performance time includes the time spent completing the sixteen passes as well as the penalty time. 2.4.3 Loughborough Soccer Shooting Test (LSST)

LSST test was used to measure shooting accuracy, which has been shown in the study to be a legitimate and accurate means of evaluating soccer skill (Ali et al., 2007). LSST has been validated in numerous soccer studies involving semi-professional and elite university soccer players (Ali et al., 2007; Foskett et al., 2009; Gant et al., 2010; Lyons et al., 2006; Stone & Oliver, 2009). The LSST has also been proven in a female soccer population (Ali et al., 2008). Players under the age of 18 (O'Regan et al., 2006). Shooting at target areas within a full-sized goal is required for the LSST. Players must continuously consider how to effectively manage the ball, position themselves for the next pass or shot, and so forth. Players must use other parts of soccer play such as passing, control, decision making as well as shoot at the goal at "realistic" ball speeds while staying within the shooting zone and evading the stationary, life-size goalkeeper. Participants are given a time limit for each shot to simulate pushing defenders in a game scenario. This increases the predictability of how the test performance is assessed in real-world situations.

*The reliability and validity of LSST*

Ali et al. (2007) evaluated the reliability and validity of the LSST To see if there were any physiological changes between the groups, the Paired Student's t-tests were utilised. Student's t-tests were also performed to see if there were any variations in skill scores between trials and groups (paired t-test). Criterion validity

was examined using median-split analysis. The intra-class correlation coefficients (ICC) and Pearson's correlation (r) were employed to determine score dependability. Ali and colleagues (2007) revealed the mean points earned per shot for the LSST were the same for both groups (elite: 1.34 s; non-elite: 1.28 s). Elite players had a faster average shot speed (elite: 80 km/h; non-elite: 74 km/h) and completed each shot sequence faster (elite: 7.87; non-elite: 8.07 s) than non-elite players. Elite players were more consistent in their results on both tests. There has been no specific investigation in female soccer players. In this study, time taken were 7.66 s, shot speed 55.32 km/h and 1.54 points per shot in control group. In experimental group, time taken were 7.12 s, shot speed 55.79 km/h and 1.62 points per shot.

*The LSST procedure*

Participants must exhibit a higher degree of skill in soccer skills such as passing, ball control and decision making, as previously stated. The ball was put on a designated circle in the centre of the shooting zone to begin the test. The player began by standing facing away from the goal, toward the bench, and within striking distance of the ball. Following the investigator's call, the player was ordered to sprint to the cone, touch on the top, and then return to the ball at the designated square's centre point. The player then controlled the ball if required, turned, and scored towards the goal within the shooting area after playing a rebound pass off the bench. The athlete had to sprint between two cones positioned 5.5 metres distant from and directly in front of the goal to follow the shot. Each participant completed a single trial with 10 shots and a 30 second rest interval between each shot sequence. The length of the LSST with twenty-two participants is two hours and three minutes.

*LSST dimension*

All the test's boundary lines were drawn on the floor with 5-cm grey tape. Shots were taken from within an 8.5 × 8.5 m square "shooting zone," which was designated with the nearest line 16.5 m from the goal line. A normal gymnasium bench was put in the centre of the far side of the zone to function as a rebound board, with four cones marking each corner of the shooting zone. A full-size soccer goal measuring 2.44 x 7.32 m was divided into scoring zones and marked with 5-cm grey tape and 1 cm diameter orange rope. Ali et al. (2007) study employed a life-size

stationary goalkeeper, while this study did not. The researcher utilised a live goalkeeper for a more realistic setting to increase the test's ecological validity.

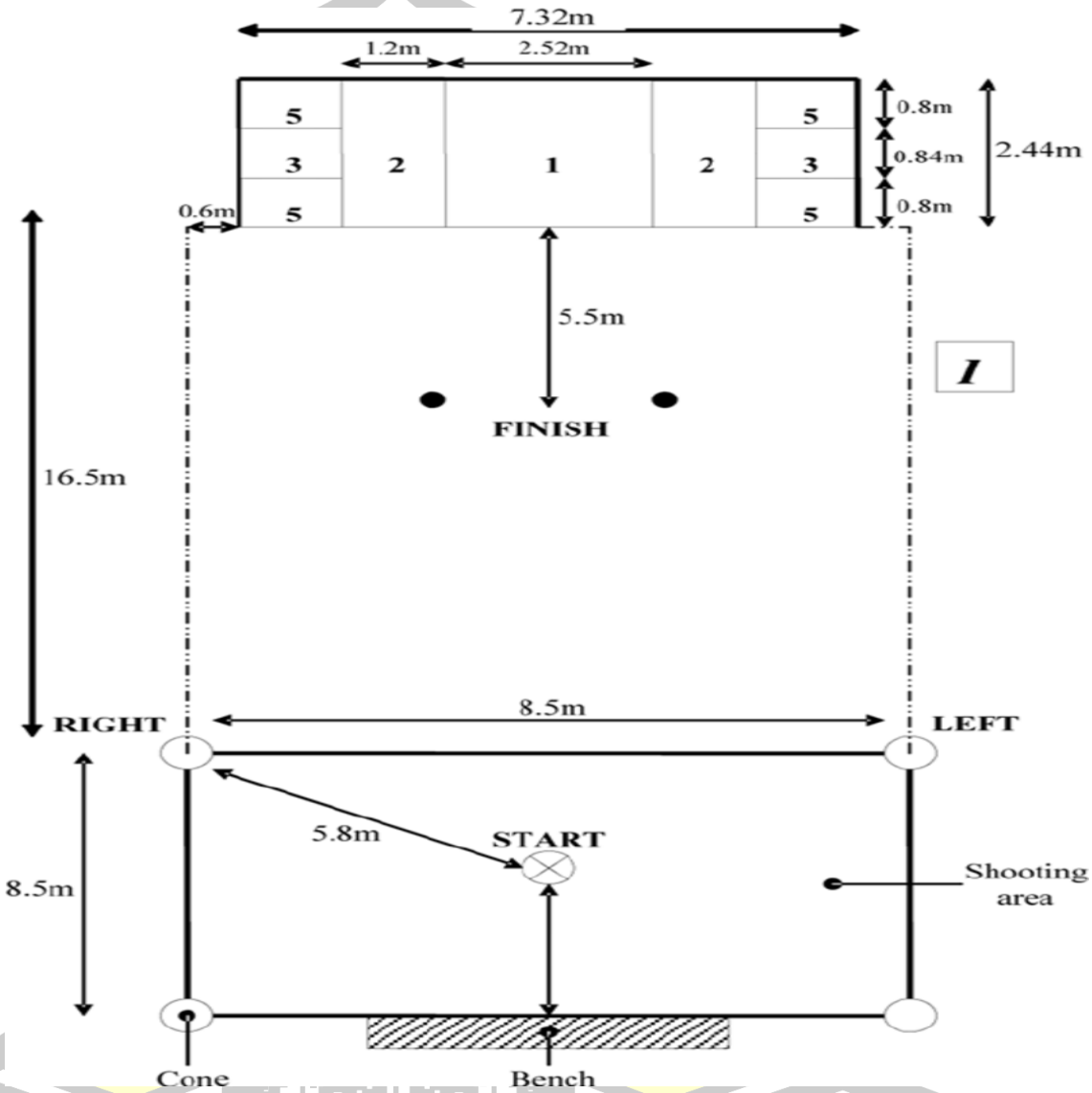



*Figure 3* Loughborough Soccer Shooting Test (LSST) Stone and Oliver (2009)

*LSST measurement*

Each player, a total of 10 trial orders were chosen at random (five to the left and five to the right). The scoring zones within the goal represent the best location of a shot to beat an opposition goalkeeper. 1-5 points depending on scoring zone that hit by the player. Any shots taken outside of the approved shooting zone or that took longer than 8.5 seconds to complete were disqualified. Three criterions to consider:

time taken to complete for each shot, shot speed and point per shot. The shot speed was measured using the SpeedChek sports radar equipment (Tribar Industries Inc., Coachwise 1st 4sport, Leeds, UK). Two trails for performing the test. In this study, the researcher applies the applicable speed radar to detect the ball speed. Potent speed radar was utililsed to detect speed ball in this study.

The mental toughness measurements were various. The measurement is crucial for variables analysis. MTI was utilised in this study based on its validity and reliability in Thai sport population both nationally and locally including soccer players. Therefore, it is applicable to use a measurement to determine the outcome of this study. Soccer skills test (LSPT and LSST) is also significant with the proven of reliability and validity in previous studies. Thus, this study is utlised the soccer tests above to investigate the outcome of soccer skills.

**2.5 Related literatures**

2.5.1 Psychological Skills Training's Effectiveness on Mental and Sporting Skills.

According to prior research, PST affect both mental and athletic skills, which they are key aspects for optimum sport performance. PST can assist athletes in developing essential psychological skills for optimal performance level in sports (Gardner, 1995; Gardner, 2009). PST is one of the most well-known strategies for optimising athlete's performance (Vealey, 1994; Whelan et al., 1991). It has been widely investigated in sport setting. According to a meta-analysis research, PST had a favourable effect on a wide range of sports in both individual and team sport-based (Vealey, 1994). PST is deemed to be useful for variety of sport for mental preparation which facilitate the achievement in sport performance and personal well-being (Vealey, 2007; Williams & Harris, 2001). Most studies have examined on four key psychological skills training: goal setting, mental imagery, relaxation, and self-talk (Wadey & Hanton, 2008). The following articles are relevant to the present investigation. According to research done by Heydari et al. (2018), PST has a significant impact on athlete self-confidence. The study's purpose was to investigate the influence of psychological skills training including goal setting, positive self-talk,

and imagery in adolescent volleyball players' self-confidence. A total of 100 male adolescent volleyball players from Sarakhs, North Khorasan Province, Iran, were involved in the study. Using the basic random sampling approach, a total of 30 people from the study population were enrolled in the study and divided into two groups which experimental and control groups, each with 15 participants. Goal setting, positive self-talk, and imagery were all part of the psychological skills training, which included 24 sessions spread out over three weeks and lasting 20 minutes each. Prior to physical and technical training, this training was completed. The experimental group received both psychological and physical and technical training, whereas the control group received only physical and technical instruction. The study's findings revealed that the psychological skills training program had a substantial impact on adolescent volleyball players' state and trait self-confidence (p 0.05).

The influence of a mental skills training program on gymnasium triathlon performance was investigated by Thelwell and Greenlees (2001). Five people took part in a single-subject multiple baselines across persons design that was used to evaluate a goal setting, relaxation, imagery, and self-talk intervention package. The study's findings showed that the mental skills package helped all five individuals improve their triathlon performance. In addition, from the baseline to the intervention periods, all individuals increased their use of mental abilities. Following up with social validation checks, all participants agreed that the intervention was successful and pleasant, and that the delivery and substance of the package were both satisfactory. Finally, the findings add to the growing body of data that mental skills training programs can improve endurance performance. The effect of a psychological skills training program on netball shooting performance was examined by Shaari et al. (2019). A total of 46 competitors ranging in age from 13 to 16 years old competed. The intervention will last for eight weeks. This research employed a combination of diaphragmatic breathing and imagery, self-talk, and physical exercise. Group 1 did diaphragmatic breathing, imagery, and physical practice. Group 2 completed diaphragmatic breathing, imagery, and physical practice. The second group completes the DB and self-talk exercises, as well as physical practice. Group three focuses solely on physical training. Each session was 30 minutes long. When the two treatments

were compared to a control group, the primary impact was substantial. However, the G2 did not differ much from the G3. The findings revealed that netballers of all skill levels who utilised PST, either G1 or G2, improved their netball shooting performance. It was also discovered that G1 performs better in netball shooting than G2 and G3.

The appeal of self-talk derives from its link to athletic performance. Positive self-talk has been linked to improved performance in a number of studies. Researchers recently coupled self-talk with mental skills and found that athletes' performances improved (Kolovelonis et al., 2012). Cumming and Ramsey (2008) stated that sport imagination is a prevalent skill that athletes utilise at various levels to improve various elements of their performances, such as skill refinement and improvement, excitement regulation and degrees of activation, cognitive management, and motivators. A specific mental skill method known as imagery has been studied in numerous studies to help athletes enhance their performance (Orlick, 2015; Orlick & Partington, 1988). Locke and Latham (1985) proposed that the principles of goal-setting theory might be applied to the competitive athletic environment as a consequence of the strong observations from organisational settings. Precise, demanding, and self-generated objectives have a greater impact on performance (Locke & Latham, 1990). The influence of goal setting on rugby players was studied by Mellalieu et al. (2006).The purpose of the study is to replicate and expand the goal-setting research to competitive rugby in order to overcome the existing methodological and conceptual limitations in the applied goal-setting literature. 5 male rugby union players, all between the ages of 21 and 24, who were starters for a team playing in the National Collegiate Rugby Union Championships. Goal setting appears to be beneficial for improving task-specific on-field behaviour in rugby union, according to the findings. Mellalieu et al. (2006) examined the impact of setting goals on rugby performance is studied. Using self-generated objectives and goal-attainment scaling, 5 collegiate rugby players were evaluated over the course of a competitive season. During the research period, 20 games were played over the course of a season. The baseline phase included the first ten games of the season; the

intervention occurred at the midway break; and the postintervention phase included the last ten games.

Goal setting appears to be beneficial for improving task-specific on-field behaviour in rugby union, according to the findings. The findings, which are relevant to rugby players, duplicate and expand prior studies (Wanlin et al., 1997; Ward & Carnes, 2002), indicating that goal-setting treatments can be beneficial for improving certain performance behaviours in rugby players. The impact of instructional and motivating self-talk on vertical jump height was studied. The goal of this experiment was to see how instructional and motivating self-talk affected vertical jump performance and kinematics. 12 males (17-24 years old) and 12 women (aged range between 16-28) completed a 10-minute warm-up on a stationary cycle. On a force plate with a 1000-Hz sampling frequency, participants did four vertical leaps, three minutes apart. Participants used one of four counterbalanced treatments, which comprised motivating self-talk, instructive self-talk, neutral self-talk, or no instruction, before each trial. The findings suggested that self-talk causes higher rotational velocity around the knee, resulting in increased impulse and jump height. A hypothesis that has to be tested empirically. Self-talk may help you perform better in sports that need a lot of strength (Tod et al., 2009). The impact of a one-on-one goal-setting program on goal orientation, self-confidence, and driving accuracy among ordinary golfers. The objective of this study was to see how a four-week individual goal-setting intervention program affected typical golfers' driving accuracy performance, state self-confidence, and goal orientation. Participants (n = 43) were recruited from two intermediate golf physical activity classes. The experimental group (n = 20) was instructed on all facets of good goal setting, whereas the control group (n = 23) was told to do their hardest. Overall goal orientation was measured using the Sport Orientation Questionnaire (SOQ) (Gill & Deeter, 1988). Each participant's sport confidence was assessed using the State Sport Confidence Inventory (SSCI) (Vealey, 1986). The statistical differences between groups for driving accuracy and self-confidence were investigated using two-way ANOVAs with repeated measurements. The statistical differences between groups for driving accuracy and self-confidence were examined using two-way ANOVAs with repeated measurements. The link

between pre-goal orientation and driving accuracy performance was investigated with correlation coefficients. Goal setting and driving accuracy performance had a substantial connection, according to the findings (Shivetts, 2006).

Groslambert et al. (2003) looked at the impact of combining autogenic and imagery training on biathlon shooting performance. The goal of this study was to see how a shooting training program, which included autogenic and imagery training, affected the stability of hold, heart rate, and standing shooting performance after a wide range of physical activity. It was predicted that following a program incorporating both shooting and mental training, biathlon shot accuracy during exercise circumstances might be enhanced. This research included sixteen elite biathletes from the French national team (12 men, 4 women, M age = 21.5 years, M experience in biathlon = 6 years). Before the trial began, the subjects completed an informed permission form. Both groups employed a baseline measurement (Time 1) of the TT-S, SP, HR SP, and HR TT-S. Then, for six weeks, participants in both groups received standard instruction from a professional shooting teacher and followed a 24-hour instructional process of classical shooting training based on precision shooting (1-hour training sessions four times per week for six weeks). Both groups had intermediate measures (Time 2) of TT-S, SP, HR SP, and HR TT-S after this training session.

The experimental and control groups then received their individual shooting instruction. The same variables were assessed in both groups at the end of the program (Time 3). Both groups employed a baseline measurement (Time 1) of the TT-S, SP, HR SP, and HR TT-S. Then, for six weeks, participants in both groups received standard instruction from a professional shooting teacher and followed a 24-hour instructional process of classical shooting training based on precision shooting (1-hour training sessions four times per week for six weeks). Both groups had intermediate measures (Time 2) of TT-S, SP, HR SP, and HR TT-S after this training session. The experimental and control groups then received their individual shooting instruction. The same variables were assessed in both groups at the end of the program (Time 3). The experimental and control groups then received their individual

shooting instruction. By strengthening biathletes' postural control and grip stability, the shooting training program paired with AT+IM delivers significant increases in standing shooting. Hatzigeorgiadis et al. (2004) investigated the effect of self-talk on thinking content and performance on water-polo tasks. Sixty participants from a swimming class (30 males and 30 females) with no prior water polo experience. The average age was 20.7 years old. The researchers wanted to see how instructional and motivating self-talk affected the incidence of distracting thoughts and performance on two water polo activities with similar features that were completed in the same setting. Two tests were carried out in the pool, one including an accuracy task (throwing a ball at a target) and the other involving a power task (throwing a ball for distance). Both self-talk groups increased their performance compared to the baseline measure in the first experiment (precision task), with those utilising instructional self-talk improving the most. Only the motivated self-talk group significantly improved its performance in the second experiment (power task). Both groups experienced fewer distracting thoughts in both tests. The study's findings add to the evidence for self-efficacy talk's and provide preliminary evidence for the processes by which it influences performance, namely, suggestions that self-talk lowers non-task-related thinking, therefore improving attention on the job.

A comparison of mental methods used during the performance of athletic skills was investigated. The effects of performance enhancement methods (PETs) on motor skill performance were investigated in this study. A total of 150 college student volunteers (men = 41; 27.3 percent; women = 109; 72.6 percent) were randomly allocated to one of 9 conditions. Different techniques to psychological skill training were used in each condition. When compared to a no-instruction control condition, individuals who implemented several (PETs) improved their putting accuracy across all overall difference score evaluations. Participants who supported ten hours or less of athletic activity per week chose self-talk methods, while those who endorsed ten hours or more of athletic activity per week preferred imagery tactics, according to follow-up studies (Peluso & De Andrade, 2005), The psychological skill approaches were assessed in terms of whole-body endurance. The goal was to undertake a comprehensive literature review to discover effective psychological therapies that enhance endurance performance as well as other psychological variables that

influence endurance performance. Additional goals included evaluating the included studies' research procedures, suggesting theoretical and practical consequences, and guiding future research. Despite the fact that no systematic literature reviews have been conducted to identify and evaluate research on the psychological determinants of endurance performance, sport psychology performance enhancement guidelines for endurance sports are not based on a systematic review of endurance-specific research. To find relevant papers, researchers employed electronic databases, forward-citation searches, and manual reference list searches. Peer-reviewed studies were eligible if they used an experimental or quasi-experimental research design, a psychological manipulation, endurance performance as the dependent variable, athletes or physically active, healthy adults as participants, and they used an experimental or quasi-experimental research design, a psychological manipulation, endurance performance as the dependent variable, and athletes or physically active, healthy adults as participants. The results of the session revealed that utilising imagery, self-talk, and goal planning to increase endurance performance has a lot of support, but it is unclear whether learning many psychological abilities is better than learning one (McCormick et al., 2015).

Hatzigeorgiadis et al. (2011) examined the relationships between self-talk and athletic performance. The goal of this study was to look at the impact of self-talk treatments on task performance in sports, as well as various moderators of self-efficacy. The final meta-analytic database contained 32 studies with a total of 62 effect sizes. Self-talk treatments were more successful for tasks demanding relatively fine, rather than relatively gross, motor demands, and for novel, rather than well-learned, tasks, according to the moderator analyses. Instructional self-talk was more helpful for fine tasks than motivating self-talk, and it was also more effective for fine tasks than large activities. Finally, treatments that included self-talk training were more successful than those that did not. The findings of this study demonstrate the efficacy of self-talk in sports, advocate the use of self-talk as a method to facilitate learning and improve performance.

2.5.2 Psychological Skills Training's Effectiveness in Soccer

The systematic review in cognitive training strategies on motor and psychological skill in soccer players were studied. It was conducted by Slimani et al. (2016). The Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) guidelines was used to examine the effects of cognitive training strategies on motor and positive psychological skills development in soccer performance and identified the potential moderators of the "cognitive training-soccer performance" relationship. Thirteen databases were systematically searched using keywords related to psychological or cognitive training in soccer players. The review is based on 18 studies, employing 584 soccer players aged 7-39 years. In soccer players, cognitive techniques, particularly imagery, appear to boost athletic performance. In terms of imagery, combining two types of cognitive imagery training which are cognitive general and cognitive specific improves soccer performance during training, whereas motivational imagery (motivational general-arousal, motivational general-mastery, and motivational specific) improves competition performance. Younger soccer players are more likely than older soccer players to use cognitive general and cognitive specific imagery techniques.

The research focused female young soccer players employed a well-known method known as self-talk. The goal of the study was to see if training skilled athletes to utilise self-talk (ST) was beneficial, as well as to learn about the athletes' impressions of the ST intervention and how it affected their performance. Four female players from a "elite" under fourteen female regional soccer squad took part. The ST approach increased soccer shooting performance for two of the three experimental participants, according to the study's findings (Johnson et al., 2004). Furthermore, Sadeghi et al. (2010) investigated at university soccer players' mental skills training. Eight male university football players (ages 25 to 36) from a major institution in Kuala Lumpur consented to take part in the research. They have an average of ten years of playing experience. They have all signed the tape-recording informed consent letter. The goal of this research is to figure out what type of mental skills training university soccer players require the most. Four themes emerged from the findings: imagery, goal setting, self-talk, and relaxation. The respondents said that these four

topics were the most in need of psychological skill training. Papaioannou et al. (2004) investigated the impact of integrating goal-setting and self-talk on soccer shooting performance. The purpose of this study was to look at the combined influence of goal setting and self-talk on 41 professional and semi-professional soccer players who were assessed on a soccer-shooting assignment from four different teams. The data was gathered throughout the sports event. Teams were split into four groups: self-talk, goal setting, goal setting with self-talk, and do your best control. A baseline assessment and three experimental sessions were completed by the participants. Analysis revealed that performance in the combination condition is instantly improved when compared to your best condition, while self-talk and goal-setting impacts were evident as early as session 3. Except in session 2, when the combined group scored considerably higher than the goal-setting group, there were no significant variations in performance across the experimental groups. While both goal setting and self-talk have been shown to improve performance, it appears that combining the two may provide some additional benefits.

The effects of a combined techniques of particular imagery and autogenic relaxation on the soccer skill performance of adolescent players in Turkey were investigated. The training session for psychological skills lasted 14 weeks. In Turkey, beginner boys aged 10–12 years old demonstrated their soccer talents. To assess changes in performance by group, a repeated measures pre-post design was utilised (experimental, control). Shooting accuracy, ball control with the head, ball control with the feet, and short passing tests are all evaluated in the participants' performance tests. The experimental group was told to employ imagery and autogenic relaxation for 14 weeks, consisting of three 10-minute mental training sessions each week on non-consecutive days. The intervention group showed better progress in shooting, ball control with the head, ball control with the feet, and short passing tests after the testing. Mental imagery and autogenic relaxation, along with physical exercise, may help 10-12 years-old novice males improve their soccer skills (Kerkez et al., 2012).

Olmedilla et al. (2019) examined the impact of a psychological intervention program on stress management. A total of 19 male youth soccer players, ranging in age from 15 to 17, were studied. During eight sessions of around 50 minutes each, a

Cognitive-Behavioural Therapy program was adopted. A pre-post design was utilised, with dependent sample t-tests performed to assess for statistical differences between pre- and post-measures. The post-test scores in the “Influence of the Evaluation of Performance” and “Mental Skills” categories were higher than the pre-test scores, suggesting a substantial increase in stress management linked to performance evaluation, as well as the application of psychological resources and procedures. Furthermore, the post-test scores in the “Stress Control” category were similarly higher, albeit the changes were not statistically significant. The effect of six weeks of psychological skills training on state and trait anxiety in soccer players was studied by Premananda and Bhowmik (2017). A total of sixty soccer players from the Th. Birchandra Singh Football Academy (TBSFA) were engaged in the research. The participants were randomly assigned to one of two groups: experimental or control. Each group has a total of 30 people. Before the six weeks of PST, the pre-test was examined. After completing the PST for six weeks, the post-test was analysed. The PST in this study include self-talk, relaxation techniques and breathing techniques. The study demonstrated that the PST program considerably reduced state anxiety after the intervention but had no effect on trait anxiety. The PST program helps participants to enhance their performance and decrease competition failure due to high anxiety before and during competition.

2.5.3 The Effectiveness of Three Phases of Psychological Skills Trainings

Miçoogullari (2016) explores the association between performance-related psychological skills and psychological well-being, as well as the impact of a 12-week PST program on team psychological skills. The participants were between the ages of 17 and 20. Two professional soccer teams in Turkey's Sport Toto 3 League were chosen as participants. A total of 48 athletes participated in the study, including 24 in the experimental group and 24 in the control group. Before the 16-week psychological intervention, participants were given a pre-test on psychological questionnaires such as the group environment questionnaire, Trait sport-confidence inventory, state-trait anxiety inventory, and Ryff's psychological well-being scale. During the season, a total of 48 sessions of PST are held over 12 weeks. Two further tests are required. Weinberg and Gould (2007) describe the PST program as having three phases:

education, acquisition, and practice. The post-test was analysed after the PST was completed for 12 weeks. Team building, goal setting, self-talk, pep talk, breathing, and imagery are the cognitive behavioural strategies used in this study. The current study's findings support the idea that athletes in the experimental group experienced a substantial reduction in their anxiety levels during the course of the intervention. The control group's anxiety level was steady. The results of follow-up tests revealed that the experimental group's psychological well-being levels had considerably improved from pre-test to follow-up testing.

The impact of psychological skill training for six weeks on team cohesiveness, self-confidence, and anxiety. Thirty-six male basketball players, 19 in the experimental group and 17 in the control group, ranging in age from 15 to 16 years old. Team building, goal setting, relaxation, imagery, self-talk, pep talk, converting thoughts, autogenic training, and progressive relaxation methods were all part of the PST program. The experimental group's results show a substantial difference in team cohesiveness and self-confidence with time, but no significant difference in anxiety. Furthermore, comparisons of the experimental and control groups' findings reveal a substantial difference between them. Overall, the experimental team's involvement in the PST program significantly impacted the team's cohesiveness and the athletes' self-confidence levels but had no significant influence on the players' anxiety levels (Miçooğullar & Kirazci, 2016). The impact of psychological skills training on mental toughness in Turkish professional soccer players was investigated by Miçoogullari and Ekmekçi (2017). Twenty-six professional soccer players from the Turkish Football Federation's third division professional league varied in age from 18 to 33 years old. The pre-test, which included the Sport Mental Toughness Questionnaire (SMTQ; (Sheard et al., 2009). Scale psychological well-being (SPWB) was assessed before the sixteen weeks of PST (Van Dierendonck, 2004). This study employed three phases: education, acquisition, and practice (Weinberg & Gould, 2007) The PST program consisted of 48 sessions in total, which occurred throughout the pre-midseason program (first week of January). Post-test was analysed after the PST was completed for 16 weeks. Goal setting, imagery, self-talk, and arousal management were all included in the PST program that was used in this study. Confidence,

consistency, control, mental toughness, self-acceptance, positive relationships with others, autonomy, and psychological well-being were shown to have statistically significant variations between pre-test and post-test values. Environmental mastery, purpose of life, and personal growth sub-dimensions of PWB had no statistically significant difference between pre-test and post-test (p 0.05). The highest positive associations between mental toughness and self-acceptance were seen in MT and PWB (r.54, p.005). Both MT and PWB were shown to be strongly linked (r.48, p.005). 16 weeks of psychological skills training, not only to improve players' perceptions of mental toughness, but also to enhance their feeling of PWB, which can lead to significant improvements in general psychological health.

Regarding the literature reviews, this study adopted several aspects including the prevalence of psychological skills training usage, psychological skills in athletes particularly in soccer players and sport skills. These elements are crucial to implement for sport performance. Variables were obtained involving mental toughness and soccer skills. Moreover, many studies revealed significant aspect of using PST in sport atmosphere.

# CHAPTER 3

# METHODOLOGY

The goal of this study is to examine the PST affects Thai soccer players' mental toughness, and to examine the effect of PST on soccer specific skills. This chapter covers the study's listed below

3.1 Overall Design of the Study

3.2 Population and Sample

3.3 Procedure

3.4 Data Collection

3.5 Data Analysis

3.6 Statistic Analysis

## 3.1 The Overall Design of the Study

The present study is to conduct data analysis and data correction on the influence of psychological skills training through the distribution of questionnaire and sport skills test to a sample of Thai women university soccer players.

The study employed a quasi-experimental design with soccer skills measure and questionnaires data collection from one independent Thai athlete sample which is university athletes. The study examines 6 weeks of PST in mental toughness and soccer specific skills among Thai women university soccer players. The psychological skills training involves four main important skills: goal setting, imagery, relaxation and self-talk. PST will be performed off and on the pitch 4 days a week. Three phases of psychological skills training including education, acquisition, and practice (Weinberg & Gould, 2007; Weinberg & Gould, 2014).

The initial phase will last 2 days in 2 sessions, with each session lasting up to 30 minutes before training, followed by the acquisition phase, which will last 14 sessions in total including 6 sessions of basic psychological skills training and eight sessions of study related variables. The practice phase will last for two weeks and

consist of eight sessions with three sub-sessions in each. The education phase will focus on essential content on psychological skills training for improving overall athlete's performance. In acquisition phase will play important role in the application of mental techniques toward the improvement of mental toughness and soccer technical skills. In the practice phase is the concepts and approaches are incorporated to utilise for psychological techniques for improving athlete's performance that is virtually identical to the acquisition phase, but the participants are in charge of their own actions with the researcher's guidance as necessary. The objective of this phase is to naturally employ psychological techniques when faced with difficulty. In addition, participants will learn how to apply psychological techniques appropriately in challenging situations (Weinberg & Gould, 1999). Each phase last for 30 minutes per sessions (Miçoogullari, 2016; Miçooğulları, 2013; Premananda & Bhowmik, 2017). 24 sessions in total. The control group, on the other hand, receives traditional training that includes technical and physical skills training. Pre and post tests are used in the control group similar to the experimental group.

According to Haleva and Meckel (2020) study, training in genuine practical skills takes 1.30 hours, which is in line with this study. Four days a week are dedicated to the session. Six weeks length, from Monday to Thursday. The researcher cooperates with the coach, he ensures that the actual physical training involves soccer skills. Pre and post tests are evaluated through the research instruments for proving the influence of psychological skills training on mental toughness and soccer skills. The study involves two meeting (first and final meeting) Twenty-four visits for psychological skills training. Two data collection visits for pre and post-test. The next parts will go through the sample group, methodologies, and skills training in greater depth.

### 3.2 Population and sample group

The population in this study was regarded to the recent Thailand National Sports University Games. There were four campuses involving Sukhothai, Phetchabun, Mahasarakham, and Chonburi. Age range between 19 – 22 years old female. In this investigation, cluster sampling is utilised. In cluster sampling, the population is heterogenous whereas, there must be homogeneity between clusters or

groups. Due of the participants common characteristics, such as age, geography, gender, and sport involvement level, the researcher used a random selection from four campuses to select one unit as a sample group. Each of the institutional campuses were written down on the piece of paper and put into the jar for drawing. Later, the researchers pick up one piece of paper.

The intact set of participants is accountable for the quasi-experimental design. As a result, the sample group was drawn from Thailand National Sports University Mahasarakham Campus. The participants are between the ages of 18 and 22, the level of significance was 95 % (= 0.05), power of test was .80 resulting in 9 participants per group. Therefore, the control group consisted of 9 athletes, whereas the experimental group consisted of 9 athletes which are 18 participants in total. However, the possibility of withdrawing can be occurred. The researcher adds 2 participants each group which is 15%. Therefore, 22 participants in total. Later, the process of group allocation starts with the use of soccer skills test. Four basic skills tests involving passing, dribbling, ball control and shooting. Once, the result is ranged from highest points to the lowest one. Because the participants' physical and athletic skills are almost comparable in this study. To divide the group, odds and even numbers (1-22) are used as simple randomization for control and experimental group. This is regarded as bias prevention in this study. Each of the four basic abilities must be accomplished in half as the baseline for inclusion criteria. Participants were informed about the objective of the experiment, research design, and requirements prior to the start of the study, as stated in the consent form. Participants completed the informed consent and returned it to the researchers during the first meeting.

Dribbling, control, pass and shooting are the four soccer skills that utilised in half as a benchmark for inclusion criteria (The maximum point total for each skill is 25 for dribbling, 80 for control and pass, and 80 for shooting) a score below average or half is not allowed.

**Inclusion Criteria**

1. Participants are willing to engage in the research program

2. Participants were representing for their province in the regional level in soccer.

3. Participants must be enrolled in Thailand National Sport University.

4. Participants achieve the required minimum score on the soccer skills test

**Exclusion Criteria**

1. Participants refuse to engage in the research program

2. Suffer any injuries of bones and joints

3. Less than 80% of participation

3.2.1 Quasi-experimental design

Current investigation employed a quasi-experimental approach. The initial step is to recruit TNSU MKM female soccer players and none of them have received any training for psychological skills trainings. The researcher divides the intact groups into experimental and control groups, gives a pre-test to both groups, conducts experimental treatment activities with the experimental group, and then performs a post-test to compare the two groups. (Creswell, 2008). Whereas the control group receives regular training, pre and post tests are employed in the same way as they are in the experimental group. 6 weeks PST intervention were employed based on Miçooğulları (2013).

| | | | |
|---|---|---|---|
| Experimental group | Pre-test | 6 weeks of intervention | Post-test |
| Control group | Pre-test | 6 weeks of no intervention | Post-test |

*Figure 4* Quasi-experimental design

3.2.2 Extraneous Variables Control

The researcher has used the control principle known as Max-Min-Con principle as follows.

1. Maximise systematic variance by assigning different experimental methods to experimental and control groups that are independent of one another. To

control the time and conditions appropriately regarding the experiment to arrange actions with independent variables that have the greatest effect on dependent variables. 2. Minimise the range of tolerances. As a result, the error variance is reduced to a minimal or zero value.

1) Systematic mistake, such as measurement instrument error testing timer and performance testing, which the researcher can correct. Measuring instruments with high precision and reliability, as well as a variety of options and high efficiency. 2) The discrepancy within the group is known as random error. Some examples of factors that cause disparities in the chance of complication include excessive or insufficient PST. Tiredness during soccer skills test, health, injury that may occur at any time, and so forth. This kind of inconsistency is common. The normal distribution law can be used to remedy this. To deal with this disparity, calculate statistical values. 3. Extraneous systematic variation should be consistently controlled as a control, and any other non-experimental factors should be eliminated such that the dependent variables are only the influence of independent variables. This can be done in a number of different ways.

1) Randomization: This method is considered the best because it draws people at random from a population with a variety of characteristics, allowing the complications variables to be controlled.

2) Adding a variable to the design. If any complication variables are impossible to control, include that variable as an independent variable to be investigated.

3) The employment of two groups of samples with the same properties or the same level of complexity factors, is known as matching. There are two different forms of matching:

- A matched group is one in which the members of two groups are arranged to have the same properties, regardless of whether they are equal individually. This can be accomplished by taking random samples of each group and comparing the mean (x) and variance (V) of both or several groups. Undifferentiated mean samples

- Matched themes are sorted for persons who are similar or equal in appearance, and then divided into groups. Repeat until the appropriate number of

samples has been obtained, resulting in two groups of samples that are identical in every way. The statistical significance of these two groups was determined involving mean difference and variance.

4. Statistical control is statistical techniques that can be used to control variables. Complications are analysis of covariance can adjust the different properties of the samples, resulting in the experiments only.

5. Elimination: This removes the variables thought to be involved in the experiment if the interest is thought to be related to the experiment and will not be taken as an independent variable. For instance, it is necessary to exclude this variable, the method is to select a sample with the same interests.

**3.3 Procedure**

1. Literature reviews on PST in mental and athletic skills

2. Understand the important aspects of PST and the instruments

3. Create PST program for soccer players

4. Develop the effective PST with supervisor consultant before checking by experts.

5.Content validity is checked for consistency by five experts including one soccer coach and four sport psychologists, item objective congruence (IOC) index is utilised. The following instruments were checked for its validity.

5.1 Psychological skills training

5.2 Adapt the Mental Toughness Inventory (MTI) Thai version to the soccer setting.

5.3 Loughborough soccer passing test (LSPT) and Loughborough soccer shooting test (LSST)

5.4 The list of experts are as follows

1) Assoc. Prof. Dr Tanida Julvanichpong, Sport psychologist. Faculty of Sport Science, Burapha University.

2) Asst. Prof. Dr Sasima Pakulanon, Sport psychologist. School of Health Science, Mae Fah Luang University

3) Asst. Prof. Dr Wimonmas Prachakul, Sport psychologist. Faculty of Sport Science, Kasetsart University.

4) Dr. Watnawat Rattanakoses, Sport psychologist. Khonkaen Sport School

5) Dr. Nuengrutai Srathongvian, Pro-licence soccer coach, Assistant coach of Thailand National Soccer Team.

6. The following instrument consistency marks are used to evaluate the instruments' content validity. The following table displays the content validity used by experts to rate each item's consistency for instruments:

Rate it as +1 when deemed appropriate and consistent.

Rate 0 when not sure it is appropriate and consistent.

Rate it as -1 when it is considered inappropriate and consistent.

6.1 The instruments are evaluated by the experts. Item objective congruence (IOC) is utilised for its consistency, the range is between 0.88 – 0.97 as shown in the appendix. In light of the experts' inspection of the instruments, the recommendations are implemented as stated

1) Psychological skills training

-The overview of 6 weeks psychological skills training is appropriate for usage.

- Training 4 times a week is adequate

- There should be an evaluation form for the psychological skills training according to the skills trained, therefore, psychological skills training analysis form is added. This can track participant comprehension of psychological skill training. - Adjust the title of the first phase for appropriateness.

- May add on self-reflection that the trainees can review what they have learned from each training phase.

- Include more appropriate psychological techniques rather than one for athletic performance. The program has been adapted.

- Adjust the length of each session to correspond the training period for cognitive learning.

- As it takes time to comprehend mental skill training, the first acquisition should be practiced in a quiet room first, therefore, the first session of the acquisition phase is modified to take place within sport science centre space.

-The associated video in soccer performance and scenarios is

beneficial for participants' mental learning. Thus, the proper footage is included.

2) General information questionnaires and Mental Toughness Inventory (MTI)

-Add two more question including weight and height. General information questionnaires are appropriate with reduced questions about day/month/year of birth.

- Overall mental toughness inventory is suitable. With some small modifications to items 18, 21, 26, and 33 can adequately capture the competitive atmosphere.

3) Loughborough soccer passing test (LSPT) and Loughborough soccer shooting test (LSST)

- The test is proper for the specific skills. However, the point criteria should be added.

-The length of time for testing skills should be taken into account as it should specify the duration for operation and the testing operation timeframe is established.

7. Pilot study

Following expert recommendations for research instruments, a pilot study was conducted. Pilot study for the psychological skills training is utilised to improve mental toughness and soccer skills in Thai female university soccer population. The aim of this study is to examine the reliability of the questionnaire, psychological skills training and soccer skills testing for relevant group with demographic similarity. The mental toughness inventory (MTI) was used in this study, psychological skills training and soccer skills including Loughborough soccer passing test, Loughborough soccer shooting test were also adopted in this study. The soccer players from Mahasarakham province who compete in Thailand national games was the pilot group. Twenty female players are recruited in a pilot study to check that the information was understandable, age range 18-22 years old. The purpose was to ensure that the psychological skills training, instrument instructions, measurements, and presentation were all understandable. The estimate timeframe of pilot study is three weeks. Day one involves completing for MTI and testing for

LSPT, while day two involves LSST. The following days are PST sessions including education phase, which lasts for two days. Acquisition is performed for six days in the week after and practice phase for four days. The process repeated again on MTI, LSPT and LSST after completing the PST. Pilot testing based on athlete input verified athletes' perceptions of instrument clarity. Subjects in the pilot research complete MTI and soccer skills test (LSPT and LSST) and performed PST program. The researchers record all the instrument responded by subjects, the subjects are free to ask questions and make contributions while filling out the instrument. All the results and idea were taken into account and modification for the sample group.

7.1 Test-retest method are used to examine the MTI, LSPT and LSST reliability on a comparable sample of 20 participants. Moreover, inter-rater reliability and intra-rater reliability was assessed

- It is an evaluation where the same test is performed or observed by two or more assessors, and the findings are similar, proving the reliability of the test.
- By asking the same test subject to repeat the test twice in the same manner, an assessment is made. The test has a reliability of one if the response is identical on both occasions.

7.2 MTI for soccer context is tested for discrimination power to find item-total correlation by using Pearson's simple correlation coefficient formula. Classified from .20 upwards and then used to find the internal consistency by using alpha coefficient value according to Cronbach's method. Analysis results are as follows.

7.2.1 Mental Toughness Inventory 36 items, 12 components including self-efficacy 3 items (4, 16 and 28) with discrimination power between 0.43-0.64, positive comparisons 3 items (8, 20, and 32) with discrimination power between 0.48-0.71, task value 3 items (9, 21, and 33) with discrimination power between 0.54-0.72, potential 3 items (6, 18, and 30) with discrimination power between 0.47-0.64, task familiarity 3 items (10, 22, and 34) with discrimination power between 0.57-0.63, personal bests 3 items (2, 14, and 26) with discrimination power between 0.51-0.57, stress minimisation 3 items (3, 15, and 17) with discrimination power between 0.57-

0.69, mental self-concept 3 items (12, 24, and 36) with discrimination power between 0.31-0.46, positivity 3 items (11, 23, and 35) with discrimination power between 0.68-0.90, perseverance 3 items (7, 19 and 31) with discrimination power between 0.42-0.71, task focus 3 items (5, 17 and 29) with discrimination power between 0.55 -0.75 and goal commitment 3 items (1, 13, and 25) with discrimination power between 0.38 - 0.53. Each component's Cronbach alpha reliability is 0.717, 0.741, 0.788, 0.727, 0.757, 0.726, 0.787, 0.589, 0.902, 0.750, 0.787, and 0.625 respectively. Cronbach's alpha of a full questionnaire is .951.

7.2.2 Publish the entire questionnaires to collect the data with the sample

8. Inform the head coach for a permission to utilise the PST during the physical training with TNSU Mahasarakham campus women soccer players

9. Informed consent are given to the participants for engaging in the study 10. Location: Thailand National Sports University Mahasarakham campus

**3.4 Preservation of the sample**

In this research, data were collected by questionnaires and soccer skill tests for National Sports University female soccer players. The researcher takes human ethical into account, researchers therefore protect the rights of the sample group as follows. 1.Submit a research proposal that has been reviewed by the thesis examination committee to the Human Research Ethics Committee of Mahasarakham University. This research proposal has been approved by the Research Ethics Committee of Mahasarakham University for research on the basis of the research proposal received and considered by the committee. Certification number: 153-122/2566, ethical approval date 3rd May 2023.

2. The researcher has completed of making an invitation letter to various agencies in Mahasarakham province. Once the allocation of data collection is allowed. The research explanation form is delivered to the participants together with a vocal explanation. The explanatory text contains all the details about the origin and destination of the research. By reading and listening to the explanation of the text in

the instruction sheet for the participants who answered the questionnaire and also received explanations and inquiries from the research project leader have been completed. As stated, I as a participant is willing to follow the instruction along with the benefits that I will receive from the research.

3. The researcher will maintain the privacy of the participants' data and refrain from publicly identifying or anonymising them. The research results are presented in an overview form that is a summary of research results for academic purposes only. 4.Participants in the study signed up voluntarily to participate in it as volunteers, and they were free to leave the study at any moment. If the volunteer so chooses, there will be no repercussions and they will not forfeit their eligibility to take part in research initiatives that will be offered to volunteers in the future. The informed consent form was signed by the subjects after they had read and understood this fact sheet and its contents. The investigator reports to the Human Research Ethics Committee at Mahasarakham University after the project concluded and submits a project closure form.

**3.5 Data Collection**

All study protocols, including human subject permission, were approved by Mahasarakham University's graduate school advisory committee. The data collecting procedure is outlined below

3.5.1 The researcher obtained permission from the Dean of Mahasarakham University Faculty of Education and delivered the authorisation letter to the head coach of Thailand National Sports University Mahasarakham campus female soccer team. 3.5.2 The researcher examined sample characteristics based on the inclusion criteria.

3.5.3 All individuals received a pre-test intervention including Mental Toughness Inventory (MTI), Loughborough Soccer Passing Training (LSPT) and Loughborough Soccer Shooting Test (LSST).

3.5.4 The selected sample group is given a PST that includes goal setting, imagery, relaxation, and self-talk. The control group engages in conventional training involving physical mental training.

First meeting

The researcher discussed the aim and the principle of the research with the coach and team staff. Discuss the concept of psychological skills for athlete's performance while also asking if any questions. Informed consent was given to the participants.

First visits for data collection

This research is being carried out to increase mental and technical performance of soccer players. Prior to the commencement of psychological program, the participants signed the informed consent, and they are free to inquire for further detail according to the study. Participants voluntarily engage in this study. Inclusion and exclusion criteria were evaluated by the researcher.

3.5.5 The usage of instruments

Instruments include five parts listed below. Following answering general information and mental toughness inventory, the participants engaged in pre-test for soccer skills test: Loughborough Soccer Passing Test and Loughborough Soccer Shooting Test. The PST is utilised in the following period. Post-test is performed at the end of the intervention. The number of participants is determined using a numerical code that ranges from 1 to 22.

*General information*

This part involves ten questions: sex, age, weight, height study institute, email address, soccer position, current club, individual highest level of participation and date of taking a survey.

*Mental toughness inventory (MTI) Thai version*

Original version of MTI was completed by Middleton et al. (2005). Later, Julvanichpong (2010) created the Thai version of the mental toughness inventory. The back translation was also used to assess the Thai version's construction, content, validity, and reliability. MTI Thai version was utilised in rugby population (Tienphati et al., 2016). This study later adapted MTI presented in aforementioned study for

soccer population. The inventory included a self-report scoring system with an 8-point rating scale. (From 1 to 8, 1 means it is not true for me and 8 means it is true for me). The MTI was represented by 12 different components in the inventory. Each component had three minor components. The questionnaire has 36 questions in all. The following elements are included in the questions: Self-Efficacy (items 4, 16, and 28), Positive Comparisons (items 8, 20, and 32), Task Value (items 9, 21, and 33), Potential (items 6, 18, and 30), Task Familiarity (items 10, 22, and 34), Personal Bests (items 2, 14, and 26), Stress Minimisation (items 3, 15, and 17), Mental Self-Concept (items 12, 24, and 36), Positivity (items 11, 23, and 35) and goal commitment (item of 1, 13, and 25). The questionnaire's Cronbach Alpha Coefficient value is .95. The survey takes around 4 minutes to complete. According to Tienphati et al. (2016) Mental Toughness Inventory criteria, the questionnaire scoring criteria and interpretation of the scores. Thirty-six questions, with the average score range specified as follows:

3-10 means having a low level of mental toughness

11-17 means having moderate mental toughness

18-24 means having a high level of mental toughness

*Loughborough Soccer Passing Test (LSPT)*

The LSPT was created by Ali et al. (2007)\ for evaluating soccer players skills.

The validity and reliability of the LSPT to measure variations in soccer skill performance were validated by Ali et al. (2007). This study also utilised the LSPT to assess three important soccer skills comprise of dribbling, passing, and control skills in Thai university soccer players. Experimental and control groups perform 16 passes against coloured target areas as fast as possible with penalty time earned for imprecise passing and poor ball management. The participants were instructed to perform high competency in passing, dribbling and control of the ball. Time taken, penalty and performance time and penalty time are the three variables. One of the examiners call out the sequence of passes, while the other keeps track of the time spent, penalty time incurred, and overall performance time.

To determine the effectiveness of PST in soccer players, the yield of performance time, mistake passing, and the sum of overall performance time will be measured. When the examiner asks for the ball to be played into the passing area, the participants begin with a ball in the middle rectangle and proceed to pass the ball to the specified colour target. The examiner records the time taken to complete sixteen passes and award penalty time for the following errors: 5 seconds for completely missing the designate target areas or hitting on the wrong bench, 3 seconds for missing the target area, 2 seconds for passing the ball from outside of the designated rectangular area, 2 seconds for the ball touching any cone, and one second for every second over the excess allocation of 34 seconds to complete the test (16 passes). If the ball strikes the ten centimetres strip in the centre of the target, one second is subtracted from the overall time. This is the final summary for a flawless passing grade. As a result, overall performance time includes the time spent completing the sixteen passes as well as the penalty time.

*Lougborough Soccer Passing Test staff including one researcher and seven research assistants*

1. The researcher has the following duties:

    1.1 Timing the test from start to finish.

    1.2 Record the test result into the test form and finalise the mark for passing test including time only, penalty time and total time.

2. The first research assistant has the following duties:

    2.1 Timing the test from start to finish.

    2.2 Record the test period into the test form.

3. The second research assistant has the following duties:

    3.1 Ensure the rebound board in the appropriate position.

4. The third research assistant has the following duties:

    4.1 Spare the ball to the test subject when the ball leaves the test station area

5. The fourth research assistant has the following duties:

    5.1 Time each test period and record into the test form

6. Research assistant number five has the following duties:

6.1 Time each test period and record into the test form

7. Research assistant number six has the following duties:

7.1 Time each test and record into the test form

8. Research assistant number seven has the following duties:

8.1 Randomly assign colour for passing the ball to the target wooden board according 4 colours including red, white, blue and green in equal number of calling times. A total of 16 times, four times for each colour.

*Loughborough Soccer Shooting Test (LSST)*

The LSST was first used by Ali et al. (2007) for assessing shooting skill in soccer players. The study demonstrated that the LSST test is a reliable and accurate method for assessing soccer skills, and it was used to quantify shooting accuracy (Ali et al., 2007). As we know, shooting is the most essential skill in soccer. In this study also utilised the LSST in Thai university soccer players for assessing the shooting skill. Experimental and control groups perform the shooting at the target areas of the full-sized football goal. The player started by facing the goal, toward the bench, and within striking distance of the ball. The player was told to sprint to the cone, touch the top of it, and then return to the ball at the chosen square's centre point after the investigator's call. After playing a rebound pass off the bench, the player then controlled the ball, if necessary, moved, and scored towards the goal within the shooting area. To follow the shot, the athlete had to run between two cones positioned 5.5 meters apart and directly in front of the goal. Each participant took part in a single trial consisting of 10 shots with a 30-second rest break between them. A total of ten trial orders were selected randomly for each player (five to the left and five to the right). Within the goal, the scoring zones show the optimum area for a shot to beat an opposing keeper. Shots that were taken outside of the permitted shooting zone or took longer than 8.5 seconds to complete were rejected. Time taken shot speed and point per shot are criteria to consider. Ali et al. (2007) affirmed the substantial and solid of LSST to evaluate contrasts in soccer ability execution.

*Lougborough Soccer Shooting Test staff including one researcher and seven research assistants*

1. The researcher has the following duties:

1.1 Timing the test from start to finish.

1.2 Record data into the test according to second and third research assistant and to confirm the final mark for each shot including time taken, shot speed and points per shot.

2. The first researcher assistant one has duties as follows:

2.1 Timing the test from start to finish.

2.2 Record data into the test according to second and third research assistant

3. The second research assistant has the following duties:

3.1 Time the test for each shot and record into the test form

4. The third research assistant has the following duties:

4.1 Time the test for each shot and record into the test form

5. The fourth research assistant has the following duties:

5.1 Time the rest period for each shot

5.2 Place the ball at the starting point after each shot

5.3 Ensure that the bouncer board of the ball and other equipment is in the proper position.

6. The fifth research assistant has the following duties:

6.1 Time the rest period for each shot

6.2 Place the ball at the starting point after each shot.

6.3 Ensure the bouncer board of the ball and other equipment is in the proper position.

7. The sixth research assistant has the following duties:

7.1 Identify for the speed of the ball in each shot

8. Research assistant number seven has the following duties:

8.1 Call the score obtained in each shot

*Psychological skills training (PST)*

The psychological skills training included three phases: education, acquisition, and practice. This is also in line with Weinberg and Gould (2007) three phase PST model. Dependent variables are assessed before and after the PST. On Thursday, from the second week to the last week, self-psychological skills training evaluation form was assessed by the participants. Self-reflection is written by the participants in the first, third and sixth week.

The researchers visit the TNSU women soccer squad four days a week (Monday-Thursday), six weeks continuously during specific preparation period. Participants come to the training as usual. The psychological skills training is instructed in the room at sport science centre and at the field for six weeks. The psychological skills approach utilised in this study involves goal setting, imagery, relaxation (breathing control, though stopping) and self-talk. These techniques are essential based on their widespread use in sport psychology, as well as the coach's expertise and the requirements of the players. The control group follows regular training practices. The entire program will take eight weeks, including the time for data collecting, with one week of education, two weeks of acquisition, and three weeks of practice session. This is accounted to six weeks period. All the materials are presented in further depth in appendix. The following section emphasise on the three processes of PST program for athletic performance. The appropriate strategies of each technique will be utilised according to the study purpose. The variety of psychological skills training program including goal setting, imagery, relaxation and self-talk are utilised in this section, in which all four of the aforementioned are thought to increase mental ability as evidenced by many studies (Johnson et al., 2004; Papaioannou et al., 2004; Sadeghi et al., 2010). 1)Education phase

First week of PST involves 2 sessions with 30 minutes each. The content involves the definition, importance, and benefits of psychological skills training. Psychological skills techniques including goal setting, imagery, relaxation, and self-talk, the educational materials are provided.

2)Acquisition

The following phase of PST is acquisition with 14 sessions which are Monday, Tuesday, Wednesday, and Thursday. Basic psychological abilities are taught

during the first six sessions in a quiet environment. Afterwards, there were eight psychological skill sessions of mental toughness and soccer skill. Four practice sessions were conducted during this stage in a quiet setting. The last four sessions were divided into three separate sessions (closed and open space). Each session lasts up to 30 minutes, the use of four psychological techniques is developed through this phase via the researcher instruction, the participants acquire psychological techniques to improve their performance.

3) Practice

In this phase is two-week timeframe with eight sessions, 3 sub-sessions each. The concepts and techniques are incorporated into the soccer players in a manner that is essentially identical to the acquisition phase. The goal of this phase is to naturally employ psychological tactics when faced with difficulty. In addition, participants will learn how to properly apply psychological techniques in challenging situations (Weinberg & Gould, 1999). Participants utilise psychological techniques on their own with researcher's assistance.

3.5.6 Post-test for MTI and soccer specific skills test

Completing Mental Toughness Inventory (MTI). Later, the participants engaged in post-test for soccer specific skills test: Loughborough Soccer Passing and Loughborough Soccer Shooting Test.

3.5.7 Data gathering and analysis were scrutinized.

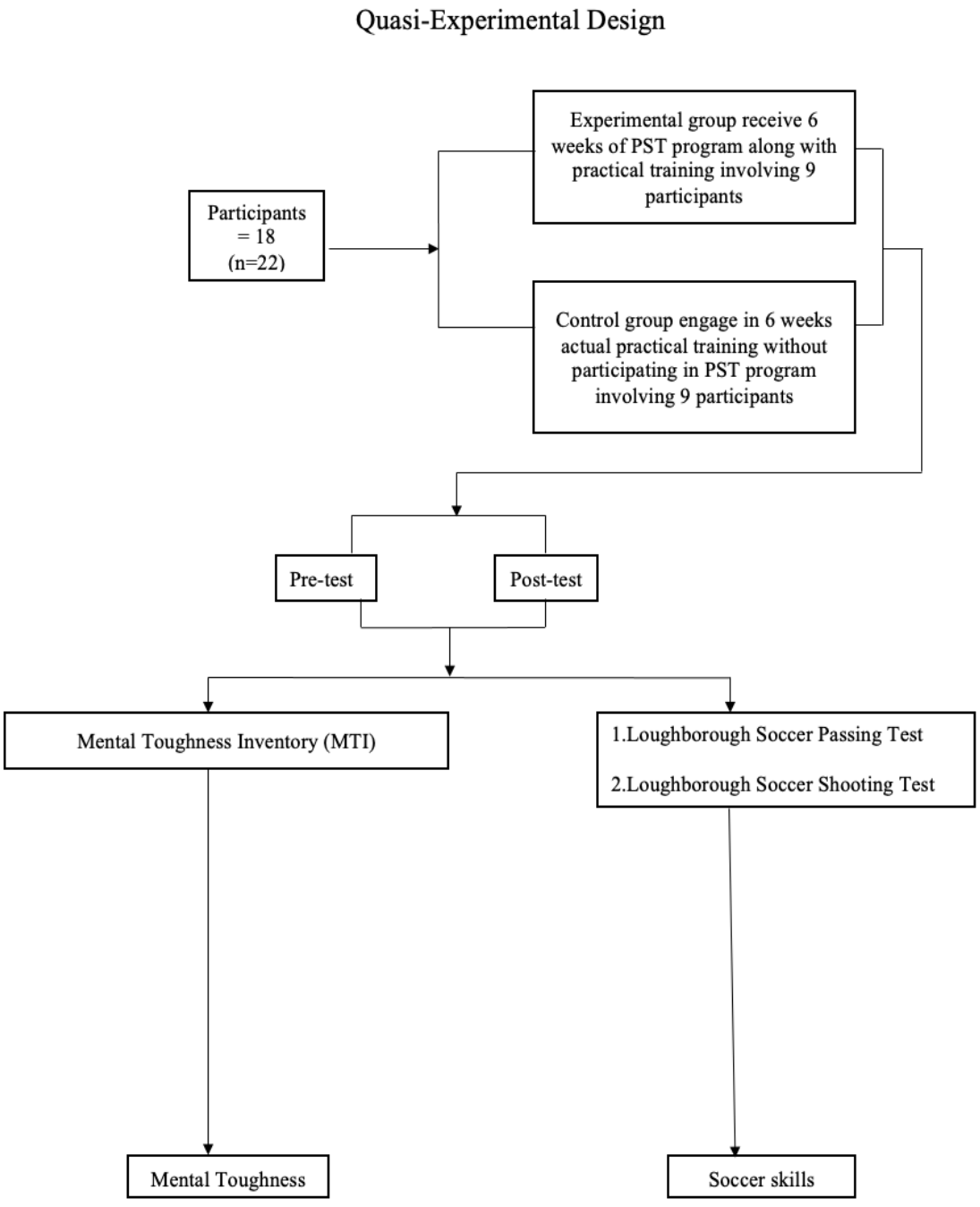



*Figure 5* Research Framework

**3.6 Data Analysis**

**3.6.1** The results from the two tests were combined and analysed by the researcher.

The utilising of software (SPSS) to find statistical values as follows:

1) All data were re-checked before input data into the program

2) Input data in SPSS with the level of significance at .05

**3.6.2** Statistics analysis was performed for the Mental Toughness Inventory (MTI), LSPT and LSST in the following session

1) Descriptive statistics was analysed by using basic statistics, average and standard deviation were examined to characterise the data based on pre-test was obtained prior to the PST. After the PST program, the post-test was recorded. The Mental Toughness Inventory (MTI) was evaluated. The LSPT and LSST were analysed for both experimental and control groups.

2) Mental Toughness Inventory (MTI) the mean ($\bar{x}$) and standard deviation (S.D) was evaluated.

3) For LSPT and LSST, the mean ($\bar{x}$) and standard deviation (S.D) were evaluated.

4) The assumption was checked, advanced statistics are performed for research hypothesis

5) Statistical analysis is performed to test hypothesis

**3.7 Statistical Analysis**

1. The content validity was check for the quality of the tools, and the formula was as follows: The formula for checking content validity described below

$$IOC = \Sigma \frac{R}{N}$$

$IOC$ = items objective congruence
$\Sigma R$ = sum of the product
$N$ = the number of experts

2. Basic statistics

*2.1 Mean*

$$\bar{x} = \frac{\Sigma fx}{n}$$

$\bar{x}$ = percentage
$\Sigma fx$ = sum of the product
$n$ = total frequency

*2.2 Standard deviation (S.D)*

$$S.D. = \sqrt{\frac{n\Sigma x^2 - (\Sigma x)^2}{n(n-1)}}$$

*S.D.* = standard deviation
$\Sigma x^2$ = total point
$(\Sigma x)^2$ = the total number of groups
$n$ = the number of values in the data set

3.7.1 Statistical analysis

SPSS version 29.0 was used. Paired sample t-test was used to compare within group of control and experimental group. Independent sample t-test can be utilised to compare between control and experimental group in pre and post-test. In more statistical terms, it tests the effect of one or more independent variables on one or more dependent variables. Descriptive analysis was checked on normal distribution by using Shapiro-wilk test for all variables and calculate the statistic/std error of skewness and kurtosis with the value of ± 1.96 for normal distribution. To use paired t-test and independent t-test, criteria for normal distribution must be met.

# CHAPTER 4

## RESEARCH RESULTS AND ANALYSIS

This study is a quasi-experimental design utilising the pre- and post-test design. A pilot study with a comparable demographic group was conducted prior to the legitimate intervention with the sample group. The objective of this research is to study the effect of PST on mental toughness and soccer skills within and between groups of the experimental and control groups before and after intervention. The research results are summarised as follows.

4.1 Symbols used in presenting data analysis results

4.2 Process for presenting data analysis results

4.3 Results of data analysis

### 4.1 Symbols used for present data analysis results

Presentation of data analysis results and interpretation of statistical symbols. The researcher employs symbols to represent various meanings as follows:

n = the number of sample

$\bar{x}$ = mean

S.D = standard deviation

df = degree of freedom

F = F-distribution

MS = mean of square

SS = sum of square

p-value = the probability of accepting or rejecting a hypothesis

* = the value of statistical significance

**4.2 Process for presenting data analysis results**

According to the study's objectives, data analysis is employed for sample group general analysis, which is followed by paired sample t-test and independent samplet-test to determine the impact of PST on female soccer players' mental toughness and soccer skills.

**4.3 Results of data analysis**

The finding of general information in Thailand National Sport University Mahasarakham Campus soccer players.

Table 1 Sample group general information

| List | Number of participant (percentage) | $\bar{x}$ | S.D |
|---|---|---|---|
| **Gender** Female | 22 (100.0) | | |
| **Age** | | 20.2 | 1.1 |
| **Weight (kg)** | | 56.9 | 4.0 |
| **Height (cm)** | | 159.4 | 4.4 |
| **Institution** Thailand National Sport University | 22 (100.0) | | |
| **Current club** Mahasarakham | 22 (100.0) | | |
| **Position** | | | |
| Goalkeeper | 2 (9) | | |
| Defender | 8 (36) | | |
| Midfielder | 7 (32) | | |
| Forward | 5 (23) | | |
| **Level of participation** | | | |
| International | 0 | | |
| National | 11 (50) | | |
| Regional | 11 (50) | | |
| Provincial | 0 | | |

Table 1 shows that the sample group consisted of 22 individuals, equally split into 11 experimental and control groups, representing 50% of each group. The average age of the group are 20.2 years (S.D. = 1.1), the average weight are 56.9 kg (S.D. = 4.0), and the average height are 159.4 centimetres (S.D. = 4.4). The sample were drawn from Thailand National Sport University Mahasarakham Campus. Two goalkeepers (9%), eight defenders (36%), seven midfielders (32%), and five forwards (23%) were participants' position. Furthermore, the level of play comprises eleven players at the national level (50%) and eleven players at the regional level (50%).

Table 2 Age, weight, and height are represented by the mean and standard deviation for soccer players at Thailand National Sport University Mahasarakham Campus.

| **List** | **n = 22** | $\bar{x}$ | **S.D** |
|---|---|---|---|
| Age | Control | 20.2 | 1.1 |
| | Experimental | 20.2 | 1.1 |
| Weight (kg) | Control | 56.7 | 3.7 |
| | Experimental | 57.1 | 4.4 |
| Height (cm) | Control | 159.1 | 4.6 |
| | Experimental | 159.7 | 4.4 |

According to basic information in table 2, the average age was 20.2 years (S.D.= 1.1), the average weight was 56.7 kilogrammes (S.D. = 3.7) and height of the control group was 159.1 centimetres (S.D. = 4.6). In the experimental, the average age is 20.2 years (SD.= 1.1), The average weight is 57.1 kg (S.D.= 4.4), the average height is 159.7 cm (S.D.= 4.4). Regarding the amount of participation in each group, there are six players (27%) at the national level and five players (23%) at the regional level in the control group. There are five players (23%) in the experimental group at the national level and six players (27%), at the regional level.

Table 3 The comparison within control group are described including MTI, LSPT and LSST in pre-post outcome

| | Control | | | | *t* | *p*-value |
|---|---|---|---|---|---|---|
| | Pre | | Post | | | |
| | $\bar{x}$ | S.D | $\bar{x}$ | S.D | | |
| Mental Toughness Inventory | | | | | | |
| Mental toughness (score) | 4.90 | 0.15 | 4.95 | 0.19 | -1.814 | 0.100 |
| Loughborough soccer passing test | | | | | | |
| Time only (s) | 55.06 | 2.74 | 56.45 | 1.78 | -1.130 | 0.219 |
| Penalty time (s) | 30.97 | 2.41 | 30.61 | 2.13 | 0.893 | 0.393 |
| Total time (s) | 86.03 | 2.65 | 87.06 | 2.53 | -1.115 | 0.291 |
| Loughborough soccer shooting test | | | | | | |
| Time taken (s) | 7.74 | 0.35 | 7.66 | 0.29 | 0.656 | 0.527 |
| Shot speed (km/h) | 52.91 | 2.12 | 53.82 | 1.72 | -2.085 | 0.064 |
| Points per shot (score) | 1.59 | 0.25 | 1.67 | 0.35 | -0.523 | 0.613 |

* *p*-value <0.05

In table 3 The paired sample t-test was obtained when the mental toughness and soccer skills within control group were compared. Therefore, it can be concluded that the control group had no improvement in mental toughness and soccer abilities from pre to post-test.

Table 4 The comparison within experimental group are described including MTI, LSPT and LSST in pre-post outcome

| | Experimental | | | | *t* | *p*-value |
|---|---|---|---|---|---|---|
| | Pre | | Post | | | |
| | $\bar{x}$ | S.D | $\bar{x}$ | S.D | | |
| Mental Toughness Inventory | | | | | | |
| Mental toughness (score) | 5.39 | 0.15 | 6.54 | 0.21 | -18.512 | <0.0001* |
| Loughborough soccer passing test | | | | | | |
| Time only (s) | 56.44 | 2.46 | 52.45 | 1.74 | 4.988 | <0.0002* |
| Penalty time (s) | 29.58 | 2.00 | 27.59 | 1.68 | 7.851 | <0.0001* |
| Total time (s) | 86.02 | 2.50 | 78.76 | 1.70 | 7.621 | <0.0001* |
| Loughborough soccer shooting test | | | | | | |
| Time taken (s) | 7.67 | 0.19 | 7.12 | 0.22 | 5.132 | <0.0001* |
| Shot speed (km/h) | 53.82 | 2.23 | 54.45 | 1.63 | -1.884 | 0.089 |
| Points per shot (score) | 1.55 | 0.23 | 2.14 | 0.27 | -5.626 | <0.0001* |

* *p*-value <0.05

The outcomes of paired sample t-test within group in experimental group was significant difference after intervention in table 4. It can be stated that the experimental group revealed significantly greater levels of mental toughness and soccer skills than the control group, with the exception of shot speed.

Table 5 The comparison between control and experimental groups before intervention

| **Pre-test Results** | **Control** | | **Experimental** | | ***t*** | ***p*-value** |
|---|---|---|---|---|---|---|
| | $\bar{x}$ | **S.D** | $\bar{x}$ | **S.D** | | |
| Mental Toughness Inventory | | | | | | |
| Mental toughness (score) | 4.90 | 0.15 | 5.39 | 0.15 | -7.677 | <0.0001* |
| Loughborough soccer passing test | | | | | | |
| Time only (s) | 55.06 | 2.74 | 56.44 | 2.46 | -1.240 | 0.229 |
| Penalty time (s) | 30.96 | 2.41 | 29.58 | 2.00 | 1.473 | 0.156 |
| Total time (s) | 86.03 | 2.65 | 86.02 | 2.49 | 0.012 | 0.990 |
| Loughborough soccer passing test | | | | | | |
| Time taken (s) | 7.74 | 0.35 | 7.67 | 0.19 | 0.614 | 0.546 |
| Shot speed (km/h) | 52.90 | 2.12 | 53.82 | 2.23 | -0.981 | 0.339 |
| Points per shot (score) | 1.59 | 0.25 | 1.55 | 0.23 | 0.355 | 0.727 |

* *p*-value <0.05

In table 5. The result of Independent sample t-test between group demonstrated insignificantly different before intervention except mental toughness.

Table 6 The comparison between control and experimental groups after intervention

| **Post-test Results** | **Control** | | **Experimental** | | ***t*** | ***p*-value** |
|---|---|---|---|---|---|---|
| | $\bar{x}$ | **S.D** | $\bar{x}$ | **S.D** | | |
| Mental Toughness Inventory | | | | | | |
| Mental toughness | 4.95 | 0.19 | 6.54 | 0.21 | -18.687 | <0.0001* |
| Loughborough soccer passing test | | | | | | |
| Time only (s) | 56.45 | 1.78 | 52.45 | 1.74 | 5.317 | <0.0001* |
| Penalty time (s) | 30.61 | 2.13 | 27.59 | 1.68 | 3.688 | <0.0002* |
| Total time (s) | 87.06 | 2.53 | 80.04 | 2.33 | 6.771 | <0.0001* |
| Loughborough soccer passing test | | | | | | |
| Time taken (s) | 7.66 | 0.29 | 7.12 | 0.22 | 4.940 | <0.0001* |
| Shot speed (km/h) | 53.82 | 1.72 | 54.45 | 1.63 | 0.889 | 0.385 |
| Points per shot (score) | 1.67 | 0.35 | 2.14 | 0.27 | -3.521 | <0.0003* |

* *p*-value <0.05

Following the analysis, the illustration of the received value was provided. As shown in table 6. Independent sample t-test yielded significantly difference between groups (control and experimental). Mental toughness of experimental group following intervention showed significantly difference when comparing with control group. Most of the soccer skill sub variables progressively improve. The experimental group showed a significant improvement in all variables measured by the LSPT (time only, penalty time, and total time) and LSST (time taken and points per shot) except shot speed. The control group unveiled no improvement in posttest in any of the variables excluding mental toughness.

# CHAPTER 5

# RESULT SUMMARY, DISCUSSION AND RECOMMENDATIONS

This research uses a pre and posttest design in a quasi-experimental method. This study aims to investigate, both before and after the intervention, the impact of PST on mental toughness and soccer skills both within and between the experimental and control groups. In light of mental toughness and soccer abilities, the discussion and research summary are explained as follows.

## 5.1 Summary of research results

1. Results of the study and comparison of mental toughness and soccer skills in Thailand National Sport University women soccer players.

1.1 Basic information

The average height of female soccer players was 159.4 centimetres (S.D. = 4.4), and the mean weight was 56.9 kg (S.D. = 4.0). The players' ages were 20.2 years. Participants were drawn from Thailand National Sport University Mahasarakham Campus. They were divided into two goalkeepers (9%), eight defenders (36%), seven midfielders (32%), and five attackers (23%). In addition, eleven players participate at the national level (50%) and eleven players participate at the regional level (50%).

1.1.1 The average age was 20.2 years (S.D.= 1.1), the average weight was 56.7 kilograms (S.D. = 3.7) and height was 159.1 centimetres (S.D. = 4.6) in control group. In the experimental, the average age is 20.2 years (SD.= 1.1), The average weight is 57.1 kg (S.D.=4.4), the average height is 159.7 cm (S.D.= 4.4). Regarding the amount of participation in control group, there are six players (27%) at the national level, five players (23%) at the regional level. There are five players (23%) at the national level and six players (27%), at the regional level in the experimental group.

1.2 Comparative data on mental toughness and soccer skills of soccer players

1.2.1 The comparison of the mental toughness levels within the control group revealed that there was no statistically significant difference in the mental toughness level ($p$>0.100). Two soccer skill tests are included in the section on soccer skills. First, there was no significant difference identified in the Loughborough soccer passing tests for time only ($p$>0.219), penalty time ($p$>0.393) and total time ($p$>0.291). The Loughborough soccer shooting tests also yielded statistically insignificant findings for time taken ($p$>0.527), shot speed ($p$>0.064) and points per shot ($p$>0.613).

1.2.2 A statistically significant difference ($p$<0.05) in the degree of mental toughness ($p$<0.0001) was found in the experimental group after intervention. Two soccer skill tests are included in the section on soccer skills. First, the Loughborough soccer passing tests revealed a significant difference for time only ($p$<0.0002), penalty time ($p$<0.0001), and total time ($p$<0.0001). The Loughborough soccer shooting tests also unveiled statistically significant findings for time taken ($p$<0.0001), points per shot ($p$<0.0005) excluding shot speed ($p$>0.089).

1.2.3 The comparison of mental toughness between control and experimental groups before intervention revealed significantly different ($p$<0.0001), Loughborough soccer passing tests including time only ($p$>0.229), penalty time ($p$>0.156), and total time ($p$<0.990) were statistically insignificant differences. As with the Loughborough soccer shooting test showed statistically insignificant results for time taken ($p$<0.546), shot speed ($p$>0.339) and points per shot ($p$>0.727).

1.2.4 The significant outcomes were obtained following six-weeks PST intervention for mental toughness ($p$<0.0001), Loughborough soccer passing tests including time only ($p$<0.0001), penalty time ($p$<0.0001) and total time ($p$<0.0001) showed significantly different between group. In Loughborough soccer shooting test including time taken ($p$<0.0001) and points per shot ($p$<0.0001). With the exception of shot speed, which indicated an insignificant difference at $p$>0.385.

The pre-test results for mental toughness in the control and experimental groups showed significant differences, this is likely due to the fact that everyone exhibits a certain level of mental toughness. However, the experimental group demonstrated a substantial improvement of mental toughness from the pre to post test.

Furthermore, soccer skills were significantly improved in the experimental group after intervention, conversely, none of the soccer skills were increased in the control group.

**5.2 Discussion**

This section of the study is represented in terms of the ranking of practical psychological skill training, and the results are discussed in light of mental toughness and soccer skills.

The aim of this study was to investigate the effects on female soccer players' mental toughness and soccer abilities of a six-week psychological skill training (PST) intervention based on psychological skills training. The study's variables are essential performance-enhancing characteristics that apply to all soccer players in general. This section is structured on the present study's hypothesis, and the results were described in accordance with recent research. At the conclusion of this chapter, there is a general discussion along with the limitations.

Psychological skills training including goal setting, relaxation, visualisation, and self-talk in connection to difficult soccer scenarios, was implemented throughout the research. The PST employs a goal-setting method that takes into account general life factors, mental toughness, task accuracy, and point rank. Relaxation can aid in managing discomfort, maintaining composure, and focusing on certain activities and crucial soccer conditions. Imagery was utilised to create clear pictures of the steps required to complete certain tasks (Morris et al., 2005; Morris & Summers, 2004; Murphy & Martin, 2002). Also, create a clear picture in challenging and stress situations in soccer. The use of self-talk to enhance one's capacity for shooting and dribbling (Chroni et al., 2007), accuracy (Hatzigeorgiadis et al., 2007) and athletic performance (Goudas et al., 2006).

**1. Effect of the psychological skills training on mental toughness and soccer skills**

The process of psychological skills training for mental toughness and soccer abilities in female amateur soccer players. The team staff and a researcher initially had a broad discussion on the subject of the current optimal performance conditions for female soccer players. Additionally, literature reviews on mental toughness and soccer skills were contributed. For this reason, it is regarded as

basic information for psychological skill training implementation. Improving the mental toughness and soccer skills of female soccer players is the goal of targeted psychological skills training. The three steps of psychological skill training including education, acquisition, and practice
described provided the framework for applying PST (Weinberg & Gould, 2001; Weinberg & Gould, 2007; Weinberg & Gould, 2014).

The education phase enables athletes identify basic psychological techniques and understand how they use each talent on a personal basis (Vealey, 1988). A crucial part of the education phase involves assisting players recognise the importance of psychological skills for both personal and athletic success (Ravizza, 2001). The second phase of the PST program, known as the acquisition phase, focuses on techniques and protocols for acquiring certain psychological skills (Weinberg & Gould, 2007). The PST concluded with the practice phase. Three major objectives define the practice phase. The first is overlearning to automate skills. Second, athletes are trained to methodically apply psychological techniques to their performance situations. Lastly, to practice skills that athletes will employ during competition is the final step (Weinberg & Gould, 1999).

Throughout the PST intervention, from week two to week six, an assessment form for psychological skills training should be utilised in the PST intervention, a six-week PST program is adequate and consistent in terms of phase, time, naming, and explanation of psychological methods. According to five experts, the following suggestions were made. Initially, modify the title of the instruction to match the lesson's beginning, subsequently, incorporate an assessment of psychological techniques, thirdly, integrate self-reflection and lastly, extend the duration of each session. As a result, the adjustment has been implemented. The concept underlying psychological skill training, which has been the subject of several studies, the suitability of PST, which is divided into three phases, is with four days of training each week. The soccer scenario involved proper application of psychological techniques to foster the development of psychological skills for utilising in difficult circumstances in the soccer scenario. It is appropriate to have a brief training session on psychological skills during field training that may be applied to actual soccer situations. These are the underpinning concepts of PST in this study.

**2. The influence of psychological skills training on mental toughness**

This study aims to evaluate psychological skills training on the mental toughness of female soccer players during a specific preseason. Mental toughness components can be seen in various dimensions including self-efficacy, positive comparisons, task value, potential, task familiarity, personal bests, stress minimisation, mental self-concept, positivity, perseverance, task focus and goal commitment. The findings of the current study indicated that athletes in experimental group significantly increased level of mental toughness over the intervention time period more than control group. In other words, soccer players who underwent in the psychological skill training had a significant increase in their mental toughness level in general from pre-test to post test. The meaningful improvement of mental toughness revealed in overall value with individual mental toughness factors in which contributing to mental toughness as a whole. Higher mental toughness and better scores in soccer performance reflect into better performance in tough situations on and off the field as well as into optimum skills performance during games. The mental toughness inventory was significant, which is consistent with the study's hypothesis. This indicates that the experimental groups' degree of mental toughness was impacted by PST. The outcomes of this current study regard with numerous research over the decades. According to Gucciardi et al. (2009) mental toughness may assist an athlete perform at their optimum level in athletes. In regard with PST, several studies were proven in relation to improve mental toughness as an essential factor in their career ranging from professional soccer (Miçoogullari & Ekmekçi, 2017; Thelwell et al., 2005) adolescent soccer players (García & Santana, 2018) elite rugby squads (Golby & Sheard, 2004), Australian football (Gucciardi et al., 2009) gymnasts (Fournier et al., 2005) tennis players (Cowden, 2017), cricketers (Bull et al., 2005), apart from athletes, soccer referee (Slack et al., 2015) and soccer coach (Cook et al., 2014).

**3.The influence of psychological skills training on soccer skills**

Another crucial aim of this study is to evaluate psychological skills training in soccer skills including two primary soccer tests. Firstly, Loughborough soccer passing tests: time only, penalty time and total time. Secondly, Loughborough

soccer shooting tests for time taken, shot speed and points per shot. The findings of this study showed a substantial increase in soccer skills in the experimental group, including time only, penalty time, and total time in the LSPT. Additionally, a notable improvement in time taken and points per shot was observed in the LSST; however, the speed shot performance was not significantly different. In the provided circumstances, the improvement of two aspects, specifically the soccer aspect, might be viewed with individual goal setting sessions. The imaging technique comprises seeing and experiencing particular soccer features, persuading to create more positive characteristics, directing through the capacity to remain calm in a stressful scenario. The LSPT including time only, penalty time and total time was significant, which is consistent with the study's hypothesis. The time taken and points per shot in the LSST resulted in a substantial difference, while the shot speed showed insignificant result. This contradicts the research hypothesis, regards with the factors such as females' poorer physical attributes (Sakamoto et al., 2016), their lower level of participation that may impact soccer skills. In particular, shot speed, which incorporates body posture and foot position when shooting the ball and the fact that they did not participate in elite sports level. This is caused the unexpected conclusion, however, given that the PST intervention did not concentrate on physical fitness such as strength, endurance, and power, all of which are crucial for kicking for shot speed (LSST sub-variables). Despite the fact that the experimental group's performance decreased, the shot speed results were not statistically significant, but the rest of variables were significant difference. This indicates that the experimental groups' soccer skills were impacted by PST.

With regards to soccer skills were one of the most important areas to concentrate on. According to several studies, PST can enhance sport abilities to the highest possible level. For instance, soccer performance during training and competition (Slimani et al., 2016), netball shooting (Shaari et al., 2019), rugby performance (Mellalieu et al., 2006) accuracy driving in golfers (Shivetts, 2006) and vertical jump (Tod et al., 2009), biathlon shooting (Groslambert et al., 2003) shooting and throwing in water polo (Hatzigeorgiadis et al., 2004), Furthermore, PST systematic data in endurance performance (McCormick et al., 2015) and athletic

performance (Hatzigeorgiadis et al., 2011) were performed. These studies are conclusive provide proof to the importance of mental toughness and soccer skills in sport psychology literature. As demonstrating mental toughness is essential for the athletic performance that leads to optimal level. According to numerous research, increasing one's mental toughness is advantageous for physical performance and sporting achievement (Liew et al., 2019).

The program operates through the improvement of mental toughness and sport skills, was not initially intended to increase physical aspect. While there are valid reasons to be cautious when interpreting the favourable outcomes, there are also valid grounds for optimism. This implication is in line with Ali et al. (2007) study indicated that the elite level score significant value than non-elite. In addition, the player's position and level of experience in soccer further impact their capacity for mental toughness (Sulaiman et al., 2021). It has been stated that the impact of psychological skills training for mental toughness and soccer skills has not yet been taken into account. Mental toughness involves a number of sub-components however, the findings are presented as a whole for overall mental toughness. In comparison to the control group and the group receiving intervention, the experimental group's component yields were greater overall after intervention in comparison to control group. Even though, mental toughness in the control and experimental groups showed significant differences in pre-test, this is likely due to the fact that everyone exhibits a certain degree of mental toughness. However, the greater level of mental toughness in experimental group suggests that PST can affect mental toughness. This is consistent with sport psychology literatures of PST that exhibited considerable improvements in mental toughness (Gucciardi et al., 2009; Miçoogullari & Ekmekçi, 2017; Thelwell et al., 2005) and sport skills (Groslambert et al., 2003; Shaari et al., 2019; Shivetts, 2006; Tod et al., 2009). Higher resilience is the outcome of such great mental toughness, therefore individuals with high mental toughness are considered to be able to learn from their mistakes and reduce stress (Clough et al., 2002). The capacity to remain composed amid challenging circumstances (Clough et al., 2002). Likewise, the outcome of ideal athletic performance begins with excellent mental toughness (Gucciardi et al., 2009). Although research on the relationship between mental

toughness and athletic skills has been limited, it is clear that mental toughness and the development of soccer skills are associated.

**5.3 Recommendations**

1.Physical fitness should be further increased based on the usage of PST since sports ideal performance involves three primary aspects.

2.To include psychological skills training in physical fitness session to improve physical fitness for shot speed.

3. To carry out research on the mental toughness and soccer skills of female soccer players at varying levels of involvement such as elite junior and senior level.

4. To research different sports in accordance with psychological training in mental toughness and sport skills.

5. Research related psychological elements, such as reducing anxiety before and during a game, motivation, and confidence, as these factors are essential for good performance in sports.

# REFERENCES

## REFERENCES


Ahokas, A., Kaukoranta, J., Wahlbeck, K., & Aito, M. (2001). Estrogen deficiency in severe postpartum depression: successful treatment with sublingual physiologic 17beta-estradiol: a preliminary study. *Journal of Clinical Psychiatry*, *62*(5), 332-336.

Ali, A., Eldred, J., Hirst, M., Hulse, M., McGregor, S., Strudwick, A., & Williams, C. (2003). The reliability and validity of the modified Loughborough Soccer Passing Test. *Journal of sports sciences*, *21*(4), 258-258.

Ali, A., Foskett, A., & Gant, N. (2008). Validation of a soccer skill test for use with females. *International journal of sports medicine*, 917-921.

Ali, A., Williams, C., Hulse, M., Strudwick, A., Reddin, J., Howarth, L., Eldred, J., Hirst, M., & McGregor, S. (2007). Reliability and validity of two tests of soccer skill. *Journal of sports sciences*, *25*, 1461-1470. https://doi.org/10.1080/02640410601150470

Ampofo-Boateng, K. (2009). Understanding Sport Psychology. *Selangor, Malaysia: UPENA*.

Barker, J., Jones, M., & Greenlees, I. (2010). Assessing the immediate and maintained effects of hypnosis on self-efficacy and soccer wall-volley performance. *Journal of Sport and Exercise Psychology*, *32*(2), 243-252.

Barr, K., & Hall, C. (1992). The use of imagery by rowers. *International Journal of Sport Psychology*.

Bate, D. (1996). Soccer skills practice. *Science and soccer. London: E & FN Spon*, *1996*, 227-241.

Becker, P. M. (2015). Hypnosis in the management of sleep disorders. *Sleep medicine clinics*, *10*(1), 85-92.

Birrer, D., & Morgan, G. (2010). Psychological skills training as a way to enhance an athlete's performance in high-intensity sports. *Scandinavian journal of medicine & science in sports*, *20*, 78-87.

Bloomfield, J., Polman, R., O'donoghue, P., & McNaughton, L. (2007). Effective speed and agility conditioning methodology for random intermittent dynamic type sports. *The Journal of Strength & Conditioning Research*, *21*(4), 1093-1100.

Boroujeni, S. T., & Shahbazi, M. (2011). The effect of instructional and motivational self-talk on performance of basketball's motor skill. *Procedia-Social and Behavioral Sciences*, *15*, 3113-3117.

Brewer, B. W. (2009). *Sport psychology*. Wiley-Blackwell Oxford, UK.

Brewer, J., & Hunter, A. (1989). *Multimethod research: A synthesis of styles*. Sage Publications, Inc.

Bull, S. J., Shambrook, C. J., James, W., & Brooks, J. E. (2005). Towards an Understanding of Mental Toughness in Elite English Cricketers. *Journal of applied sport psychology*, *17*(3), 209-227. https://doi.org/10.1080/10413200591010085

Caliari, P. (2008). Enhancing forehand acquisition in table tennis: the role of mental practice. *Journal of applied sport psychology*, *20*(1), 88-96.

Choosakul, C., & Julvanichpong, T. (2018). Structural Relationship of the Mental Toughness on Athletes' Success in Thai Contact Sport. *Journal of Education, Mahasarakham University*, *12*(3), 333.

Chroni, S., Perkos, S., & Theodorakis, Y. (2007). Function and preferences of motivational and instructional self-talk for adolescent basketball players. *Athletic insight*, *9*(1), 19-31.

Clark, H., Smith, D., & Thibaut, G. (1994). Athlete-centred sport: A discussion paper. . *Federal/ Provincial/Territorial Sport Police Steering Committee.*

Clough, P., Earle, K., & Sewell, D. (2002). Mental toughness: The concept and its measurement. *Solutions in sport psychology*, *1*, 32-45.

Collins, T. (2018). *How football began: a global history of how the world's football codes were born*. Routledge.

Cometti, G., Maffiuletti, N., Pousson, M., Chatard, J.-C., & Maffulli, N. (2001). Isokinetic strength and anaerobic power of elite, subelite and amateur French soccer players. *International journal of sports medicine*, *22*(01), 45-51.

Connaughton, D., Wadey, R., Hanton, S., & Jones, G. (2008). The development and maintenance of mental toughness: Perceptions of elite performers. *Journal of sports sciences*, *26*(1), 83-95. https://doi.org/10.1080/02640410701310958

Cook, C., Crust, L., Littlewood, M., Nesti, M., & Allen-Collinson, J. (2014). 'What it takes': Perceptions of mental toughness and its development in an English Premier League Soccer Academy. *Qualitative research in sport, exercise and health*, *6*(3), 329-347.

Corbin, K. W. (1967). Evolutionary relationships in the avian genus Columba as indicated by ovalbumin tryptic peptides. *Evolution*, 355-368.

Coulter, T. J., Mallett, C. J., & Gucciardi, D. F. (2010). Understanding mental toughness in Australian soccer: Perceptions of players, parents, and coaches. *Journal of sports sciences*, *28*(7), 699-716.

Cowden, R. G. (2017). Mental Toughness and Success in Sport: A Review and Prospect. *The Open Sports Sciences Journal*, *10*, 1-14.

Cox, R. (2012). Sport Psychology Concepts and Applications 7th Edition.

Cox, R. H. (1998). *Sport psychology: concepts and applications*. McGraw-hill.

Crust, L. (2008). A review and conceptual re-examination of mental toughness: Implications for future researchers. *Personality and Individual Differences*, *45*(7), 576-583.

Crust, L., & Swann, C. (2011). Comparing two measures of mental toughness. *Personality and Individual Differences*, *50*(2), 217-221.

Cumming, J., & Ramsey, R. (2008). Imagery interventions in sport. In *Advances in applied sport psychology* (pp. 15-46). Routledge.

Cumming, J., & Williams, S. E. (2012). The Role of Imagery in Performance 11. *The Oxford handbook of sport and performance psychology*, 213.

Cuthbert, B. N., Vrana, S. R., & Bradley, M. M. (1991). Imagery: Function and physiology.

Cutton, D. M., & Landin, D. (2007). The effects of self-talk and augmented feedback on learning the tennis forehand. *Journal of applied sport psychology*, *19*(3), 288-303.

Danielsen, L. D., Rodahl, S. E., Giske, R., & Høigaard, R. (2017). Mental toughness in elite and sub-elite female soccer players.

Davidson, B. W. (2008). The four faces of self-love in the theology of Jonathan Edwards. *Journal of the Evangelical Theological Society*, *51*(1), 87.

Davis, M., Eshelman, E. R., & McKay, M. (2008). *The relaxation and stress reduction workbook*. New Harbinger Publications.

De Francesco, C., & Burke, K. L. (1997). Performance enhancement strategies used in a professional tennis tournament. *International Journal of Sport Psychology*.

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian psychology/Psychologie canadienne*, *49*(3), 182.

Dereceli, Ç. (2019). An Examination of Concentration and Mental Toughness in Professional Basketball Players. *Journal of Education and Training Studies*, *7*(1), 17-22.

Dolly, D., Chhikara, A., & Ashish. (2017). A Comparative Study of Mental Toughness between Male, Female and Urban, Rural AIIU Gymnasts.

Doran, G. T. (1981). There'sa SMART way to write management's goals and objectives. *Management review*, *70*(11), 35-36.

Douma, S., Husband, C., O'donnell, M., Barwin, B., & Woodend, A. (2005). Estrogen-related mood disorders: reproductive life cycle factors. *Advances in Nursing Science*, *28*(4), 364-375.

Driskell, J. E., Copper, C., & Moran, A. (1994). Does mental practice enhance performance? *Journal of applied psychology*, *79*(4), 481.

Edwards, C., Tod, D., & McGuigan, M. (2008). Self-talk influences vertical jump performance and kinematics in male rugby union players. *Journal of sports sciences*, *26*(13), 1459-1465.

Edwards, W. (1961). Behavioral decision theory. *Annual review of psychology*, *12*(1), 473-498.

Etnier, J. L., & Landers, D. M. (1996). The influence of procedural variables on the efficacy of mental practice. *The Sport Psychologist*, *10*(1), 48-57.

Fairall, D. G., & Rodgers, W. M. (1997). The effects of goal-setting method on goal attributes in athletes: A field experiment. *Journal of Sport and Exercise Psychology*, *19*(1), 1-16.

Fenker, R. M., & Lambiotte, J. G. (1987). A performance enhancement program for a college football team: One incredible season. *The Sport Psychologist*, *1*(3), 224-236.

Foskett, A., Ali, A., & Gant, N. (2009). Caffeine enhances cognitive function and skill performance during simulated soccer activity. *International journal of sport nutrition and exercise metabolism*, *19*(4), 410-423.

Fourie, S., & Potgieter, J. R. (2001). The nature of mental toughness in sport. *South African Journal for Research in Sport Physical Education and Recreation*, *23*, 63-72.

Fournier, J. F., Calmels, C., Durand-Bush, N., & Salmela, J. H. (2005). Effects of a season-long PST program on gymnastic performance and on psychological skill development. *International Journal of Sport and Exercise Psychology*, *3*(1), 59-78.

Gant, N., Ali, A., & Foskett, A. (2010). The influence of caffeine and carbohydrate coingestion on simulated soccer performance. *International journal of sport nutrition and exercise metabolism*, *20*(3), 191-197.

García, F. G., & Santana, J. (2018). Exploring mental toughness in soccer players of different levels of performance. *Revista iberoamericana de psicología del ejercicio y el deporte*, *13*(2), 297-303.

Gardner, F. (1995). The coach and the team psychologist: an integrated organizational model. *Sport psychology interventions.*, 147-175.

Gardner, F. L. (2009). Efficacy, mechanisms of change, and the scientific development of sport psychology. *Journal of Clinical Sport Psychology*, *3*(2), 139-155.

Gibson, A. S. C., & Foster, C. (2007). The role of self-talk in the awareness of physiological state and physical performance. *Sports Medicine*, *37*, 1029-1044.

Gil, S. M., Gil, J., Ruiz, F., Irazusta, A., & Irazusta, J. (2007). Physiological and anthropometric characteristics of young soccer players according to their playing position: relevance for the selection process. *The Journal of Strength & Conditioning Research*, *21*(2), 438-445.

Gill, D. (2000). Psychology and the study of sport. *Handbook of sports studies*, 228-240.

Gill, D. L., & Deeter, T. E. (1988). Development of the sport orientation questionnaire. *Research quarterly for exercise and sport*, *59*(3), 191-202.

Gledhill, A., & Harwood, C. (2019). Toward an understanding of players' perceptions of talent development environments in UK female football. *Journal of applied sport psychology*, *31*(1), 105-115.

Golby, J., & Sheard, M. (2004). Mental toughness and hardiness at different levels of rugby league. *Personality and Individual Differences*, *37*(5), 933-942.

Golby, J., & Wood, P. (2016). The effects of psychological skills training on mental toughness and psychological well-being of student-athletes. *Psychology*, *7*(06), 901.

Goudas, M., Dermitzaki, I., Leondari, A., & Danish, S. (2006). The effectiveness of teaching a life skills program in a physical education context. *European journal of psychology of education*, *21*, 429-438.

Gould, D., Dieffenbach, K., & Moffett, A. (2002). Psychological characteristics and their development in Olympic champions. *Journal of applied sport psychology*, *14*(3), 172-204.

Gould, D., Finch, L. M., & Jackson, S. A. (1993). Coping strategies used by national champion figure skaters. *Research quarterly for exercise and sport*, *64*(4), 453-468.

Gould, D., Hodge, K., Peterson, K., & Petlichkoff, L. (1987). Psychological foundations of coaching: Similarities and differences among intercollegiate wrestling coaches. *The Sport Psychologist*, *1*(4), 293-308.

Greenberg, M. (2009). Moral concepts and motivation. *Philosophical Perspectives*, *23*, 137-164.

Greenspan, M. J., & Feltz, D. L. (1989). Psychological interventions with athletes in competitive situations: A review. *The Sport Psychologist*, *3*(3), 219-236.

Groslambert, A., Candau, R., Grappe, F., Dugue, B., & Rouillon, J. (2003). Effects of autogenic and imagery training on the shooting performance in biathlon. *Research quarterly for exercise and sport*, *74*(3), 337-341.

Grouios, G. (1992). Mental practice: A review. *Journal of Sport Behavior*, *15*(1), 42.

Gucciardi, D. F. (2017). Mental toughness: progress and prospects. *Current Opinion in Psychology*, *16*, 17-23.

Gucciardi, D. F., Gordon, S., & Dimmock, J. A. (2009). Evaluation of a mental toughness training program for youth-aged Australian footballers: I. A quantitative analysis. *Journal of applied sport psychology*, *21*(3), 307-323.

Haaland, E., & Hoff, J. (2003). Non-dominant leg training improves the bilateral motor performance of soccer players. *Scandinavian journal of medicine & science in sports*, *13*(3), 179-184.

Haleva, Y., & Meckel, Y. (2020). The Effect of Basic Technical Training on Performance Capabilities of Young Soccer Players. *Advances in Physical Education*, *10*(01), 19.

Hall, Toews, J., & Rodgers, W. (1990). Les Aspects motivationnels de l'imagerie en activités motrices. *STAPS*, *11*(22), 27-32.

Hall, C., Schmidt, D., Durand, M.-C., & Buckolz, E. (1994). Imagery and motor skills acquisition. *Imagery in sports and physical performance*, 121-134.

Hall, C. R., Mack, D. E., Paivio, A., & Hausenblas, H. A. (1998). Imagery use by athletes: development of the sport imagery questionnaire. *International Journal of Sport Psychology*.

Hall, E. G., & Hardy, C. J. (1991). Ready, aim, fire… relaxation strategies for enhancing pistol marksmanship. *Perceptual and Motor Skills*, *72*(3), 775-786.

Hall, R., Rodgers, W. M., & Barr, K. A. (1990). The use of imagery by athletes in selected sports. *The Sport Psychologist*, *4*(1), 1-10.

Hardy, G. E., Barkham, M., Shapiro, D. A., Reynolds, S., Rees, A., & Stiles, W. B. (1995). Credibility and outcome of cognitive—behavioural and psychodynamic—interpersonal psychotherapy. *British Journal of Clinical Psychology*, *34*(4), 555-569.

Hardy, J. (2006). Speaking clearly: A critical review of the self-talk literature. *Psychology of sport and exercise*, *7*(1), 81-97.

Hardy, J., Gammage, K., & Hall, C. (2001). A descriptive study of athlete self-talk. *The Sport Psychologist*, *15*(3), 306-318.

Hardy, J., Hall, C. R., & Alexander, M. R. (2001). Exploring self-talk and affective states in sport. *Journal of sports sciences*, *19*(7), 469-475.

Hardy, J., Hall, C. R., & Hardy, L. (2004). A note on athletes' use of self-talk. *Journal of applied sport psychology*, *16*(3), 251-257.

Hardy, L., Jones, G., & Gould, D. (2018). *Understanding psychological preparation for sport: Theory and practice of elite performers*. John Wiley & Sons.

Hatzigeorgiadis, A. (2006). Instructional and motivational self-talk: An investigation on perceived self-talk functions. *Hellenic Journal of Psychology*, *3*(2), 164-175.

Hatzigeorgiadis, A., Theodorakis, Y., & Zourbanos, N. (2004). Self-talk in the swimming pool: The effects of self-talk on thought content and performance on water-polo tasks. *Journal of applied sport psychology*, *16*(2), 138-150.

Hatzigeorgiadis, A., Zourbanos, N., Galanis, E., & Theodorakis, Y. (2011). Self-talk and sports performance: A meta-analysis. *Perspectives on Psychological Science*, *6*(4), 348-356.

Hatzigeorgiadis, A., Zourbanos, N., & Theodorakis, Y. (2007). The moderating effects of self-talk content on self-talk functions. *Journal of applied sport psychology*, *19*(2), 240-251.

Headley-Cooper, K. J. (2010). *Coaches' perspectives on athlete-centred coaching*. University of Toronto Toronto.

Hellstedt, J. C. (1987). The coach/parent/athlete relationship. *The Sport Psychologist*, *1*(2), 151-160.

Heydari, A., Soltani, H., & Mohammadi-Nezhad, M. (2018). The effect of Psychological skills training (goal setting, positive selftalk and Imagery) on self-confidence of adolescent volleyball players. *Pedagogics, psychology, medical-biological problems of physical training and sports*(4), 189-194.

Hinshaw, K. E. (1991). The effects of mental practice on motor skill performance: Critical evaluation and meta-analysis. *Imagination, Cognition and Personality*, *11*(1), 3-35.

Holmes, P. S., & Collins, D. J. (2001). The PETTLEP approach to motor imagery: A functional equivalence model for sport psychologists. *Journal of applied sport psychology*, *13*(1), 60-83.

Horn, T. S. (2008). *Advances in sport psychology*. Human kinetics.

Howland, J. M. (2007). Mental skills training for coaches to help athletes focus their attention, manage arousal, and improve performance in sport. *Journal of Education*, *187*(1), 49-66.

Jacobsen, E. (1929). Progressive relaxation.

Jacobson, E. (1938). Progressive relaxation. Chicago: Univer. In: of Chicago press.

Jalene, S., & Wulf, G. (2014). Brief hypnotic intervention increases throwing accuracy. *International Journal of Sports Science & Coaching*, *9*(1), 199-206.

Janssen, J. J., & Sheikh, A. A. (1994). Enhancing athletic performance through imagery: an overview. *Imagery in sports and physical performance*, 1-22.

Jantz, G. L. (2016). The Power of Positive Self-Talk. . *Retrieved from: https://www.psychologytoday.com/us/blog/hope-relationships/201605/the-power-positive-self-talk*.

Jantz, G. L. (2019). *Healing Depression for Life: The Personalized Approach that Offers New Hope for Lasting Relief*. NavPress.

Jinshan, X., Xiaoke, C., Yamanaka, K., & Matsumoto, M. (2003). Analysis of the goals in the 14th World Cup. In *Science and football II* (pp. 203-205). Taylor & Francis.

Johnson, J. J., Hrycaiko, D. W., Johnson, G. V., & Halas, J. M. (2004). Self-talk and female youth soccer performance. *The Sport Psychologist*, *18*(1), 44-59.

Jones, G., Hanton, S., & Connaughton, D. (2002). What is this thing called mental toughness? An investigation of elite sport performers. *Journal of applied sport psychology*, *14*(3), 205-218.

Jones, G., Hanton, S., & Connaughton, D. (2007). A framework of mental toughness in the world's best performers. *The Sport Psychologist*, *21*(2), 243-264.

Jones, G., & Moorhouse, A. (2008). *Developing mental toughness*. How To Books.

Jowdy, D. P., & Harris, D. V. (1990). Muscular responses during mental imagery as a function of motor skill level. *Journal of Sport and Exercise Psychology*, *12*(2), 191-201.

Julvanichpong, T., Vongjaturapat, N., and Julvanichpong, W. (2010). The developmental of Thai mental toughness inventory.
. *Journal of Exercise and Sport Science*,
, *7(2): 1–14.* .

Kalinin, R., Balázsi, R., Péntek, I., Duică, Ș., & Hanțiu, I. (2019). Relationship between competitive anxiety and mental toughness: a latent regression analysis. *Health, Sports & Rehabilitation Medicine*, *20*(2), 70-74.

Kazım, N., & Temel, V. (2018). Mental toughness on athletes: The interaction of the sports type, gender and age. *Uluslararası Anadolu Spor Bilimleri Dergisi*, *3*(2), 305-311.

Kemarat, S. (2021). การฝึกทักษะทางด้านจิตใจสำหรับนักกีฬา Mental Skills Training for Athletes. (สำนักพิมพ์มหาวิทยาลัยธรรมศาสตร์), 138.

Kerkez, F., Kulak, A., & Aktas, Y. (2012). Effects of specific imagery and autogenic relaxation combined intervention on soccer skill performance of young athletes in Turkey. *Scottish Journal of Arts, Social Sciences and Scientific Studies*, *3*(1), 53-67.

Kerr, G. A., & Stirling, A. E. (2008). Child protection in sport: Implications of an athlete-centered philosophy. *Quest*, *60*(2), 307-323.

Kidman, L. (2005). *Athlete-centred coaching: Developing inspired and inspiring people*. IPC Print Resources.

Kidman, L., & Lombardo, B. (2010). *Athlete-centred coaching: Developing decision makers*. IPC Print Resources.

Kingston, K. M., & Hardy, L. (1997). Effects of different types of goals on processes that support performance. *The Sport Psychologist*, *11*(3), 277-293.

Klein, H. J., Wesson, M. J., Hollenbeck, J. R., & Alge, B. J. (1999). Goal commitment and the goal-setting process: conceptual clarification and empirical synthesis. *Journal of applied psychology*, *84*(6), 885.

Knapp, B. (1963). Skill in sport: the attainment of proficiency. *(No Title)*.

Kolovelonis, A., Goudas, M., & Dermitzaki, I. (2012). The effects of self-talk and goal setting on self-regulation of learning a new motor skill in physical education. *International Journal of Sport and Exercise Psychology*, *10*(3), 221-235.

Kosslyn, S. M., Ganis, G., & Thompson, W. L. (2001). Neural foundations of imagery. *Nature reviews neuroscience*, *2*(9), 635-642.

Kristjánsdóttir, H., Jóhannsdóttir, K. R., Pic, M., & Saavedra, J. M. (2019). Psychological characteristics in women football players: Skills, mental toughness, and anxiety. *Scandinavian Journal of Psychology*, *60*(6), 609-615.

Kumar, A. (2016). A study on mental toughness and sports competition anxiety for male and female basketball players. *International Journal of Physical Education, Sports and Health*, *3*(2), 379-381.

Kurt, C., Çatikkas, F., ÖmÜrlÜ, İ. K., & AtalaÖ, O. (2012). Comparison of Loneliness, Trait Anger-Anger Expression Style, Self-esteem Attributes with Different Playing Position in Soccer. *Journal of Physical Education & Sport*, *12*(1).

Kyllo, L. B., & Landers, D. M. (1995). Goal setting in sport and exercise: A research synthesis to resolve the controversy. *Journal of Sport and Exercise Psychology*, *17*(2), 117-137.

Landers, D. M. (1983). The effects of mental practice on motor skill learning and performance: A meta-analysis. *Journal of sport psychology*, *5*(1).

Latham, G. P., & Locke, E. A. (2007). New developments in and directions for goal-setting research. *European Psychologist*, *12*(4), 290-300.

Li, Z., & Li, S.-X. (2022). The application of hypnosis in sports. *Frontiers in Psychology*, *12*, 771162.

Liew, G. C., Kuan, G., Chin, N. S., & Hashim, H. A. (2019). Mental toughness in sport. *German Journal of Exercise and Sport Research*, *49*(4), 381-394.

Locke, E. A., & Latham, G. P. (1985). The application of goal setting to sports. *Journal of Sport and Exercise Psychology*, *7*(3), 205-222.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting & task performance*. Prentice-Hall, Inc.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American psychologist*, *57*(9), 705.

Loehr, J. (1982). *Mental toughness training for sports: Achieving athletic excellence*. Plume.

Loehr, J. E. (1995). *The New Toughness Training for Sports: Mental Emotional Physical Conditioning from 1 World's Premier Sports Psychologis*. Penguin.

Lyle, J. (2005). *Sports coaching concepts: A framework for coaches' behaviour*. Routledge.

Lyons, M., Al-Nakeeb, Y., & Nevill, A. (2006). Performance of soccer passing skills under moderate and high-intensity localized muscle fatigue. *The Journal of Strength & Conditioning Research*, *20*(1), 197-202.

Mace, R., Eastman, C., & Carroll, D. (1987). The effects of stress inoculation training on gymnastics performance on the pommelled horse. A case study. *Behavioural and Cognitive Psychotherapy*, *15*(3), 272-279.

MacIntyre, T. E., & Moran, A. P. (2007). A qualitative investigation of imagery use and meta-imagery processes among elite canoe-slalom competitors. *Journal of Imagery Research in Sport and Physical Activity*, *2*(1).

Mackay, D. G. (1981). The problem of rehearsal or mental practice. *Journal of motor behavior*, *13*(4), 274-285.

Mahoney, M. J., & Avener, M. (1977). Psychology of the elite athlete: An exploratory study. *Cognitive therapy and research*, *1*, 135-141.

Malina, R. M., Cumming, S. P., Kontos, A. P., Eisenmann, J. C., Ribeiro, B., & Aroso, J. (2005). Maturity-associated variation in sport-specific skills of youth soccer players aged 13–15 years. *Journal of sports sciences*, *23*(5), 515-522.

Martin, K. A., & Hall, C. R. (1995). Using mental imagery to enhance intrinsic motivation. *Journal of Sport and Exercise Psychology*, *17*(1), 54-69.

Martin, K. A., Moritz, S. E., & Hall, C. R. (1999). Imagery use in sport: A literature review and applied model. *The Sport Psychologist*, *13*(3), 245-268.

Masum, R. (2014). A mixed method analysis of mental toughness in elite and sub-elite male and female tennis players in Pakistan. *Advances in Social Sciences Research Journal*, *1*(6), 110-122.

McCormick, A., Meijen, C., & Marcora, S. (2015). Psychological determinants of whole-body endurance performance. *Sports Medicine*, *45*, 997-1015.

Mellalieu, S. D., Hanton, S., & O'brien, M. (2006). The effects of goal setting on rugby performance. *Journal of Applied Behavior Analysis*, *39*(2), 257-261.

Miçooğullar, B., O, & Kirazci, S. (2016). Effects of 6 Weeks Psychological Skill Training on Team Cohesion, Self-confidence & Anxiety: A Case of Youth Basketball Players. *Universal Journal of Educational Research, 4(12): 2761-2768, 2016 DOI: 10.13189/ujer.2016.041210*.

Miçoogullari, B. O. (2016). Psychological Skills Development and Maintenance in Professional Soccer Players: An Experimental Design with Follow Up Measures. *Educational Research and Reviews*, *11*(12), 1138-1148.

Miçoogullari, B. O., & Ekmekçi, R. (2017). Evaluation of a Psychological Skill Training Program on Mental Toughness and Psychological Wellbeing for Professional Soccer Players. *Universal Journal of Educational Research*, *5*(12), 2312-2319.

Miçooğulları, O. B. (2013). Effects of 6 weeks psychological skill training on team cohesion, self-confidence & anxiety: A case of youth basketball players.

Middleton, S. C., Marsh, H. W., Martin, A. J., Richards, G. E., & Perry, C. (2005). Developing a test for mental toughness: The Mental Toughness Inventory (MTI). Australian Association for Research in Education 2005 conference papers,

Middleton, S. C., Marsh, H. W., Martin, A. J., Richards, G. E., Savis, J., Perry Jr, C., & Brown, R. (2004). The Psychological Performance Inventory: Is the mental toughness test tough enough? *International Journal of Sport Psychology*.

Migliaccio, G. M., Russo, L., Maric, M., & Padulo, J. (2023). Sports Performance and Breathing Rate: What Is the Connection? A Narrative Review on Breathing Strategies. *Sports (Basel)*, *11*(5). https://doi.org/10.3390/sports11050103

Miller, P. S., & Kerr, G. A. (2002). Conceptualizing excellence: Past, present, and future. *Journal of applied sport psychology*, *14*(3), 140-153.

Mohr, M., Krustrup, P., & Bangsbo, J. (2003). Match performance of high-standard soccer players with special reference to development of fatigue. *Journal of sports sciences*, *21*(7), 519-528.

Moran, A. P. (2016). *The psychology of concentration in sport performers: A cognitive analysis*. Psychology Press.

Morris, T., Spittle, M., & Perry, C. (2004). Mental imagery in sport.

Morris, T., Spittle, M., & Watt, A. P. (2005). *Imagery in sport*. Human Kinetics.

Morris, T. E., & Summers, J. E. (2004). *Sport psychology: Theory, applications and issues*. John Wiley & Sons Australia.

Munroe, K. J., Giacobbi, P. R., Hall, C., & Weinberg, R. (2000). The four Ws of imagery use: Where, when, why, and what. *The Sport Psychologist*, *14*(2), 119-137.

Murphy, S. (2009). *The sport psych handbook*. Human Kinetics.

Murphy, S. M. (1994). Imagery interventions in sport. *Medicine and science in sports and exercise*, *26*(4), 486-494.

Murphy, S. M., & Martin, K. A. (2002). The use of imagery in sport.

Nideffer, R. (1985). *Athletes' guide to mental training*. Human Kinetics Publishers.

Niu, P. D. (2013). Exploring the use of hypnosis in the teaching of physical education. *Hubei Sports Sci*, *.32*, *742–744*.

O'Regan, N., Ghobadian, A., & Gallear, D. (2006). In search of the drivers of high growth in manufacturing SMEs. *Technovation*, *26*(1), 30-41.

Olmedilla, A., Moreno-Fernández, I. M., Gómez-Espejo, V., Robles-Palazón, F. J., Verdú, I., & Ortega, E. (2019). Psychological intervention program to control stress in youth soccer players. *Frontiers in Psychology*, *10*, 2260.

Orlick, T. (2015). *In pursuit of excellence*. Human Kinetics.

Orlick, T., & McCaffrey, N. (1991). Mental training with children for sport and life. *The Sport Psychologist*, *5*(4), 322-334.

Orlick, T., & Partington, J. (1988). Mental links to excellence. *The Sport Psychologist*, *2*(2), 105-130.

Paivio, A. (1985). Cognitive and motivational functions of imagery in human performance. *Canadian journal of applied sport sciences. Journal canadien des sciences appliquées au sport*, *10*(4), 22S-28S.

Pakulanon, S. (2016). The effective imagery use for athletes. *Journal of Sports Science and Health*, *17*(1).

Papaioannou, A., Theodorakis, Y., Ballon, F., & Auwelle, Y. V. (2004). Combined effect of goal setting and self-talk in performance of a soccer-shooting task. *Perceptual and Motor Skills*, *98*(1), 89-99.

Papanikolaou, Z., Voutselas¹, V., Mantis, K., & Laparidis, K. (2012). The effects of a psychological skills training program on the cohesion of a men's soccer team.

Parker, G. B., & Brotchie, H. L. (2004). From diathesis to dimorphism: the biology of gender differences in depression. *The Journal of nervous and mental disease*, *192*(3), 210-216.

Parnabas, V., Omar-Fauzee, M., Nazaruddin, M. N., & Abdullah, N. M. (2015). Internal and external imagery on sports performance among football players. *International Journal of Physical and Social Sciences*, *5*(4), 190-198.

Patrick, T. D., & Hrycaiko, D. W. (1998). Effects of a mental training package on an endurance performance. *The Sport Psychologist*, *12*(3), 283-299.

Peluso, M. A. M., & De Andrade, L. H. S. G. (2005). Physical activity and mental health: the association between exercise and mood. *Clinics*, *60*(1), 61-70.

Perkos, S., Theodorakis, Y., & Chroni, S. (2002). Enhancing performance and skill acquisition in novice basketball players with instructional self-talk. *The Sport Psychologist*, *16*(4), 368-383.

Pierce, B. E., & Burton, D. (1998). Scoring the perfect 10: Investigating the impact of goal-setting styles on a goal-setting program for female gymnasts. *The Sport Psychologist*, *12*(2), 156-168.

Posey, M. (2009). What is mental toughness and why is it important for athletes?, . *Retrieved from http://ezinearticles.com/?What-is-Mental-Toughness-and-Why-Is-It-Important?&id=1856995*.

Premananda, S. S., & Bhowmik, D. (2017). Effect of psychological skills training program on state and trait anxiety of soccer players. *International Journal of Physiology*, *4*.

Ravizza, K. (2001). Reflections and insights from the field on performance enhancement consultation. *The practice of sport psychology*, 197-216.

Rawte, B., R. (2020). A STUDY OF GENDER DIFFERENCE IN MENTAL TOUGHNESS AMONG TRIBAL SPORTSPERSON OF CHHATTISGARH IN INDIA.

Reddy, M. K., Bai, A., & Rao, B. (1976). The effects of the Transcendental Meditation program on athletic performance. *Scientific research on the transcendental meditation program*, *1*.

Reilly, T., Williams, A. M., Nevill, A., & Franks, A. (2000). A multidisciplinary approach to talent identification in soccer. *Journal of sports sciences*, *18*(9), 695-702.

Ritz, T. (2012). Airway responsiveness to psychological processes in asthma and health. *Frontiers in physiology*, *3*, 343.

Rodgers, W., Hall, C., & Buckolz, E. (1991). The effect of an imagery training program on imagery ability, imagery use, and figure skating performance. *Journal of applied sport psychology*, *3*(2), 109-125.

Rogerson, L. J., & Hrycaiko, D. W. (2002). Enhancing competitive performance of ice hockey goaltenders using centering and self-talk. *Journal of applied sport psychology*, *14*(1), 14-26.

Rosch, D., Hodgson, R., Peterson, L., Graf-Baumann, T., Junge, A., Chomiak, J., & Dvorak, J. (2000). Assessment and evaluation of football performance. *The American journal of sports medicine*, *28*(5_suppl), 29-39.

Rostgaard, T., Iaia, F. M., Simonsen, D. S., & Bangsbo, J. (2008). A test to evaluate the physical impact on technical performance in soccer. *The Journal of Strength & Conditioning Research*, *22*(1), 283-292.

Röthlin, P., Birrer, D., Horvath, S., & Grosse Holtforth, M. (2016). Psychological skills training and a mindfulness-based intervention to enhance functional athletic performance: design of a randomized controlled trial using ambulatory assessment. *BMC psychology*, *4*, 1-11.

Ruiz-Esteban, C., Olmedilla, A., Méndez, I., & Tobal, J. J. (2020). Female soccer players' psychological profile: Differences between professional and amateur players. *International journal of environmental research and public health*, *17*(12), 4357.

Rushall, B. S. (1988). Covert modeling as a procedure for altering an elite athlete's psychological state. *The Sport Psychologist*, *2*(2), 131-140.

Sadeghi, H., Omar-Fauzee, M. S., Jamalis, M., Ab-Latif, R., & Cheric, M. C. (2010). The Mental Skills Training of University Soccer Players. *International Education Studies*, *3*, 81-90.

Sakamoto, K., Numazu, N., Hong, S., & Asai, T. (2016). Kinetic analysis of instep and side-foot kick in female and male soccer players. *Procedia engineering*, *147*, 214-219.

Salmon, J., Hall, C., & Haslam, I. (1994). The use of imagery by soccer players. *Journal of applied sport psychology*, *6*(1), 116-133.

Schultz, J. H., & Luthe, W. (1959). Autogenic training: A psychophysiologic approach to psychotherapy.

Shaari, J. S., Hooi, L. B., & Siswantoyo, S. (2019). The effectiveness of psychological skills training program on netball shooting performance. *Cakrawala Pendidikan*, *38*(1), 174-187.

Sheard, M., & Golby, J. (2006). Effect of a psychological skills training program on swimming performance and positive psychological development. *International Journal of Sport and Exercise Psychology*, *4*(2), 149-169.

Sheard, M., Golby, J., & Van Wersch, A. (2009). Progress toward construct validation of the Sports Mental Toughness Questionnaire (SMTQ). *European Journal of Psychological Assessment*, *25*(3), 186-193.

Shivetts, M. S. (2006). Effects of an Individual Goal-Setting Intervention on Goal Orientation, Self-Confidence, and Riving Accuracy in Average Golfers: A Quantitative Design.

Slack, L. A., Maynard, I. W., Butt, J., & Olusoga, P. (2015). An evaluation of a mental toughness education and training program for early-career English football league referees. *The Sport Psychologist*, *29*(3), 237-257.

Slade, J. M., Landers, D. M., & Martin, P. E. (2002). Muscular activity during real and imagined movements: A test of inflow explanations. *Journal of Sport & Exercise Psychology*, *24*(2).

Slimani, M., Bragazzi, N. L., Tod, D., Dellal, A., Hue, O., Cheour, F., Taylor, L., & Chamari, K. (2016). Do cognitive training strategies improve motor and positive psychological skills development in soccer players? Insights from a systematic review. *Journal of sports sciences*, *34*(24), 2338-2349.

Smith, D., & Collins, D. (2004). Mental practice, motor performance, and the late CNV. *Journal of Sport and Exercise Psychology*, *26*(3), 412-426.

Smith, D., Wright, C. J., & Cantwell, C. (2008). Beating the bunker: The effect of PETTLEP imagery on golf bunker shot performance. *Research quarterly for exercise and sport*, *79*(3), 385-391.

Smith, L. H. (2012). Toughness counts: 5 tips to increase your mental toughness. *Retrieved from www.rsdnation.com/node/201393*.

Solomon, M. B., & Herman, J. P. (2009). Sex differences in psychopathology: of gonads, adrenals and mental illness. *Physiology & behavior*, *97*(2), 250-258.

Spigolon, L., & Dell'Oro, A. (1985). Autogenic training in frogmen. *International Journal of Sport Psychology*.

Stone, K. J., & Oliver, J. L. (2009). The effect of 45 minutes of soccer-specific exercise on the performance of soccer skills. *International journal of sports physiology and performance*, *4*(2), 163-175.

Suddaby, R. (2010). Construct clarity in theories of management and organization: Editor's comments. *Academy of Management Review*, *35*(3), 346-357.

Sulaiman, N., Syahrul, S., Zarizi, S., Razmi, R., Ismail, N., & Darmansah, N. (2021). Mental Toughness in Sports: Level of Mental Toughness among Football Players in Different Position. *58*, 1802-1806. https://doi.org/10.6084/m9.figshare.20506836.v1

Tang, Y.-Y., Ma, Y., Fan, Y., Feng, H., Wang, J., Feng, S., Lu, Q., Hu, B., Lin, Y., & Li, J. (2009). Central and autonomic nervous system interaction is altered by short-term meditation. *Proceedings of the national Academy of Sciences*, *106*(22), 8865-8870.

Tang, Y.-Y., Ma, Y., Wang, J., Fan, Y., Feng, S., Lu, Q., Yu, Q., Sui, D., Rothbart, M. K., & Fan, M. (2007). Short-term meditation training improves attention and self-regulation. *Proceedings of the national Academy of Sciences*, *104*(43), 17152-17156.

Tang, Y.-Y., & Posner, M. I. (2009). Attention training and attention state training. *Trends in cognitive sciences*, *13*(5), 222-227.

Tenenbaum, G., Corbett, M., & Kitsantas, A. (2002). Biofeedback: Applications and methodological concerns. *Brain and body in sport and exercise: Biofeedback applications in performance enhancement*, 55-76.

Tenenbaum, G., & Eklund, R. C. (2007). *Handbook of sport psychology*. Wiley Online Library.

Thefreedictionary. (2012). Rational though.

Thelwell, R., & Maynard, I. (2003). The effects of a mental skills package on 'repeatable good performance'in cricketers. *Psychology of sport and exercise*, *4*(4), 377-396.

Thelwell, R., Weston, N., & Greenlees, I. (2005). Defining and Understanding Mental Toughness within Soccer. *Journal of applied sport psychology*, *17*(4), 326-332. https://doi.org/10.1080/10413200500313636

Thelwell, R. C., & Greenlees, I. A. (2001). The effects of a mental skills training package on gymnasium triathlon performance. *The Sport Psychologist*, *15*(2), 127-141.

Thelwell, R. C., & Greenlees, I. A. (2003). Developing competitive endurance performance using mental skills training. *The Sport Psychologist*, *17*(3), 318-337.

Thelwell, R. C., Greenlees, I. A., & Weston, N. J. (2006). Using psychological skills training to develop soccer performance. *Journal of applied sport psychology*, *18*(3), 254-270.

Theodorakis, Y., Hatzigeorgiadis, A., & Zourbanos, N. (2012). 10 Cognitions: Self-Talk and Performance. *The Oxford handbook of sport and performance psychology*, 191.

Theodorakis, Y., Weinberg, R., Natsis, P., Douma, I., & Kazakas, P. (2000). The effects of motivational versus instructional self-talk on improving motor performance. *The Sport Psychologist*, *14*(3), 253-271.

Tienphati, K., Julvanichpong, T., Vongjaturapat, T., & Sabvirapakorn, W. (2016). The relationship between mental toughness and emotional Quotient of rugby football players. *Journal of Sport Science Technology*, *16*(1).

Tod, D. A., Thatcher, R., McGuigan, M., & Thatcher, J. (2009). Effects of instructional and motivational self-talk on the vertical jump. *The Journal of Strength & Conditioning Research*, *23*(1), 196-202.

Tsiggilis, N., Daroglou, G., Ardamerinos, N., Partemian, S., & Ioakimidis, P. (2003). The effect of self-talk on self-efficacy and performance in a handball throwing test. *Inquiries Sport Phys Educ*, *1*, 189-196.

Ünluguzel, B., Besler, H. K., & BİNgÖL Diedhiou, A. (2023). Comparison of Mental Toughness Levels of Soccer and Rugby Players. *Performance Analysis in Sport and Exercise*, *2*(1), 18-26. https://dergipark.org.tr/en/pub/pase/issue/78559/1319948

Van Dierendonck, D. (2004). The construct validity of Ryff's Scales of Psychological Well-being and its extension with spiritual well-being. *Personality and Individual Differences*, *36*(3), 629-643.

Van Raalte, J. L., Brewer, B. W., Rivera, P. M., & Petitpas, A. J. (1994). The relationship between observable self-talk and competitive junior tennis players' match performances. *Journal of Sport and Exercise Psychology*, *16*(4), 400-415.

Van Raalte, J. L., Cornelius, A. E., Brewer, B. W., & Hatten, S. J. (2000). The antecedents and consequences of self-talk in competitive tennis. *Journal of Sport and Exercise Psychology*, *22*(4), 345-356.

Vealey, R., & Greenleaf, C. (2010). Seeing is believing: Understanding and using imagery in sports. *In J. Williams (Ed.), Applied sport psychology: Personal growth to peak performance, (6th ed., 267-304), New York: McGraw-Hill.*

Vealey, R. S. (1986). Conceptualization of sport-confidence and competitive orientation: Preliminary investigation and instrument development. *Journal of Sport and Exercise Psychology*, *8*(3), 221-246.

Vealey, R. S. (1988). Future directions in psychological skills training. *The Sport Psychologist*, *2*(4), 318-336.

Vealey, R. S. (1994). Knowledge development and implementation in sport psychology: A review of the sport psychologist, 1987–1992. *The Sport Psychologist*, *8*(4), 331-348.

Vealey, R. S. (2005). Sport and exercise psychology. *Introduction to Kinesiology. 3nd ed. Champaign (IL): Human Kinetics*, 269-300.

Vealey, R. S. (2007). Mental skills training in sport.

Vella-Fondacaro, D., & Romano-Smith, S. (2023). The Impact of a Psychological Skills Training and Mindfulness-Based Intervention on the Mental Toughness, Competitive Anxiety, and Coping Skills of Futsal Players—A Longitudinal Convergent Mixed-Methods Design. *Sports*, *11*(9), 162. https://www.mdpi.com/2075-4663/11/9/162

Wadey, R., & Hanton, S. (2008). Basic psychological skills usage and competitive anxiety responses: perceived underlying mechanisms. *Research quarterly for exercise and sport*, *79*(3), 363-373.

Wanlin, C. M., Hrycaiko, D., Martin, G., & Mahon, M. (1997). The effects of a goal-setting package on the performance of speed skaters. *Journal of applied sport psychology*, *9*(2), 212-228.

Wann, D., & Church, B. (1998). A method for enhancing the psychological skills of track and field athletes. *Murray State University*.

Ward, P., & Carnes, M. (2002). EFFECTS OF POSTING SELF-SET GOALS ON COLLEGIATE FOOTBALL PLAYERS'SKILL EXECUTION DURING PRACTICE AND GAMES. *Journal of Applied Behavior Analysis*, *35*(1), 1-12.

Watt, R. G. (2005). Strategies and approaches in oral disease prevention and health promotion. *Bulletin of the World Health Organization*, *83*, 711-718.

Weil, A. (2015). 4-7-8 Breathing technique. *https://www.verywellmind.com/what-is-4-7-8-breathing-5204438*.

Weinberg, R., Butt, J., & Culp, B. (2011). Coaches' views of mental toughness and how it is built. *International Journal of Sport and Exercise Psychology*, *9*(2), 156-172.

Weinberg, R., & Gould, D. (1999). *Foundations of sport and exercise psychology*. Human Kinetics Publishers (UK) Ltd.

Weinberg, R., & Gould, D. (2001). Fundamentals of Sports Psychology and exercise. *Artmed, Porto Alegre*.

Weinberg, R. S., & Gould, D. (2003). *Foundations of Sport and Exercise Psychology*. Human Kinetics. https://books.google.co.th/books?id=gy95pPyQYYcC

Weinberg, R. S., & Gould, D. (2007). *Foundations of sport and exercise psychology* (4th ed.). Human Kinetics Champaign, IL.

Weinberg, R. S., & Gould, D. (2014). *Foundations of sport and exercise psychology 6th Edition*. Human Kinetics.

Weinberg, R. S., & Richardson, P. A. (1990). *Psychology of officiating*. Leisure Press.

Weiss, M. R. (1991). Psychological skill development in children and adolescents. *The Sport Psychologist*, *5*(4), 335-354.

Whelan, J. P., Mahoney, M. J., & Meyers, A. W. (1991). Performance enhancement in sport: A cognitive behavioral domain. *Behavior Therapy*, *22*(3), 307-327.

Wieser, R., & Thiel, H. (2014). A survey of "mental hardiness" and "mental toughness" in professional male football players. *Chiropractic & Manual Therapies*, *22*(1), 1-6.

Williams, J. M., & Harris, D. V. (2001). Relaxation and energiser techniques for regulation of arousal *In J.M. Williams (ed.) Applied Sport Psychology: Personal Growth to Peak Performance*, pp.229-246.

Williams, M. H. (1998). *The ergogenics edge: pushing the limits of sports performance*. Human Kinetics Publishers.

Wongjaturaphat, N., Wimonmas, W., Phattamontri, C., Singnoy, C., & Montri, A. (2011). Mental toughness in elite Sepaktakraw players. *Journal of Sports Science and Technology*, *11(2), 274-287*.

Zaichkowsky, L., & Takenaka, K. (1993). Optimizing arousal level. *Handbook of research on sport psychology*, 511-527.

Zourbanos, N., Hatzigeorgiadis, A., Bardas, D., & Theodorakis, Y. (2013). The effects of self-talk on dominant and nondominant arm performance on a handball task in primary physical education students. *The Sport Psychologist*, *27*(2), 171-176.

# Appendix A
# Research instruments

**แบบสอบถาม**

**เรื่อง** ผลของการฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะกีฬาฟุตบอล

**คำชี้แจง** การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาผลของการฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจในนักกีฬาฟุตบอล มหาวิทยาลัยการกีฬาแห่งชาติ ประกอบไปด้วยเนื้อหา 2 ตอน

**ตอนที่ 1** แบบสอบถามข้อมูลทั่วไปของผู้เข้าร่วม ลักษณะการตอบเป็นแบบกรอกข้อความลงในช่องว่างที่กำหนดโดยระบุตามความเป็นจริง จำนวน 10 ข้อ

**ตอนที่ 2** แบบสอบถามความเข้มแข็งทางด้านจิตใจ (MTI) จำนวน 36 ข้อ แต่ละข้อคำถามจะเป็นแบบมาตรวัด 8 ระดับ คือ ไม่จริง (สำหรับฉัน) หรือ จริง (สำหรับฉัน) กรุณาวงกลมรอบตัวเลขที่บอกระดับตามความรู้สึกที่เกิดขึ้นกับท่าน โดยนึกถึงการเป็นนักกีฬาฟุตบอลของตัวเอง คำตอบของท่านนั้นไม่มีคำตอบที่ผิดหรือถูก กรุณาตอบตามความเป็นจริง

กรุณาตอบแบบสอบถามทุกข้อ ทุกตอน เพื่อจะเป็นประโยชน์ต่อการวิจัยและสามารถนำไปใช้ในเชิงวิชาการให้ได้มากที่สุด แบบสำรวจจะเก็บเป็นความลับและใช้เพื่อการวิจัยเท่านั้น ไม่ได้นำไปใช้เพื่อการอื่นที่อาจเกิดความเสียหายแก่ท่าน ไม่มีการหาผลประโยชน์ในเชิงพานิชย์แต่ประการใด

**ตอนที่ 1** ข้อมูลทั่วไป

**คำชี้แจง** โปรดกรอกข้อความลงในช่องว่างที่กำหนด โดยระบุตามความเป็นจริง

1. เพศ ___ 1. ชาย ___ 2. หญิง
2. อายุ _____ปี
3. น้ำหนัก _____ กิโลกรัม
4. ส่วนสูง _____ เซนติเมตร
5. สถานศึกษา_____
6. อีเมล (ที่สามารถติดต่อได้)_____
7. ตำแหน่งที่เล่น_____
8. ทีมต้นสังกัด_____
9. ระดับสูงสุดที่คุณเคยเป็นมาก่อน __1จังหวัด __2เขต __3ชาติ __4นานาชาติ
10. วันที่ทำแบบสอบถาม (วัน/เดือน/ปี) _____

**ตอนที่ 2 แบบสอบถามความเข้มแข็งทางด้านจิตใจ** ปฏิเสธไม่ได้ว่าจิตใจเป็นองค์ประกอบสำคัญของนักกีฬา เช่นเดียวกับนักกีฬาฟุตบอลที่มีความเข้มแข็งทางด้านจิตใจที่มากกว่าก็จะแสดงออกทางความสามารถได้ดีกว่า อย่างไรก็ตามความเข้มแข็งทางด้านจิตใจประกอบไปด้วยหลายองค์ประกอบและเป็นภาพรวมของความเข้มแข็งทางด้านจิตใจ

**คำชี้แจง** แบบสอบถามประกอบไปด้วย 36 ข้อคำถาม ใช้มาตรวัด 8 อันดับ คือ ไม่จริง (สำหรับฉัน) หรือ จริง (สำหรับฉัน) ให้ผู้ตอบนึกถึงการเป็นนักกีฬาฟุตบอลของตัวเอง กรุณาตอบทุกคำถาม โดยทำเครื่องหมายวงกลมรอบตัวเลขที่บอกระดับตามความรู้สึกที่เกิดขึ้นกับท่าน คำตอบของท่านนั้นไม่มีคำตอบที่ผิดหรือถูก กรุณาตอบตามความเป็นจริง ความสมบูรณ์ของความเข้มแข็งทางจิตใจสามารถทำการประเมินหาได้ด้วยตนเองจากลักษณะของความเข้มแข็งทางด้านจิตใจต่าง ๆ ดังนี้

**แบบสอบถามความเข้มแข็งทางด้านจิตใจในนักกีฬาฟุตบอล**

| ข้อคำถาม | ไม่จริง (สำหรับฉัน) | | | | จริง (สำหรับฉัน) | | | |
|---|---|---|---|---|---|---|---|---|
| 1. ฉันมีความมุ่งมั่นต่อเป้าหมายในการฝึกซ้อมอย่างเต็มที่ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2. การพยายามฝึกซ้อมให้ได้ดีที่สุด ตามที่ฉันสามารถทำได้ คือสิ่งที่สำคัญสำหรับฉัน | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 3. ฉันเก่งในการรักษาความเครียดให้อยู่ในระดับที่เหมาะสม | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 4. ความเชื่อถือในตัวเองของฉันทำให้ฉันสามารถผ่านความยากลำบากมาได้ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 5. ฉันมีความสนใจในการฝึกซ้อมโดยไม่มีสิ่งใดมารบกวน | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 6. ฉันรู้สึกว่าฉันจะประสบความสำเร็จในการแข่งขัน | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 7. เมื่อเผชิญหน้ากับความยากลำบาก ฉันยังคงฝึกซ้อมต่อไปและจะไม่ยอมแพ้ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 8.ฉันเกิดความมั่นใจเพิ่มขึ้นเมื่อทีมฝ่ายตรงข้ามแสดงความสามารถได้ไม่ดี | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9.การแสดงความสามารถในการแข่งขันที่ดี เป็นสิ่งที่มีค่ามากที่สุดสำหรับฉัน | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 10. ฉันแข่งขันได้ดีในระดับนี้ เพราะประสบการณ์ของฉันเอง | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 11.ฉันเปลี่ยนสิ่งที่เป็นลบให้เป็นบวก | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 12. โดยทั่วไปฉันมีจิตใจที่เข้มแข็ง | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 13. ฉันมีความมุ่งมั่นอย่างมากต่อการฝึกซ้อมและแข่งขัน | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 14. ฉันทำการฝึกซ้อมและการแข่งขัน อย่างดีที่สุด | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 15.ฉันสามารถจัดการกับความเครียดและความกดดันที่มีต่อตัวเองได้ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| ข้อคำถาม | ไม่จริง (สำหรับฉัน) | | | | จริง (สำหรับฉัน) | | | |
| 16. เมื่ออยู่ในสถานการณ์ที่ยากลำบาก ฉันยังคงเชื่อมั่นในความสามารถของตนเอง | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 17. ฉันมุ่งความสนใจอย่างเต็มที่ต่อสิ่งที่ฉันทำ ไม่มีอะไรมารบกวนฉันได้ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 18. ฉันมีศักยภาพในการฝึกซ้อมและแข่งขันอย่างเต็มที่และจะพัฒนาให้ดีขึ้น | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 19. ฉันยังคงทำการฝึกซ้อมต่อไป จนกว่าจะสามารถเอาชนะอุปสรรคนั้นได้ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 20. การเห็นทีมฝ่ายตรงข้ามกำลังมีความรู้สึกกดดันเพิ่มความเชื่อมั่น | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ของฉันได้ | | | | | | | | |
| 21. ฉันประเมินค่าว่าการฝึกซ้อมและการแข่งขันเป็นสิ่งหนึ่งที่สำคัญที่สุดในชีวิตฉัน | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 22. ประสบการณ์ทำให้ฉันแข็งแกร่งขึ้น เมื่อต้องแสดงความสามารถ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 23. เมื่อเผชิญกับความยากลำบาก ฉันพยายามมองอุปสรรคนั้นให้เป็นเชิงบวก | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 24. ฉันเก่งกว่าทีมฝ่ายตรงข้ามเพราะมีจิตใจที่เข้มแข็ง | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 25. ไม่ว่าจะเกิดอะไรขึ้นฉันยังคงมีความมุ่งมั่นต่อเป้าหมายในการฝึกซ้อมและแข่งขัน | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 26. ความสำเร็จในการฝึกซ้อมและแข่งขัน คือ สิ่งสำคัญที่สุดต่อตัวฉัน | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 27.ฉันเก่งในการจัดการความเครียด | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 28.ไม่ว่าจะมีสิ่งใดมากดดัน ฉันยังคงเชื่อมั่นในตัวเอง | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 29. ฉันไม่ให้สิ่งใดมารบกวน ฉันยังคงมุ่งมั่นทำการฝึกซ้อมนั้นต่อไป | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 30. ฉันรู้สึกว่าอนาคตของฉันในด้านกีฬาฟุตบอลจะไปได้ดี | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 31. ฉันยังคงพยายาม จนกระทั่งทำการฝึกซ้อมนั้นสำเร็จ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 32. การเห็นทีมฝ่ายตรงข้ามจัดการตัวเองได้ไม่ดี ทำให้ความเชื่อมั่นของฉันเพิ่มมากขึ้น | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 33. การฝึกซ้อมและแข่งขันเป็นกิจกรรมที่มีคุณค่ามากที่สุดและเป็นส่วนหนึ่งของชีวิตฉัน | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 34. ประสบการณ์การฝึกซ้อมเป็นสิ่งที่ฉันนำมาใช้ได้ดีมาก | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 35. ฉันมีความคิดเชิงบวก เมื่อต้องเผชิญกับความยากลำบาก | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 36. ฉันมีความเข้มแข็งทางด้านจิตใจที่ดีเยี่ยม | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

**แบบทดสอบ**

**เรื่อง** ผลของการฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะกีฬาฟุตบอล

**คำชี้แจง** การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาผลของการฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจในนักกีฬาฟุตบอลหญิง มหาวิทยาลัยการกีฬาแห่งชาติ โดยในส่วนนี้ประกอบด้วย 2 แบบทดสอบทักษะกีฬาฟุตบอล คือ 1. การทดสอบทักษะการส่งบอลลัฟบอเลอร์ (Loughborough soccer passing test) และ 2. การทดสอบทักษะการยิงบอลลัฟบอเลอร์ (Loughborough soccer shooting test) โดย Ali และ คณะ (2007

**แบบทดสอบทักษะกีฬาฟุตบอลที่ 1**

การทดสอบทักษะการส่งบอลลัฟบอเลอร์ Loughborough soccer passing testing (LSPT) การทดสอบทักษะเฉพาะในกีฬาฟุตบอล แบ่งการทดสอบออกเป็นก่อนและหลังการฝึก

**แบบทดสอบทักษะกีฬาฟุตบอลที่ 2**

การทดสอบทักษะการยิงบอลลัฟบอเลอร์ Loughborough soccer shooting test (LSST) การทดสอบทักษะเฉพาะในกีฬาฟุตบอล แบ่งการทดสอบออกเป็นก่อนและหลังการฝึก

ขอให้ผู้เข้าร่วมทำการทดสอบทักษะกีฬาฟุตบอลด้วยความตั้งใจและทำเต็มความสามารถของตนเอง เพื่อจะเป็นประโยชน์ต่อการวิจัยและสามารถนำไปใช้ในเชิงวิชาการให้ได้มากที่สุด ผลการทดสอบจะถูกเก็บเป็นความลับและใช้เพื่อการวิจัยเท่านั้น ไม่ได้นำไปใช้เพื่อการอื่นที่อาจเกิดความเสียหายแก่ท่าน ไม่มีการหาผลประโยชน์ในเชิงพานิชย์แต่ประการใด

**แบบทดสอบทักษะกีฬาฟุตบอลที่ 1** การทดสอบทักษะการส่งบอลลัฟบอเลอร์ Loughborough soccer passing testing (LSPT) การทดสอบทักษะเฉพาะในกีฬาฟุตบอล การทดสอบนี้เป็นการประเมินความสามารถการส่งบอลที่มีประสิทธิภาพของนักกีฬาฟุตบอล

**คำชี้แจง** การทดสอบทักษะการส่งบอลลัฟบอเลอร์ แบ่งการทดสอบออกเป็นก่อนและหลังการฝึก ในแต่ละการทดสอบแบ่งออกเป็น 2 ครั้ง โดยมีการส่งบอล 16 ครั้งในบริเวณที่กำหนด โดยมีเกณฑ์ประเมินความสามารดังนี้ 1. เวลาที่ใช้ในการทดสอบ 2.เวลาลงโทษ และ 3. เวลาที่ใช้ในการทดสอบก่อนเวลาลงโทษ (Ali, 2007)

**การทดสอบทักษะการส่งบอลลัฟบอเลอร์ (Loughborough soccer passing testing)**

| ชื่อ | สกุล | อายุ | หมายเหตุ |
|---|---|---|---|
| | | | |

| การส่งบอล (ลำดับ 1-16) | การส่งบอลแต่ละครั้ง (ได้/ไม่ได้) | | เวลาที่เพิ่มสำหรับความผิดพลาดในการส่งบอลแต่ละครั้ง (วินาที) | |
|---|---|---|---|---|
| | ครั้งที่ 1 | ครั้งที่ 2 | ครั้งที่ 1 | ครั้งที่ 2 |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| **รวม** | | | | |

| เวลาที่ใช้ในการส่งบอล (วินาที) | | เวลาที่เกิน (วินาที) | | เวลาที่ใช้ทั้งหมดรวมเวลาที่เกิน (วินาที) | |
|---|---|---|---|---|---|
| ครั้งที่ 1 | ครั้งที่ 2 | ครั้งที่ 1 | ครั้งที่ 2 | ครั้งที่ 1 | ครั้งที่ 2 |
| | | | | | |

**เกณฑ์การวัด**

| ความผิดพลาด | เวลาที่เพิ่มสำหรับความผิดพลาด (วินาที) |
|---|---|
| ไม่โดนกระดานหรือส่งผิดกระดาน | 5 วินาที |
| ไม่โดนเป้า | 3 วินาที |
| มีการใช้ท่อนแขนบน-ล่างและมือสัมผัสลูกบอล | 3 วินาที |
| ส่งบอลจากนอกเขตโทษ | 2 วินาที |
| โดนกรวย | 2 วินาที |
| เกิน 43 วินาที | 1 วินาที |

| การให้คะแนนเพิ่ม | เวลาที่ลดสำหรับการส่งบอลที่ถูกต้องและแม่นยำ (วินาที) |
|---|---|
| ส่งบอลโดนเป้า | 1 วินาที |

**แบบทดสอบทักษะกีฬาฟุตบอลที่ 2** การทดสอบทักษะการยิงบอลลัฟบอเลอร์ Loughborough soccer shooting test (LSST) การทดสอบทักษะเฉพาะในกีฬาฟุตบอล การทดสอบทักษะเฉพาะในกีฬาฟุตบอล การทดสอบนี้เป็นการประเมินความสามารถการยิงบอลที่มีประสิทธิภาพของนักกีฬาฟุตบอล

**คำชี้แจง** การทดสอบทักษะการยิงบอลลัฟบอเลอร์ แบ่งการทดสอบออกเป็นก่อนและหลังการฝึก ในแต่ละการทดสอบแบ่งออกเป็น 2 ครั้ง โดยมีการยิงบอล 10 ครั้งในบริเวณที่กำหนด โดยมีเกณฑ์ประเมินความสามารถดังนี้ 1. เวลาที่ใช้ในการยิงแต่ละลูก 2.ความเร็วในการยิง และ 3. คะแนนจากเป้าที่ยิงในแต่ละครั้ง (Ali, 2007)

**การทดสอบทักษะการยิงบอลลัฟบอเลอร์ (Loughborough soccer shooting test)**

| ชื่อ | สกุล | อายุ | หมายเหตุ |
|---|---|---|---|
| | | | |

| การยิงประตู (ลำดับ 1-10) | เวลาที่ใช้ในการยิงประตูแต่ละครั้ง (วินาที) | ความเร็ว (กิโลเมตร/ชั่วโมง) | คะแนนการยิงประตู (1-5 คะแนน) |
|---|---|---|---|
| | รอบที่ 1 | รอบที่ 1 | รอบที่ 1 |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |

**เกณฑ์การวัด**

| เวลาที่ใช้ในการยิงประตูแต่ละครั้ง | การนับ |
|---|---|
| ภายใน 8.5 วินาที | นับ |
| เกิน 8.5 วินาที | ไม่นับ |
| ยิงนอกกรอบที่กำหนด | ไม่นับ |

| ความเร็ว (กิโลเมตร/ชั่วโมง | การนับ |
|---|---|
| มากกว่า 64 กิโลเมตร ต่อชั่วโมง | นับ |
| ต่ำกว่า 64 กิโลเมตร ต่อชั่วโมง | ไม่นับ |

| คะแนนการยิงประตู | การนับ |
|---|---|
| บริเวณมุมเสาประตูบนและล่าง | 5 |
| บริเวณมุมเสาระหว่างคานและพื้น | 3 |
| บริเวณค่อนไปตรงกลางประตู | 2 |
| บริเวณกลางประตู | 1 |

ลงชื่อ.....

เจ้าหน้าที่ผู้ทดสอบ

วันที่...../...../.....

## Psychological skills training week 1 – 6

**การฝึกทักษะทางด้านจิตใจ 6 สัปดาห์**

รูปแบบการฝึก 2 ชั่วโมง รวมถึงการฝึกซ้อมภาคสนาม โดยแบ่งเป็น 30 นาที เป็นการฝึกทักษะทางด้านจิตใจ อ้างอิงจาก Miçoogullari (2016); (Premananda & Bhowmik, 2017) และฝึกซ้อมทักษะกีฬา 1.30 ชั่วโมง (Haleva & Meckel, 2020) 4 วันต่อสัปดาห์ วันจันทร์ถึงวันพฤหัสบดี การฝึกทักษะทางด้านจิตใจภายในศูนย์วิทยาศาสตร์การกีฬา 3 สัปดาห์แรก การฝึกทักษะทางด้านจิตใจสัปดาห์ที่ 4-6 ฝึกภายในศูนย์วิทยาศาสตร์การกีฬาและสนามฝึกซ้อม ระยะเวลาในการฝึกทั้งหมด 6 สัปดาห์ โดยอ้างอิงจาก (Miçoğulları, 2013) แบ่งออกเป็น 3 ระยะ ดังนี

| ตารางการฝึกทักษะทางด้านจิตใจเพื่อความเข้มแข็งทางด้านจิตใจและทักษะกีฬาฟุตบอล | | | |
|---|---|---|---|
| **สัปดาห์และระยะ** | **วัน** | **การฝึกทักษะ** | **ความอธิบาย** |
| 1<br>การเข้าสู่บทเรียน | จ และ อ | การตั้งเป้าหมาย,การผ่อนคลาย,การจินตภาพ,การพูดกับตนเอง | การให้ความรู้เกี่ยวกับทักษะทางด้านจิตใจ ประกอบกด้วย ความหมาย ความสำคัญ ประโยชน์ และการฝึกทักษะทางด้านจิตใจ |
| | | **การฝึกแบบพื้นฐาน** | |
| 1<br>การพัฒนาทักษะ | พ | การตั้งเป้าหมาย | การตั้งเป้าหมายแบบภาพรวมในชีวิต |
| | | การควบคุมลมหายใจ | การควบคุมลมหายใจแบบพื้นฐาน โดยฝึกการหายใจเข้า-ออก อย่างช้าๆ ดังนี้<br>-การควบคุมลมหายใจอย่างง่าย<br>1) ผู้ฝึกนั่งในท่าที่สบาย หลับตาแล้วหายใจเข้าให้สุดอย่างช้าๆและหายใจออกอย่างช้าๆและยาวที่สุด<br>ฝึก 1 นาที<br>2) ผู้ฝึกนั่งในท่าที่สบาย หลับตาแล้วหายใจเข้าให้สุดอย่างช้าๆแล้วกลั้นไว้ 2 วินาที หายใจออกอย่างช้าๆและยาวที่สุด<br>ฝึก 1 นาที<br>3) ผู้ฝึกนั่งในท่าที่สบาย หลับตาแล้วหายใจเข้าอย่างช้าๆ กลั้นไว้และหายใจออกอย่างๆในอัตราส่วน 4 วินาที (4:4:4)<br>ฝึก 1 นาที |
| | พฤ | การจินตภาพ | การจินตภาพ<br>1) การจินตภาพอย่างง่าย<br>-เลือกสิ่งที่ชอบ, สถานที่ที่ชื่นชอบ<br>-นั่งในอริยาบถที่สบาย ทำจิตใจให้สบาย หลับตาและนึกภาพ/จินตภาพถึงสิ่งหรือสถานที่ที่ชื่นชอบและทำให้รู้สึกผ่อนคลายเมื่ออยู่ที่นั้นและเมื่อได้นึกถึง เช่น ทะเล ภูเขา ทุ่งนา สถานที่ที่ประทับใจตอนไปเที่ยวกับครอบครัวครั้งแรก ฯลฯ<br>-ใช้ประสาทสัมผัสทั้ง 5 ได้แก่ การมองเห็น การได้ยิน การสัมผัส การได้กลิ่นและการรับรส เพื่อการรับรู้ถึงการจินตภาพในสิ่งที่ชื่นชอบอย่างครบถ้วน |
| | | การพูดกับตนเอง | การพูดกับตนเอง<br>1)การพูดกับตนเองแบบง่าย<br>-นึกภาพหรือจินตภาพช่วงที่เล่นได้ดีและไม่ดีอย่างละ 3 สถานการณ์ เช่น เลี้ยงบอลหลบคู่ต่อสู้ได้ ส่งบอลได้อย่างแม่นยำ ยิงเข้ามุมประตูพอดี ไม่สามารถแยกบอลจากคู่ต่อสู้ได้ ไม่สามารถส่งบอลให้ตรงเป้าหมาย ยิงไม่เข้า<br>-ระบุความคิดที่ดีและไม่ดีอย่างละ 3 ด้าน เช่น ฉันมีทักษะที่ดีเยี่ยม ฉันมีความแข็งแกร่ง ฉันไม่มีความสามารถพอ ฉันด้อยประสิทธิภาพ<br>-จดบันทึก |

| สัปดาห์และระยะ | วัน | การฝึกทักษะ | ความอธิบาย |
|---|---|---|---|
| | | **การฝึกขั้นพื้นฐาน** | |
| 2 การพัฒนาทักษะ | จ | การตั้งเป้าหมาย | การตั้งเป้าหมายในการเป็นนักกีฬา โดยเน้นไปที่การตั้งเป้าหมายแบบมุ่งผลการเล่นในการฝึกซ้อม มีการตั้งจุดประสงค์ กระบวนการ และประเมิน |
| | อ | การควบคุมลมหายใจ | การควบคุมลมหายใจแบบพื้นฐาน โดยฝึกการหายใจเข้า-ออก อย่างช้าๆ ดังนี้<br>-การควบคุมลมหายใจอย่างง่าย<br>1) ผู้ฝึกนั่งในท่าที่สบาย หลับตาแล้วหายใจเข้าให้สุดอย่างช้าๆและหายใจออกอย่างช้าๆและยาวที่สุด ฝึก 1 นาที<br>2) ผู้ฝึกนั่งในท่าที่สบาย หลับตาแล้วหายใจเข้าให้สุดอย่างช้าๆแล้วกลั้นไว้ 2 วินาที หายใจออกอย่างช้าๆและยาวที่สุด ฝึก 1 นาที<br>3) ผู้ฝึกนั่งในท่าที่สบาย หลับตาแล้วหายใจเข้าอย่างช้าๆ กลั้นไว้และหายใจออกอย่างๆในอัตราส่วน 4 วินาที (4:4:4) ฝึก 1 นาที |
| | พ | การจินตภาพ | การจินตภาพ<br>1) การจินตภาพอย่างง่ายเกี่ยวกับฟุตบอล<br>-เลือกนักกีฬาฟุตบอลที่ชื่นชอบ<br>-นั่งในอริยาบถที่สบาย ทำจิตใจให้สบาย หลับตาและนึกภาพ/จินตภาพถึงนักกีฬาฟุตบอลที่ชื่นชอบและทำให้รู้สึกมีแรงบันดาลใจ เมื่อได้เห็นการเล่นของนักกีฬาที่ชื่นชอบและเมื่อได้นึกถึง เช่น การเคลื่อนที่ไปกับบอลอย่างคล่องแคล่วหลบคู่ต่อสู้แล้วส่งบอลได้อย่างแม่นยำ การยิงเข้าประตูในการแข่งขันกับทีมในระดับเดียวกัน ฯลฯ<br>-ใช้ประสาทสัมผัสทั้ง 5 ได้แก่ การมองเห็น การได้ยิน การสัมผัส การได้กลิ่นและการรับรส เพื่อการรับรู้ถึงการจินตภาพนักกีฬาฟุตบอลที่ชื่นชอบอย่างครบถ้วน |
| | พฤ | การพูดบวกกับตัวเอง | การพูดกับตนเอง<br>การสร้างโปรแกรมการพูดเชิงบวกกับตัวเอง<br>1.กำหนดจุดประสงค์ในการใช้ทักษะการพูดกับตนเอง: สร้างความคิดเชิงบวกหรือสร้างขวัญกำลังใจให้ตัวเองในสถานการณ์การเล่น<br>2.สร้างความคิดเชิงบวกที่สอดคล้องกับจุดประสงค์ เช่น ฉันมีความสามารถในการเล่นฟุตบอล ฉันทุ่มเทกับมันและฉันจะเล่นให้สุดความสามารถ<br>-จดบันทึกลงในแบบฟอร์ม |

| สัปดาห์และระยะ | วัน | การฝึกทักษะ | ความอธิบาย |
|---|---|---|---|
| | | **การฝึกที่เน้นทักษะ** | |
| 3<br>การพัฒนาทักษะ | จ | การตั้งเป้าหมาย, การควบคุมลมหายใจและการจินตภาพ | นำเสนอเนื้อหาผ่านหน้าจอแสดงภาพเกี่ยวกับการฝึกทักษะทางด้านจิตใจ ดังนี้<br>1) วีดีโอการเลี้ยงบอลที่ยอดเยี่ยมของนักกีฬาฟุตบอลที่ประสบความสำเร็จ<br>-ผู้ฝึกได้รับการให้ความรู้เกี่ยวกับการฝึกทักษะทางด้านจิตใจ คือ การตั้งเป้าหมายแบบมุ่งผลการเล่น ภายในเวลาที่กำหนดจากนั้นฝึกการจินตภาพถึงการพัฒนาทักษะในการเลี้ยงบอล<br>2) วีดีโอการฝึกซ้อมที่หนักและเข้มข้นในนักกีฬาที่ประสบความสำเร็จ<br>-ผู้ฝึกได้รับการให้ความรู้เกี่ยวกับการฝึกทักษะทางด้านจิตใจ คือ การควบคุมลมหายใจ แบบ 4:7:8 จำนวน 4 รอบ และการจินตภาพว่าสามารถจัดการกับความยากลำบากในการวิ่งด้วยความเมื่อยล้า |
| | อ | การตั้งเป้าหมาย, การควบคุมลมหายใจและการจินตภาพ, | นำเสนอเนื้อหาผ่านหน้าจอแสดงภาพเกี่ยวกับการฝึกทักษะทางด้านจิตใจ ดังนี้<br>1) วีดีโอการรับ-ส่งบอลที่ยอดเยี่ยมของนักกีฬาฟุตบอลที่ประสบความสำเร็จ<br>-ผู้ฝึกได้รับการให้ความรู้เกี่ยวกับการฝึกทักษะทางด้านจิตใจ คือ การตั้งเป้าหมายแบบมุ่งผลการเล่น ภายในเวลาที่กำหนดและแม่นยำจากนั้นฝึกการจินตภาพการรับ-ส่งบอล<br>2) วีดีโอการฝึกซ้อมที่หนักและเข้มข้นในนักกีฬาที่ประสบความสำเร็จ<br>-ผู้ฝึกได้รับการให้ความรู้เกี่ยวกับการฝึกทักษะทางด้านจิตใจ คือ การควบคุมลมหายใจ แบบ 4:7:8 จำนวน 4 รอบ และการจินตภาพถึงความสามารถในการจัดการกับปัญหาหรือความยากลำบากในการฝึกซ้อม |
| | พ | การตั้งเป้าหมาย, การจินตภาพและการพูดกับตนเอง | นำเสนอเนื้อหาผ่านหน้าจอแสดงภาพเกี่ยวกับการฝึกทักษะทางด้านจิตใจ ดังนี้<br>1) วีดีโอการยิงประตูที่ยอดเยี่ยมของนักกีฬาฟุตบอลที่ประสบความสำเร็จ<br>-ผู้ฝึกได้รับการให้ความรู้เกี่ยวกับการฝึกทักษะทางด้านจิตใจ คือ การตั้งเป้าหมายแบบมุ่งผลการเล่น โดยคำนึงถึงเวลาที่กำหนดและความแม่นยำจากนั้นฝึกการจินตภาพและทำการฝึกการยิงประตูและการจินตภาพถึงการพัฒนาทักษะในการยิงประตู |

| | | | |
|---|---|---|---|
| | | | 2) วีดีโอการแข่งขันกีฬาฟุตบอลในนักกีฬาชั้นยอดที่ประสบความสำเร็จในสถานการณ์กดดัน<br>-ผู้ฝึกได้รับการให้ความรู้เกี่ยวกับการฝึกทักษะทางด้านจิตใจ คือ การหยุดคิด การพูดให้กำลังใจตัวเองและการจินตภาพถึงแรงกระตุ้นทางอารมณ์ในการฝึกซ้อมการเล่นทีม |
| | พฤ | การตั้งเป้าหมาย, การควบคุมลมหายใจ, การจินตภาพ,การพูดกับตนเอง | นำเสนอเนื้อหาผ่านหน้าจอแสดงภาพเกี่ยวกับการทักษะการฝึกทักษะทางด้านจิตใจ โดยมี<br>1) วีดีโอในเกมการแข่งขันกีฬาฟุตบอลของทีมที่มีระดับใกล้เคียงกัน<br>-ผู้ฝึกได้รับการให้ความรู้เกี่ยวกับการฝึกทักษะทางด้านจิตใจ คือ การหยุดความคิด การพูดเชิงบวกกับตัวเองและการจินตภาพถึงความสามารถในการจัดการกับปัญหาหรือความยากลำบากในการแข่งขัน<br>2) วีดีโอการแข่งขันการเตะ ณ จุดเตะโทษของทีมกีฬาฟุตบอลชั้นเลิศที่มีระดับใกล้เคียงกัน<br>-การตั้งเป้าหมายที่ผลลัพธ์ (ดวลจุดโทษ)<br>-การหายใจเป็นจังหวะและการพูดกับตัวเองในเชิงบวก |
| 4 การพัฒนาทักษะ | จ,อ,พ และ พฤ | การตั้งเป้าหมาย, การควบคุมลมหายใจ,การจินตภาพ,การพูดกับตนเอง | ฝึกเหมือนในสัปดาห์ที่ 3 โดยมีการฝึกปฏิบัติภายในห้องและสนามฝึกซ้อม |
| 5 – 6 การฝึกฝน | จ,อ,พ และ พฤ | การตั้งเป้าหมาย, การควบคุมลมหายใจ,การจินตภาพ,การพูดกับตนเอง | ฝึกเหมือนในสัปดาห์ที่ 3 โดยมีการฝึกปฏิบัติภายในห้องและสนามฝึกซ้อม และผู้ฝึกจะปฏิบัติด้วยตัวเอง โดยมีผู้วิจัยค่อยช่วยเหลือเมื่อผู้ฝึกต้องการ |

**หมายเหตุ** ผู้รับการฝึกจะได้รับแบบประเมินการฝึกทักษะทางด้านจิตใจและแบบฟอร์มผลการสะท้อนคิดในวันพฤหัสบดีของสัปดาห์ที่ 2 – 6

**การตั้งเป้าหมายภาพรวมในการดำเนินชีวิต**

วันที่.....ชื่อ-สกุล.....อายุ.....ปี

1.เป้าหมายในอาชีพการงาน

1) .....

2) .....

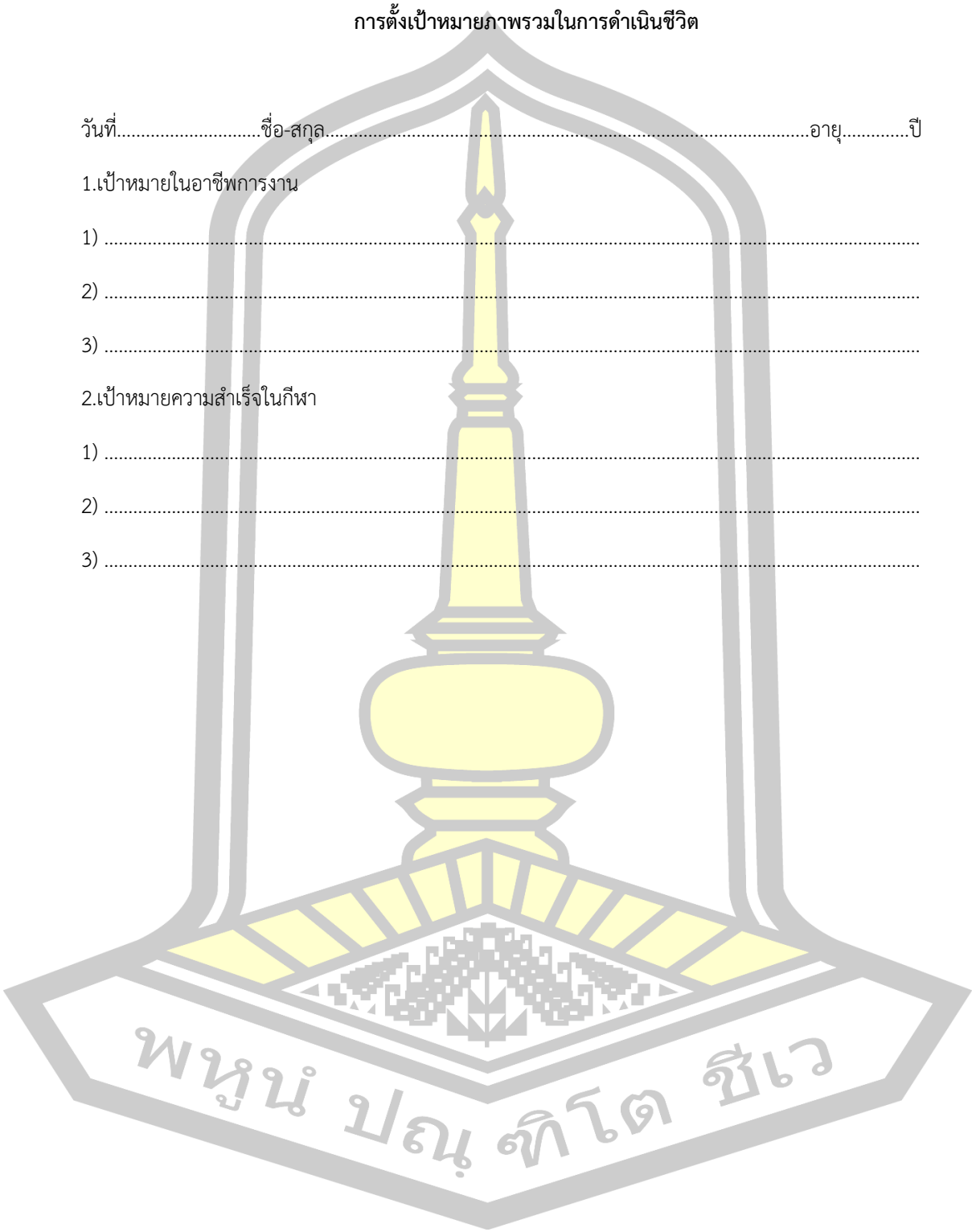
3) .....

2.เป้าหมายความสำเร็จในกีฬา

1) .....

2) .....

3) .....



**การตั้งเป้าหมายในการเป็นนักกีฬา**

วันที่.....ชื่อ-สกุล.....อายุ.....ปี

เป้าหมายสูงสุดในการเล่นฟุตบอล คือ .....

ระยะเวลาของเป้าหมาย 5 สัปดาห์ เริ่ม.....สิ้นสุดวันที่.....

คือ การพัฒนาการทักษะการเล่นฟุตบอลได้ตามเป้าหมาย

สิ่งที่ต้องทำเพื่อพัฒนาศักยภาพทางกีฬา (เช่น มาคลุกคลีกับบอลก่อนเวลาซ้อม, มาซ้อมก่อนเวลาเสมอ, ทำตามเป้าหมายที่ตั้งไว้ให้ได้)

1. .....

2. .....

3. .....

-การเลี้ยงบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ ไม่ชนสิ่งกีดขว้างและเร็วที่สุด

จำนวน.....ครั้ง โดยเพิ่มขึ้นสัปดาห์ละ 1 ครั้ง

-การรับ-ส่งบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ มีความแม่นยำและเร็วที่สุด

จำนวน.....ครั้ง โดยเพิ่มขึ้นสัปดาห์ละ 1 ครั้ง

-การยิงบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ มีความแม่นยำต่อเป้าหมาย

จำนวน.....ครั้ง โดยเพิ่มขึ้นสัปดาห์ละ 1 ครั้ง

-การดวลจุดโทษได้ตามเป้าหมาย คือ ..... (ตัวอย่าง แพ้ หรือ ชนะ)

จำนวน..... ครั้งโดยเพิ่มขึ้นสัปดาห์ละ 1 ครั้ง

หมายเหตุ: การตั้งเป้าหมายควรเริ่มจากความยากในระดับต่ำและเป็นเป้าหมายที่ไม่ยากและง่ายจนเกินไป

**การตั้งเป้าหมายแบบมุ่งผลการเล่นในการเลี้ยงบอล**

วันที่.....ชื่อ-สกุล.....อายุ.....ปี

เป้าหมายในการพัฒนาทักษะกีฬาฟุตบอล คือ .....การเลี้ยงบอล.....

เป้าหมาย คือ 4 สัปดาห์ สิ้นสุดวันที่..... คือ การพัฒนาการเลี้ยงบอลได้ตามเป้าหมาย

**การตั้งเป้าหมายแบบมุ่งผลการเล่นในการฝึกซ้อมทักษะการเลี้ยงบอล**

-การเลี้ยงบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ ไม่ชนสิ่งกีดขว้างและเร็วที่สุด

จำนวน.....ในสัปดาห์ที่ 3

-การเลี้ยงบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ ไม่ชนสิ่งกีดขว้างและเร็วที่สุด

จำนวน.....ในสัปดาห์ที่ 4

-การเลี้ยงบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ ไม่ชนสิ่งกีดขว้างและเร็วที่สุด

จำนวน.....ในสัปดาห์ที่ 5 และ 6

หมายเหตุ: การตั้งเป้าหมายควรเริ่มจากความยากในระดับต่ำ เช่น จำนวนครั้งที่น้อย

**การตั้งเป้าหมายแบบมุ่งผลการเล่นในการรับ-ส่งบอล**

วันที่..... ชื่อ-สกุล.....อายุ.....ปี

เป้าหมายในการพัฒนาทักษะกีฬาฟุตบอล คือ .....การรับ-ส่งบอล.....

เป้าหมาย คือ 4 สัปดาห์ สิ้นสุดวันที่..... คือ การพัฒนาการรับ-ส่งบอลได้ตามเป้าหมายอย่างมีประสิทธิภาพ

**การตั้งเป้าหมายแบบมุ่งผลการเล่นในการฝึกซ้อมทักษะการรับ-ส่งบอล**

-การรับ-ส่งบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ มีความแม่นยำและเร็วที่สุด

จำนวน.....ในสัปดาห์ที่ 3

-การรับ-ส่งบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ มีความแม่นยำและเร็วที่สุด
จำนวน.....ในสัปดาห์ที่ 4

-การรับ-ส่งบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ มีความแม่นยำและเร็วที่สุด
จำนวน.....ในสัปดาห์ที่ 5 และ 6

หมายเหตุ: การตั้งเป้าหมายควรเริ่มจากความยากในระดับต่ำ เช่น จำนวนครั้งที่น้อย

**การตั้งเป้าหมายแบบมุ่งผลการเล่นในการยิงบอล**

วันที่..... ชื่อ-สกุล.....อายุ.....ปี

เป้าหมายในการพัฒนาทักษะกีฬาฟุตบอล คือ .....การยิงประตู.....

เป้าหมาย คือ 4 สัปดาห์ สิ้นสุดวันที่.....คือ การพัฒนาการยิงประตูได้ตามเป้าหมายอย่างมีประสิทธิภาพ

**การตั้งเป้าหมายแบบมุ่งผลการเล่นในการฝึกซ้อมทักษะการยิงบอล**

-การยิงบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ มีความแม่นยำต่อเป้าหมาย

จำนวน.....ในสัปดาห์ที่ 3

-การยิงบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ มีความแม่นยำต่อเป้าหมาย

จำนวน.....ในสัปดาห์ที่ 4

-การยิงบอลได้ตามเป้าหมายได้อย่างมีประสิทธิภาพ คือ มีความแม่นยำต่อเป้าหมาย

จำนวน.....ในสัปดาห์ที่ 5 และ 6

หมายเหตุ: การตั้งเป้าหมายควรเริ่มจากความยากในระดับต่ำ เช่น จำนวนครั้งที่น้อย

**การตั้งเป้าหมายที่ผลลัพธ์ในการดวลจุดโทษ**

วันที่..... ชื่อ-สกุล.....อายุ.....ปี

เป้าหมายในการพัฒนาทักษะกีฬาฟุตบอล คือ .....การดวลจุดโทษ.....

เป้าหมาย คือ 4 สัปดาห์ สิ้นสุดวันที่..... คือ การดวลจุดโทษได้ตามเป้าหมายที่กำหนด

**การตั้งเป้าหมายที่ผลลัพธ์ในการดวลจุดโทษ**

-การดวลจุดโทษได้ตามเป้าหมาย คือ ..... (ตัวอย่าง แพ้ หรือ ชนะ)

จำนวน.....ในสัปดาห์ที่ 3

-การดวลจุดโทษได้ตามเป้าหมาย คือ .....(ตัวอย่าง แพ้ หรือ ชนะ)

จำนวน.....ในสัปดาห์ที่ 4

-การดวลจุดโทษได้ตามเป้าหมาย คือ .....(ตัวอย่าง แพ้ หรือ ชนะ)

จำนวน.....ในสัปดาห์ที่ 5 และ 6

| **สถานการณ์ที่เล่นฟุตบอลได้ดี** | **ความคิดที่ดี** |
|---|---|
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
| **สถานการณ์ที่เล่นฟุตบอลได้ไม่ดี** | **ความคิดที่ไม่ดี** |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |

หมายเหตุ: การตั้งเป้าหมายควรเริ่มจากความยากในระดับต่ำ เช่น จำนวนครั้งที่น้อย

**แบบบันทึกการพูดกับตัวเอง**

**แบบการสร้างชุดคำพูด การพูดกับตัวเอง**

<u>ตัวอย่าง</u>

จุดประสงค์: สร้างความคิดเชิงบวกหรือสร้างขวัญกำลังใจให้ตัวเองในสถานการณ์การเล่น

ชุดความคิด: ฉันมีความสามารถในการเล่นฟุตบอล ฉันทุ่มเทกับมันและฉันจะเล่นให้สุดความสามารถ

จุดประสงค์:.....

ชุดความคิด:.....

1) .....

2) .....

3) .....

จุดประสงค์:.....

ชุดความคิด:.....

1) .....

2) .....

3) .....

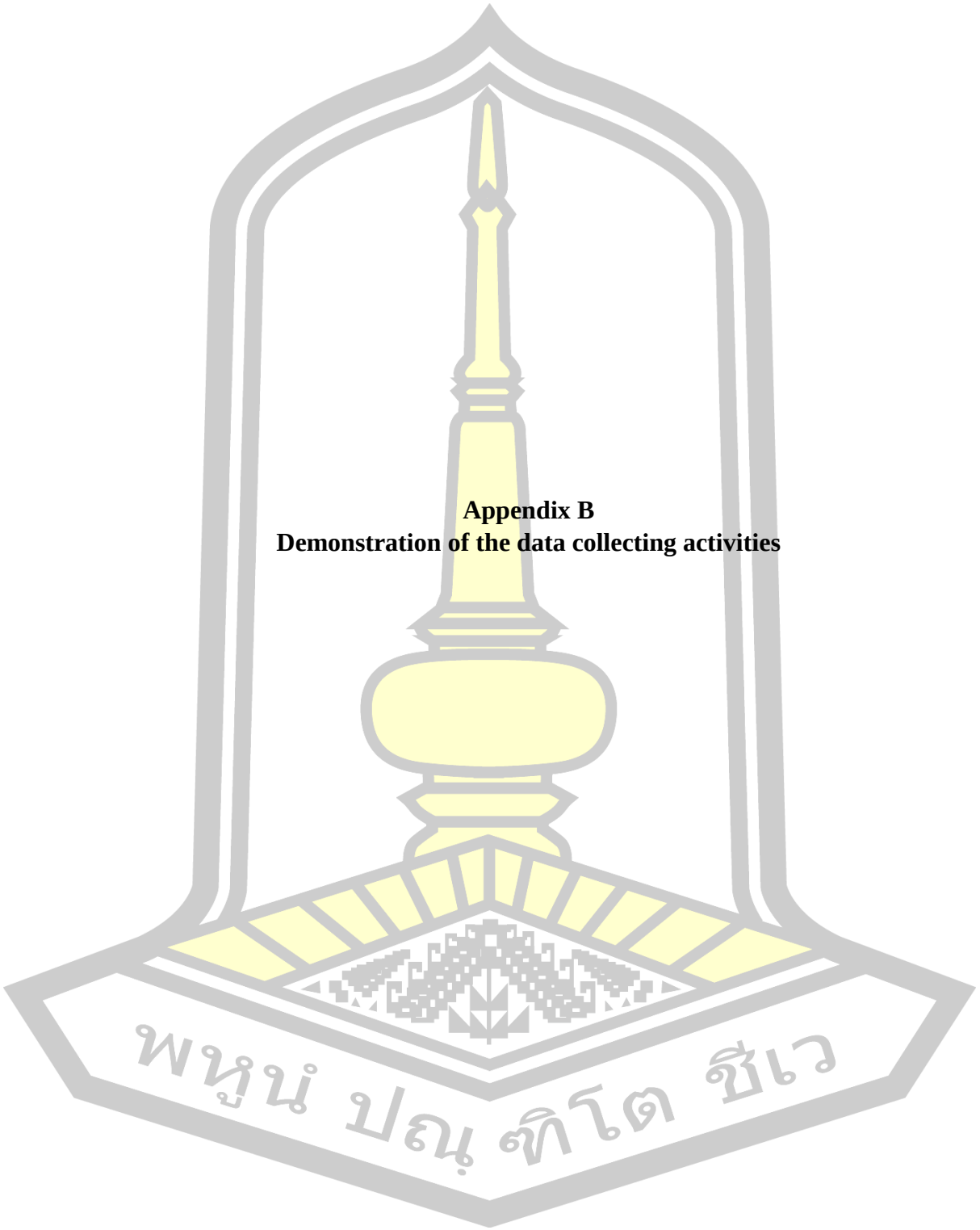
จุดประสงค์:.....

ชุดความคิด:.....

1) .....

2) .....

3) .....



**Appendix B**
**Demonstration of the data collecting activities**

Pilot Study

ภาพที่ 1-3 การศึกษานำร่อง การทดสอบทักษะกีฬาฟุตบอลโดยมีการรับ-ส่งบอล เลี้ยงบอล ควบคุมบอลและการยิงประตูกับทีมฟุตบอลหญิงจังหวัดมหาสารคาม เพื่อหาความเที่ยงตรงของเครื่องมือและหาข้อแก้ไขก่อนการทดสอบจริงกับกลุ่มตัวอย่าง

Pilot study

ภาพที่ 4-6 การศึกษานำร่อง การฝึกทักษะทางด้านจิตใจกับทีมนักฟุตบอลหญิงจังหวัดมหาสารคามภายในศูนย์วิทยาศาสตร์การกีฬา

Loughborough Soccer Passing Test

ภาพที่ 7-17 การทดสอบทักษะกีฬานักฟุตบอลหญิงกลุ่มตัวอย่างจากมหาวิทยาลัยการกีฬาแห่งชาติ วิทยาเขตมหาสารคาม การทดสอบทักษะการส่งบอลลัฟบอเลอร์ Loughborough soccer passing testing (LSPT) โดยมีการกำหนดให้ผู้รับการทดสอบส่งบอลไปยังแผ่นสะท้อนกลับตามสีที่คานโดยผู้ช่วยนักวิจัย การส่งบอลทั้งหมด 16 ครั้ง 2 เซต ต่อ คน

Loughborough Soccer Passing Test

Loughborough Soccer Passing Test

Loughborough Soccer Shooting Test

ภาพที่ 18-32 การทดสอบทักษะการยิงบอลลัฟบอเลอร์ Loughborough soccer shooting test (LSST) เป็นการทดสอบการยิงประตู โดยผู้เข้าร่วมการทดสอบจะต้องยิงบอลทั้งหมด 10 ลูก โดยมีการวัดเวลาที่ใช้ในการยิงประตู ความเร็วบอลและคะแนนที่ได้ตามเป้าที่ยิง

Loughborough Soccer Shooting Test

Loughborough Soccer Shooting Test

Loughborough Soccer Shooting Test

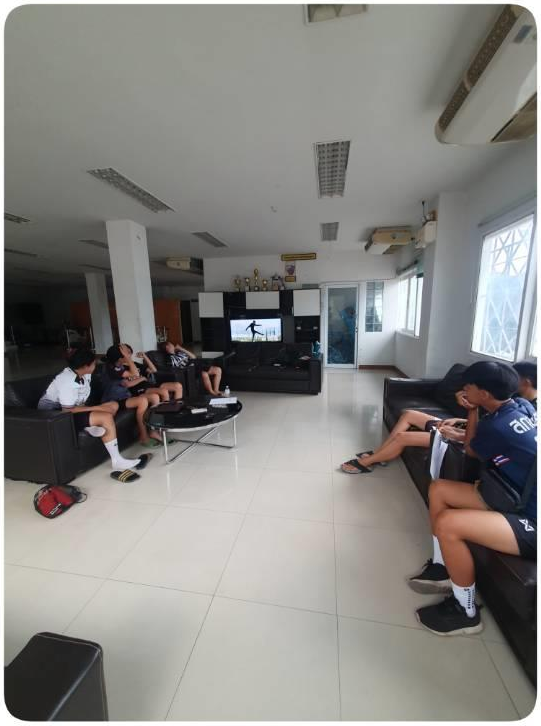
Loughborough Soccer Shooting Test

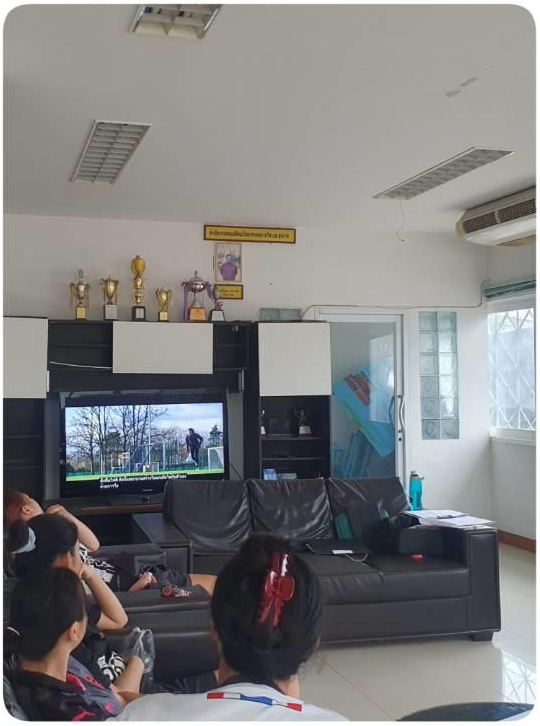
Psychological skills training session

ภาพที่ 33-46 การฝึกทักษะทางด้านจิตใจกับนักฟุตบอลหญิงกลุ่มตัวอย่างจากมหาวิทยาลัยการกีฬาแห่งชาติ วิทยาเขตมหาสารคามภายในศูนย์วิทยาศาสตร์การกีฬา โดยมีการฝึกทักษะทางด้านจิตใจในช่วงสัปดาห์ที่ 1-3 ฝึกภายในอาคาร/ห้อง 30 นาที/ครั้ง

Psychological skills training session

Psychological skills training session





Psychological skills training session

Psychological skills training session

Psychological skills training field session



ภาพที่ 47-61 การฝึกทักษะทางด้านจิตใจกับนักฟุตบอลหญิงกลุ่มตัวอย่างจากมหาวิทยาลัยการกีฬาแห่งชาติ วิทยาเขตมหาสารคาม ณ สนามฝึกซ้อม โดยมีการฝึกทักษะทางด้านจิตใจ ณ สนามฝึกซ้อมในสัปดาห์ที่ 4-6 ฝึกภายในอาคาร/ห้อง 20 นาที และ ณ สนามฝึกซ้อม 10 นาที โดยแบ่งเป็น 5 นาที 2 ครั้ง

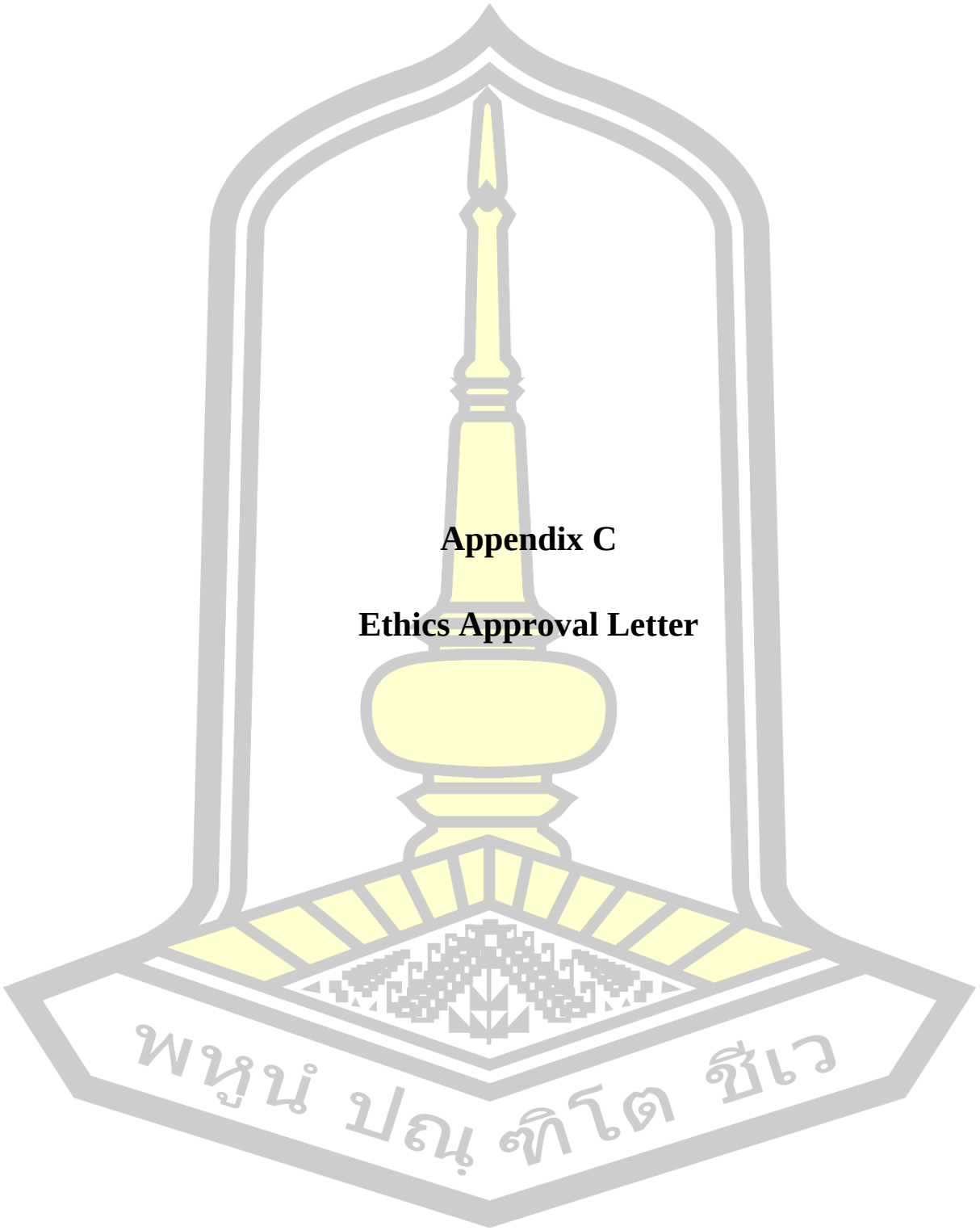
Psychological skills training field session

Psychological skills training field session



Psychological skills training field session

Psychological skills training field session



# Appendix C

# Ethics Approval Letter

# MAHASARAKHAM UNIVERSITY ETHICS COMMITTEE FOR RESEARCH INVOLVING HUMAN SUBJECTS

## Certificate of Approval

Approval number: 153-122/2023

**Title :** The Influence of Psychological Skills Training on Mental Toughness and Soccer Specific Skills in Soccer Players.

**Principal Investigator :** Miss. Suwapon Piwrueangnont

**Responsible Department :** Faculty of Education

**Research site :** Thailand National Sports University Mahasarakham Campus

**Review Method :** Expedited Review

**Date of Manufacture :** 3 May 2023 **expire :** 2 May 2024

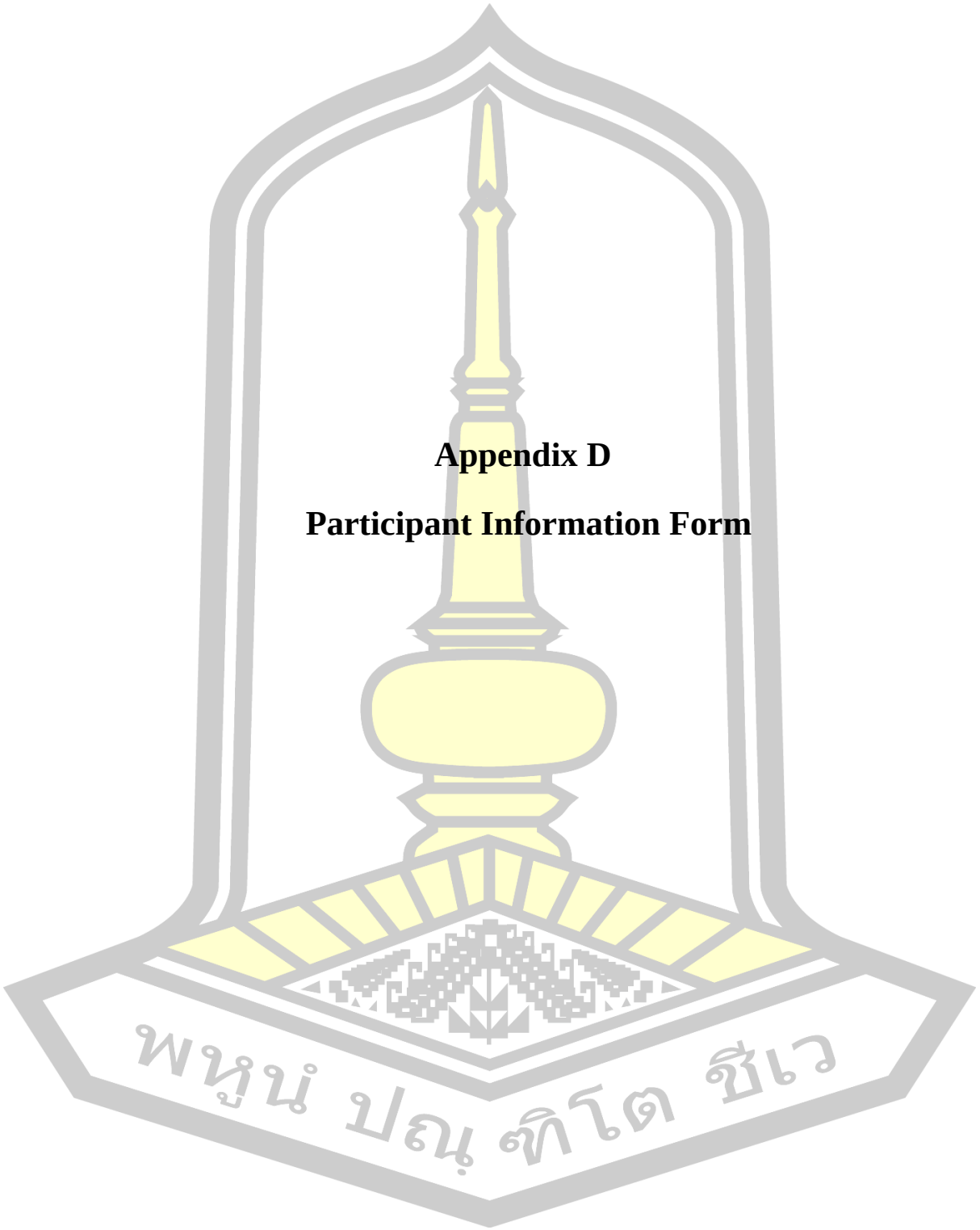
This research application has been reviewed and approved by the Ethics Committee for Research Involving Human Subjects, Mahasarakham University, Thailand. Approval is dependent on local ethical approval having been received. Any subsequent changes to the consent form must be re-submitted to the Committee.

Ratree S.

(Asst. Prof. Ratree Sawangjit)

Chairman

Approval is granted subject to the following conditions: (see back of this Certificate)




# Appendix D

# Participant Information Form

ECMSU01-05.03 Update 2021

**เอกสารชี้แจงสำหรับอาสาสมัครที่เข้าร่วมโครงการวิจัย**
**(สำหรับการตอบแบบสอบถาม 18 ปีขึ้นไป)**

**เรียน อาสาสมัครทุกท่าน**

เนื่องด้วยข้าพเจ้า **นางสาวสุวพร ผิวเรืองนนท์** นิสิตปริญญาโท สาขาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม กำลังดำเนินการวิจัย เรื่อง (ชื่อภาษาไทย)“ผลของการฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะเฉพาะของกีฬาฟุตบอลในนักกีฬาฟุตบอล” (ภาษาอังกฤษ) “The Influence of Psychological Skills Training on Mental Toughness and Soccer Skills in Soccer Players” โดยมีวัตถุประสงค์ของการวิจัย ดังนี้

เพื่อศึกษาผลของแบบฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางจิตใจและทักษะเฉพาะของกีฬาฟุตบอล ประโยชน์ที่ท่านจะได้รับจากการวิจัยนี้ เพื่อศึกษาผลของแบบฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางจิตใจและทักษะเฉพาะของกีฬาฟุตบอล การนำแบบฝึกทักษะทางด้านจิตใจนี้ไปปรับใช้ในสถานการณ์ที่เหมาะสมและเป็นประโยชน์กับชนิดกีฬาอื่นๆที่มีลักษณะของชนิดกีฬาที่ใกล้เคียงกัน

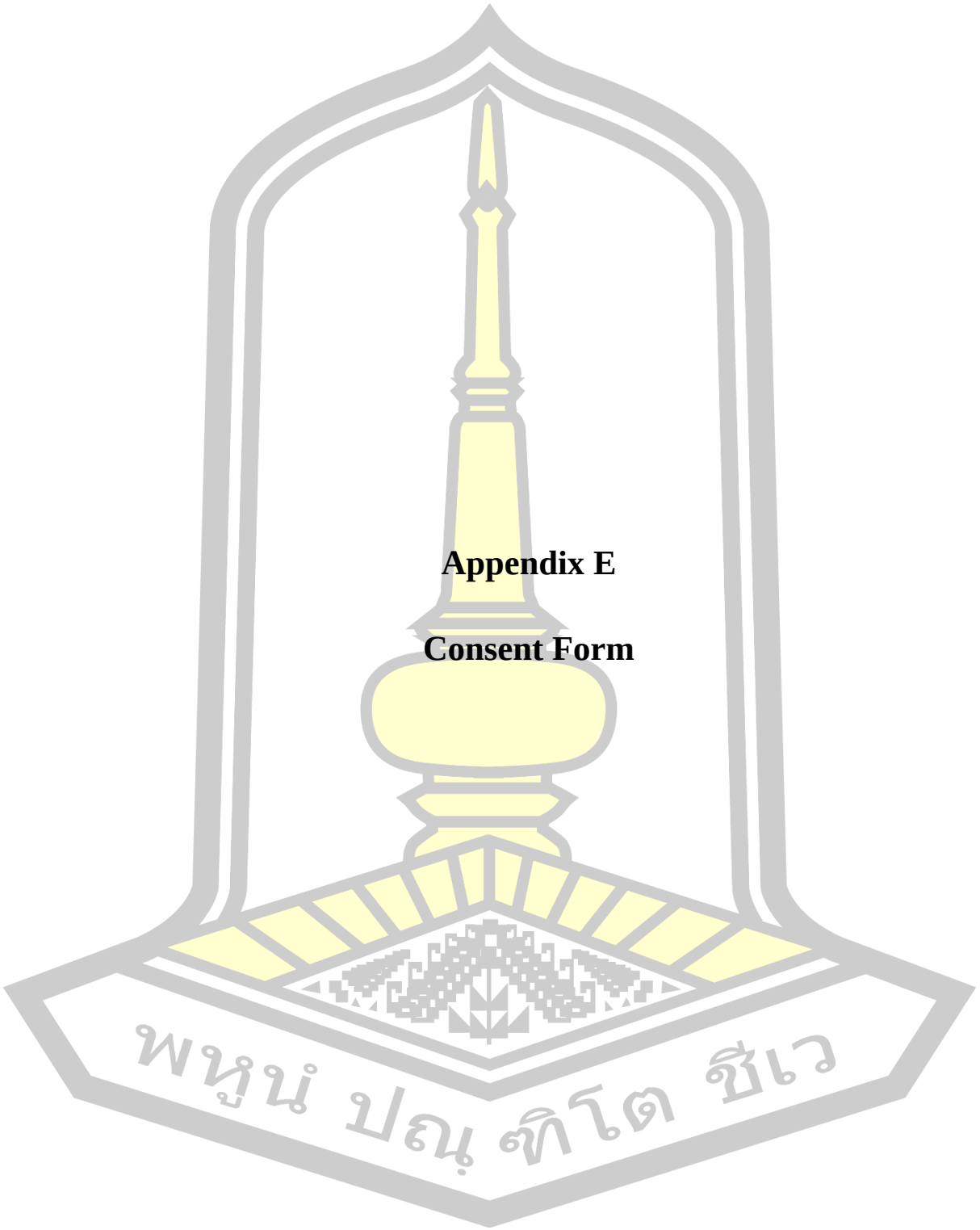
หากท่านตัดสินใจเข้าร่วมการวิจัยแล้ว ผู้วิจัยจะขอให้ท่านตอบแบบสำรวจในประเด็นความเข้มแข็งทางด้านจิตใจในกีฬาฟุตบอล ซึ่งประกอบด้วยข้อคำถาม มี 2 ส่วน และ แบบทดสอบทักษะกีฬา 1 ส่วน ทั้งหมด 3 ส่วน ตอนที่ 1 ข้อมูลทั่วไป ตอนที่ 2 แบบสำรวจความเข้มแข็งทางด้านจิตใจ จำนวน 36 ข้อ ตอนที่ 3 แบบทดสอบทักษะเฉพาะของกีฬาฟุตบอล จำนวน 2 แบบทดสอบ คือ Loughborough soccer passing test และ Loughborough soccer shooting test

หากท่านรู้สึกอึดอัด หรือรู้สึกไม่สบายใจกับบางคำถามและแบบทดสอบ ท่านมีสิทธิ์ที่จะไม่ตอบคำถามเหล่านั้นได้ รวมถึงท่านมีสิทธิ์ถอนตัวออกจากโครงการนี้เมื่อใดก็ได้ โดยไม่ต้องแจ้งให้ทราบล่วงหน้า และการไม่เข้าร่วมวิจัยหรือถอนตัวออกจาก โครงการวิจัยนี้ จะไม่มีผลกระทบใดๆ ต่อการปฏิบัติหรือการทำงานของท่านแต่ประการใด ข้อมูลในการตอบแบบสำรวจและแบบทดสอบทักษะกีฬของท่านจะถูกเก็บรักษาไว้ ไม่เปิดเผยต่อสาธารณะเป็นรายบุคคล แต่จะรายงานเป็นผลการวิจัยในภาพรวมเท่านั้นและจะดำเนินการทำลายข้อมูลที่เกี่ยวข้องภายหลังเสร็จสิ้นการวิจัย การวิจัยครั้งนี้ท่านจะไม่ได้รับค่าตอบแทนและไม่เสียค่าใช้จ่ายใด ๆ ทั้งสิ้น

**หากท่านมีข้อสงสัยเกี่ยวกับงานวิจัย โปรดติดต่อได้ที่** นางสาวสุวพร ผิวเรืองนนท์ นิสิตปริญญาโท สาขาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม เบอร์โทรศัพท์ติดต่อ 065-343- 4316 หากท่านได้รับการปฏิบัติไม่ตรงตามที่ระบุไว้หรือต้องการทราบสิทธิของท่านขณะเข้าร่วมการวิจัยนี้ สามารถติดต่อได้ที่ “คณะกรรมการจริยธรรมการวิจัยในคน มหาวิทยาลัยมหาสารคาม กองส่งเสริมการวิจัยและบริการวิชาการ มหาวิทยาลัยมหาสารคาม” โทร. 043-754416 เบอร์ภายใน 1755

ขอขอบพระคุณอย่างสูง

(นางสาวสุวพร ผิวเรืองนนท์)
ผู้วิจัย



# Appendix E

## Consent Form

ECMSU01-06.03

**แบบแสดงความยินยอมให้ทำการวิจัยจากอาสาสมัคร (สำหรับอาสาสมัครอายุ 18 ปีขึ้นไป)**

ข้าพเจ้า (นาง/นางสาว/นาย) ..... นามสกุล ..... อายุ ..... ปี
บ้านเลขที่ ..... หมู่ที่ ..... ตำบล ..... อำเภอ .....จังหวัด.....

ได้อ่านคำชี้แจง/รับฟังคำอธิบายจาก **นางสาวสุวพร ผิวเรืองนนท์** หัวหน้าโครงการ เกี่ยวกับการเป็นอาสาสมัครใน โครงการวิจัยเรื่อง "ผลของการฝึกทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะเฉพาะกีฬาฟุตบอลในนักกีฬาฟุตบอล" โดยข้อความที่ อธิบายประกอบด้วย รายละเอียดทั้งหมดเกี่ยวกับที่มาและจุดมุ่งหมายในการทำวิจัย รายละเอียดของขั้นตอนต่างๆ ที่ข้าพเจ้าต้องปฏิบัติและได้รับการปฏิบัติ, ประโยชน์ที่ข้าพเจ้าจะได้รับจากการวิจัย และความเสี่ยงที่อาจจะเกิดขึ้นจากการ เข้าร่วมการวิจัย รวมทั้งแนวทางป้องกันและแก้ไขหากเกิดอันตราย โดยได้อ่าน/รับฟังคำอธิบายข้อความในเอกสารชี้แจง สำหรับอาสาสมัครที่ตอบแบบสอบถามและแบบทดสอบทักษะกีฬาโดยตลอด อีกทั้งยังได้รับคำอธิบายและการตอบข้อสงสัยจากหัวหน้าโครงการวิจัยเป็นที่เรียบร้อยแล้ว

ตลอดจนการรับรองจากผู้วิจัยที่จะเก็บรักษาข้อมูลของข้าพเจ้าไว้เป็นความลับ และไม่ระบุชื่อหรือข้อมูลส่วนตัว เป็นรายบุคคลต่อสาธารณชน โดยผลการวิจัยจะนำเสนอในลักษณะภาพรวมที่เป็นการสรุปผลการวิจัยเพื่อประโยชน์ทางวิชาการเท่านั้น

"ในการเข้าร่วมเป็นอาสาสมัครของโครงการวิจัยครั้งนี้ ข้าพเจ้าเข้าร่วมด้วยความสมัครใจ" และข้าพเจ้าสามารถถอนตัวจากการศึกษานี้เมื่อใดก็ได้ ถ้าข้าพเจ้าปรารถนา โดยจะไม่มีผลกระทบและไม่เสียสิทธิ์ใดๆ ในการเข้าร่วม โครงการวิจัยที่ข้าพเจ้าจะได้รับต่อไปในอนาคต

ข้าพเจ้าเข้าใจข้อความในเอกสารชี้แจงอาสาสมัครและแบบแสดงความยินยอมนี้โดยตลอดแล้วจึงลงลายมือชื่อไว้ ณ ที่นี้

ลงชื่อ.....อาสาสมัคร
(.....)
วันที่.....

ลงชื่อ.....พยาน (กรณีที่อ่านคำชี้แจงให้อาสาสมัครฟัง)
(.....)

วันที่.....

ลงชื่อ.....ผู้ขอความยินยอม
(นางสาวสุวพร ผิวเรืองนนท์)

วันที่.....

# Appendix F

# Data Collection Permission Letter

ที่ อว 0605.5(2)/ว766

คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม
อำเภอเมือง จังหวัดมหาสารคาม 44000

2 มีนาคม 2566

เรื่อง ขอความอนุเคราะห์เก็บรวบรวมข้อมูลเพื่อการจัดทำวิทยานิพนธ์

เรียน รองอธิการบดีมหาวิทยาลัยการกีฬาแห่งชาติ ประจำวิทยาเขตมหาสารคาม

ด้วย นางสาวสุวพร ผิวเรืองนนท์ นิสิตปริญญาโท สาขาวิชาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม กำลังศึกษาและทำวิทยานิพนธ์ เรื่อง ผลของการฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจ และทักษะเฉพาะกีฬาฟุตบอลในนักกีฬาฟุตบอล ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร (วท.ม.) วิทยาศาสตร์การออกกำลังกายและการกีฬา โดยมี ผู้ช่วยศาสตราจารย์ ดร.ชัยรัตน์ ชูสกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ในครั้งนี้

เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อย และบรรลุตามวัตถุประสงค์ คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์จากท่านได้อนุญาตให้ นางสาวสุวพร ผิวเรืองนนท์ เก็บรวบรวมข้อมูลสำหรับการทำวิทยานิพนธ์ในครั้งนี้ เพื่อนิสิตจะนำข้อมูลที่ได้ไปดำเนินการในขั้นตอนต่อไป

จึงเรียนมาเพื่อโปรดพิจารณา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความกรุณาจากท่านด้วย และขอขอบคุณมา ณ โอกาสนี้

เรียน รองอธิการบดี
มพส. ขอความอนุเคราะห์อนุญาตให้
น.ส.สุวพร ผิวเรืองนนท์ เก็บรวบรวมข้อมูล
เพื่อการจัดทำวิทยานิพนธ์
จึงเรียนมาเพื่อ
1. โปรดพิจารณา
2. มอบ น.ส.สุวพร ผิวเรืองนนท์
3. สั่งการอื่นๆตามเห็นสมควร

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(รองศาสตราจารย์ ดร.ทรงศักดิ์ ภูสีอ่อน)
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โทรศัพท์,โทรสาร 0-4374-3174
เบอร์โทรนิสิต 0653434316

9 มี.ค. 66

ทราบ ในนามอาจารย์ที่ปรึกษา

9 มี.ค. 66

รองอธิการบดีมหาวิทยาลัยการกีฬาแห่งชาติ
ประจำวิทยาเขตมหาสารคาม

ที่ อว 0605.5(2)/ว763

คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม
อำเภอเมือง จังหวัดมหาสารคาม 44000

2 มีนาคม 2566

เรื่อง ขอความอนุเคราะห์ทดลองใช้เครื่องมือเพื่อการวิจัย

เรียน หัวหน้าผู้ฝึกสอนกีฬาฟุตบอลหญิง จังหวัดมหาสารคาม

ด้วย นางสาวสุวพร ผิวเรืองนนท์ นิสิตปริญญาโท สาขาวิชาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม กำลังศึกษาและทำวิทยานิพนธ์ เรื่อง ผลของการฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจ และทักษะเฉพาะกีฬาฟุตบอลในนักกีฬาฟุตบอล ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร (วท.ม.) วิทยาศาสตร์การออกกำลังกายและการกีฬา โดยมี ผู้ช่วยศาสตราจารย์ ดร.ชัยรัตน์ ชูสกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ในครั้งนี้

เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อย และบรรลุตามวัตถุประสงค์ คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์จากท่านโปรดอนุญาตให้ นางสาวสุวพร ผิวเรืองนนท์ ทำการทดลองใช้เครื่องมือเพื่อนิสิตจะนำข้อมูลที่ได้ไปดำเนินการในขั้นตอนต่อไป

จึงเรียนมาเพื่อโปรดพิจารณา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความกรุณาจากท่านด้วย และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

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เบอร์โทรนิสิต 0653434316

ที่ อว 0605.5(2)/1238

คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม
อำเภอเมือง จังหวัดมหาสารคาม 44000

18 เมษายน 2566

เรื่อง ขอความอนุเคราะห์ใช้สถานที่เพื่อการทดลอง

เรียน รักษาราชการแทนรองคณบดีคณะวิทยาศาสตร์การกีฬาและสุขภาพ มหาวิทยาลัยการกีฬาแห่งชาติ ประจำวิทยาเขตมหาสารคาม

ด้วย นางสาวสุวพร ผิวเรืองนนท์ นิสิตปริญญาโท สาขาวิชาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม กำลังศึกษาและทำวิทยานิพนธ์ เรื่อง แบบฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะกีฬาฟุตบอล ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร (วท.ม.) วิทยาศาสตร์การออกกำลังกายและการกีฬา โดยมี ผู้ช่วยศาสตราจารย์ ดร.ชัยรัตน์ ชูสกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ในครั้งนี้

เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อย และบรรลุตามวัตถุประสงค์ คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรอบรู้ ความสามารถ และมีประสบการณ์ ในเรื่องนี้เป็นอย่างดี จึงใคร่ขอความอนุเคราะห์จากท่านใช้สถานที่เพื่อการทดลอง เพื่อนิสิตจะนำข้อมูลที่ได้ไปดำเนินการในขั้นตอนต่อไป

จึงเรียนมาเพื่อโปรดพิจารณา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความกรุณาจากท่านด้วย และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

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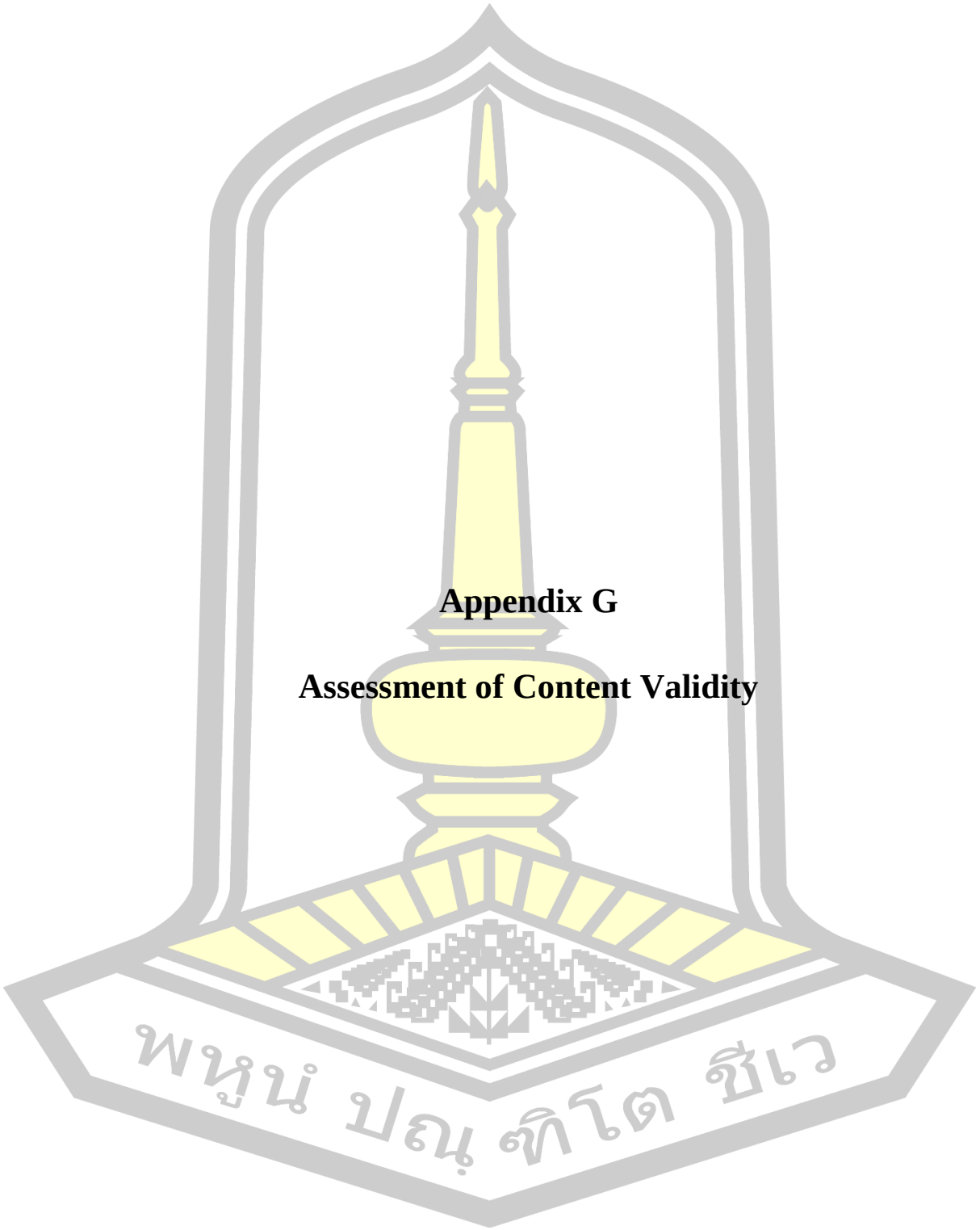

# Appendix G

## Assessment of Content Validity

**แบบสอบถาม 2 ตอน**

ตอนที่ 1 แบบประเมินภาพรวมแบบสอบถามข้อมูลทั่วไป

| ข้อที่ | รายการขอความคิดเห็น | คะแนนความคิดเห็นของผู้เชี่ยวชาญ | | | | | IOC | สรุป |
|---|---|---|---|---|---|---|---|---|
| | | คนที่ 1 | คนที่ 2 | คนที่ 3 | คนที่ 4 | คนที่ 5 | | |
| 1 | เพศ ___ 1. ชาย ___ 2. หญิง | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 2 | อายุ_____ | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 3 | สถานศึกษา_____ | +1 | 0 | +1 | +1 | 0 | 0.6 | ใช้ได้ |
| 4 | อีเมล (ที่สามารถติดต่อได้) _____ | +1 | 0 | +1 | +1 | 0 | 0.6 | ใช้ได้ |
| 5 | ตำแหน่งที่เล่น_____ | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 6 | ทีมต้นสังกัด_____ | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 7 | ระดับสูงสุดที่คุณเคยเป็นมาก่อน __1จังหวัด __2เขต __3ชาติ __4นานาชาติ | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 8 | วันที่ทำแบบสอบถาม (วัน/เดือน/ปี) _____ | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| | ผลรวม | | | | | | 0.90 | |

**ข้อเสนอแนะ**

-เพิ่ม 2 ข้อคำถาม คือ น้ำหนักและส่วนสูง

-ภาพรวมแบบสอบถามข้อมูลทั่วไปมีความเหมาะสม

ตอนที่ 2 แบบประเมินภาพรวมแบบสอบถามความเข้มแข็งทางด้านจิตใจ

| ข้อที่ | รายการขอความคิดเห็น | คะแนนความคิดเห็นของผู้เชี่ยวชาญ | | | | | IOC | สรุป |
|---|---|---|---|---|---|---|---|---|
| | | คนที่ 1 | คนที่ 2 | คนที่ 3 | คนที่ 4 | คนที่ 5 | | |
| 1 | ฉันมีความมุ่งมั่นต่อเป้าหมายในการฝึกซ้อมอย่างเต็มที่ | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 2 | การพยายามฝึกซ้อมให้ได้ดีที่สุด ตามที่ฉันสามารถทำได้ คือสิ่งที่สำคัญสำหรับฉัน | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 3 | ฉันเก่งในการรักษาความเครียดให้อยู่ในระดับที่เหมาะสม | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 4 | ความเชื่อมั่นในตัวเองของฉันทำให้ฉันสามารถผ่านความยากลำบากมาได้ | +1 | +1 | +1 | +1 | 0 | 0.8 | ใช้ได้ |
| 5 | ฉันมีความสนใจในการฝึกซ้อมโดยไม่มีสิ่งใดมารบกวน | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 6 | ฉันรู้สึกว่าฉันจะประสบความสำเร็จในการแข่งขัน | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 7 | เมื่อเผชิญหน้ากับความยากลำบาก ฉันยังคงฝึกซ้อมต่อไปและจะไม่ยอมแพ้ | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 8 | ฉันเกิดความมั่นใจเพิ่มขึ้นเมื่อทีมฝ่ายตรงข้ามแสดงความสามารถได้ไม่ดี | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 9 | การแสดงความสามารถในการแข่งขันที่ดี เป็นสิ่งที่มีค่ามากที่สุดสำหรับฉัน | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 10 | ฉันแข่งขันได้ดีในระดับนี้ เพราะประสบการณ์ของฉันเอง | +1 | +1 | +1 | +1 | 0 | 0.8 | ใช้ได้ |
| 11 | ฉันเปลี่ยนสิ่งที่เป็นลบให้เป็นบวกได้ | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 12 | โดยทั่วไปฉันมีจิตใจที่เข้มแข็ง | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 13 | ฉันมีความมุ่งมั่นต่อการฝึกซ้อมและการแข่งขันอย่างมาก | +1 | 0 | +1 | 0 | +1 | 0.6 | ใช้ได้ |
| 14 | ฉันทำการฝึกซ้อมและการแข่งขัน อย่างดีที่สุด | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 15 | ฉันสามารถจัดการกับความเครียดและความกดดันที่มีต่อตัวเองได้ | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 16 | เมื่ออยู่ในสถานการณ์ที่ยากลำบาก ฉันยังคงเชื่อมั่นในความสามารถของตนเอง | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |

| ข้อที่ | รายการขอความคิดเห็น | คะแนนความคิดเห็นของผู้เชี่ยวชาญ | | | | | IOC | สรุป |
|---|---|---|---|---|---|---|---|---|
| | | คนที่ 1 | คนที่ 2 | คนที่ 3 | คนที่ 4 | คนที่ 5 | | |
| 17 | ฉันมุ่งความสนใจอย่างเต็มที่ต่อสิ่งที่ฉันทำ ไม่มีอะไรมารบกวนฉันได้ | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 18 | ฉันมีศักยภาพในการฝึกซ้อมและแข่งขันอย่างเต็มที่และจะพัฒนาให้ดีขึ้น | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 19 | ฉันยังคงทำการฝึกซ้อมต่อไป จนกว่าจะสามารถเอาชนะอุปสรรคนั้นได้ | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 20 | การเห็นทีมฝ่ายตรงข้ามกำลังมีความรู้สึกกดดันเพิ่มความเชื่อมั่นของฉันได้ | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 21 | ฉันประเมินค่าว่าการฝึกซ้อมและการแข่งขันเป็นสิ่งหนึ่งที่สำคัญที่สุดสำหรับฉัน | 1 | 1 | 1 | 0 | 1 | 0.8 | ใช้ได้ |
| 22 | ประสบการณ์ทำให้ฉันแข็งแกร่งขึ้น เมื่อต้องแสดงความสามารถ | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 23 | เมื่อเผชิญกับความยากลำบาก ฉันพยายามมองอุปสรรคนั้นให้เป็นเชิงบวก | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 24 | ฉันเก่งกว่าทีมฝ่ายตรงข้ามเพราะมีจิตใจที่เข้มแข็ง | 1 | 1 | 1 | 1 | 0 | 0.8 | ใช้ได้ |
| 25 | ไม่ว่าจะเกิดอะไรขึ้นฉันยังคงมีความมุ่งมั่นต่อเป้าหมายในการฝึกซ้อมและแข่งขัน | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 26 | ความสำเร็จในการฝึกซ้อมและแข่งขัน คือสิ่งสำคัญที่สุดต่อตัวฉัน | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 27 | ฉันเก่งในการจัดการความเครียด | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 28 | ไม่ว่าจะมีสิ่งใดมากดดัน ฉันยังคงเชื่อมั่นในตัวเอง | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 29 | ฉันไม่ให้สิ่งใดมารบกวน ฉันยังคงมุ่งมั่นทำการฝึกซ้อมนั้นต่อไป | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 30 | ฉันรู้สึกว่าอนาคตของฉันในด้านกีฬาฟุตบอลจะไปได้ดี | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 31 | ฉันยังคงพยายาม จนกระทั่งทำการฝึกซ้อมนั้นสำเร็จ | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 32 | การเห็นทีมฝ่ายตรงข้ามจัดการตัวเองได้ไม่ดี ทำให้ความเชื่อมั่นของฉันเพิ่มมากขึ้น | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 33 | การฝึกซ้อมและการแข่งขันเป็นกิจกรรมที่มีคุณค่ามากที่สุดและเป็นส่วนหนึ่งของชีวิตฉัน | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 34 | ประสบการณ์การฝึกซ้อมเป็นสิ่งที่ฉันนำมาใช้ได้ดีมาก | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 35 | ฉันมีความคิดเชิงบวก เมื่อต้องเผชิญกับความยากลำบาก | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| 36 | ฉันมีความเข้มแข็งทางด้านจิตใจที่ดีเยี่ยม | 1 | 1 | 1 | 1 | 1 | 1 | ใช้ได้ |
| | ผลรวม | | | | | | 0.97 | |

**ข้อเสนอแนะ**

-ปรับข้อคำถาม 18, 21, 26 และ 33 ให้ครอบคลุมกิจกรรมการแข่งขันของกีฬาฟุตบอล

-ตรวจสอบการใช้คำที่เหมาะสมในข้อคำถาม

-ภาพรวมแบบวัดความเข้มแข็งทางด้านจิตใจในนักกีฬาฟุตบอลมีความเหมาะสม

**แบบทดสอบทักษะกีฬาฟุตบอล 2 ตอน**

**ตอนที่ 1** แบบประเมินภาพรวมแบบทดสอบทักษะการส่งบอลลัฟบอเลอร์ (LSPT)

| ข้อที่ | รายการขอความคิดเห็น | คะแนนความคิดเห็นของผู้เชี่ยวชาญ | | | | | IOC | สรุป |
|---|---|---|---|---|---|---|---|---|
| | | คนที่ 1 | คนที่ 2 | คนที่ 3 | คนที่ 4 | คนที่ 5 | | |
| 1 | ความสอดคล้องเหมาะสมกับทักษะการส่งบอลของชนิดกีฬาฟุตบอล | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 2 | ความสอดคล้องเหมาะสมกับกสถานการณ์ที่เกิดขึ้นจริงในการเล่นฟุตบอล | +1 | 0 | +1 | +1 | 0 | 0.6 | ใช้ได้ |
| 3 | ความเหมาะสมของรูปแบบการทดสอบ | +1 | +1 | +1 | 0 | +1 | 0.8 | ใช้ได้ |
| 4 | ความสอดคล้องเหมาะสมกับสภาพปัจจุบันและปัญหาในนักกีฬาฟุตบอล | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| 5 | ความเหมาะสมต่อกระบวนการพัฒนานักกีฬาฟุตบอล | +1 | +1 | +1 | +1 | +1 | 1.0 | ใช้ได้ |
| | ผลรวม | | | | | | 0.88 | |

**ข้อเสนอแนะ**

-แบบทดสอบมีความเหมาะสมกับทักษะที่กำหนด แต่อาจไม่สอดคล้องกับสถานการณ์จริง เนื่องจาก

ขาดความกดดันจากสถานการณ์การแข่งขัน

-ควรเพิ่มรายละเอียดของผลสรุปที่ได้จากการทดสอบว่าอยู่ในเกณฑ์ใด

**ตอนที่ 2** แบบประเมินภาพรวมแบบทดสอบทักษะการยิงบอลลัฟบอเลอร์ (LSST)

| ข้อที่ | รายการขอความคิดเห็น | คะแนนความคิดเห็นของผู้เชี่ยวชาญ | | | | | รวม | IOC | สรุป |
|---|---|---|---|---|---|---|---|---|---|
| | | คนที่ 1 | คนที่ 2 | คนที่ 3 | คนที่ 4 | คนที่ 5 | | | |
| 1 | ความสอดคล้องเหมาะสมกับทักษะการยิงบอลของชนิดกีฬาฟุตบอล | +1 | +1 | +1 | +1 | +1 | | 1.0 | ใช้ได้ |
| 2 | ความสอดคล้องเหมาะสมกับกสถานการณ์ที่เกิดขึ้นจริงในการเล่นฟุตบอล | +1 | 0 | +1 | +1 | 0 | | 0.6 | ใช้ได้ |
| 3 | ความเหมาะสมของรูปแบบการทดสอบ | +1 | +1 | +1 | +1 | +1 | | 1.0 | ใช้ได้ |
| 4 | ความสอดคล้องเหมาะสมกับสภาพปัจจุบันและปัญหาในนักกีฬาฟุตบอล | +1 | +1 | +1 | +1 | +1 | | 1.0 | ใช้ได้ |
| 5 | ความเหมาะสมต่อกระบวนการพัฒนานักกีฬาฟุตบอล | +1 | +1 | +1 | +1 | +1 | | 1.0 | ใช้ได้ |
| | ผลรวม | | | | | | | 0.92 | |

**ข้อเสนอแนะ**

-แบบทดสอบมีความเหมาะสมกับทักษะที่กำหนด แต่อาจไม่สอดคล้องกับสถานการณ์จริง เนื่องจาก

ขาดความกดดันจากสถานการณ์การแข่งขัน

-ควรเพิ่มรายละเอียดของผลสรุปที่ได้จากการทดสอบว่าอยู่ในเกณฑ์ใด คะแนนเท่าไหร่ อยู่ในเกณฑ์ใด

**แบบการฝึกทักษะทางด้านจิตใจในนักกีฬาฟุตบอล 3 ตอน**

**ตอนที่ 1** ภาพรวมของแบบการฝึกทักษะทางด้านจิตใจในนักกีฬาฟุตบอล

| ข้อที่ | รายการขอความคิดเห็น | คะแนนความคิดเห็นของผู้เชี่ยวชาญ | | | | | IOC | สรุป |
|---|---|---|---|---|---|---|---|---|
| | | คนที่ 1 | คนที่ 2 | คนที่ 3 | คนที่ 4 | คนที่ 5 | | |
| 1 | ความสอดคล้องเหมาะสมกับการฝึกซ้อม | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 2 | ความสอดคล้องเหมาะสมกับกีฬาฟุตบอล | +1 | +1 | +1 | +1 | 0 | 0.8 | ใช้ได้ |
| 3 | ความสอดคล้องเหมาะสมกับสภาพปัจจุบันและปัญหาในนักกีฬาฟุตบอล | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 4 | ความเหมาะสมของเนื้อหาทักษะทางด้านจิตใจ | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 5 | ความเหมาะสมของรูปแบบการฝึกทักษะทางด้านจิตใจ | 0 | +1 | +1 | +1 | +1 | 0.8 | ใช้ได้ |
| | | | | | | | 0.92 | |

**ข้อเสนอแนะ**

-ภาพรวมการไปใช้มีความเหมาะสม พิจารณาความเหมาะสมของการฝึก 6 สัปดาห์

-การฝึก 4 ครั้งต่อสัปดาห์ มีความเพียงพอเหมาะสม

-ควรมีแบบประเมินการผลการฝึกทักษะทางด้านจิตใจตามทักษะที่ฝึก

-ปรับเปลี่ยนชื่อระยะการฝึกที่ 1 เป็น การนำเข้าสู่บทเรียน จะเหมาะสมกว่า

-อาจเพิ่มการเขียนผลสะท้อนคิด (self-reflection) ของการฝึกเพื่อให้ผู้ฝึกได้ทบทวนสิ่งที่ตนเองได้เรียนรู้จากการฝึกแต่ละระยะ

-ควรมีแบบประเมินการผลการฝึกทักษะทางด้านจิตใจตามทักษะที่ฝึก

**ตอนที่ 2** แบบการฝึกทักษะทางด้านจิตใจในนักกีฬาฟุตบอลโดยละเอียดแต่ละสัปดาห์

| ข้อที่ | รายการขอความคิดเห็น | คะแนนความคิดเห็นของผู้เชี่ยวชาญ | | | | | IOC | สรุป |
|---|---|---|---|---|---|---|---|---|
| | | คนที่ 1 | คนที่ 2 | คนที่ 3 | คนที่ 4 | คนที่ 5 | | |
| 1 | ความสอดคล้องเหมาะสมกับการฝึกซ้อม | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 2 | ความสอดคล้องเหมาะสมกับกีฬาฟุตบอล | +1 | +1 | +1 | +1 | 0 | 0.8 | ใช้ได้ |
| 3 | ความสอดคล้องเหมาะสมกับสภาพปัจจุบันและปัญหาในนักกีฬาฟุตบอล | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 4 | ความเหมาะสมของเนื้อหาทักษะทางด้านจิตใจ | +1 | 0 | +1 | +1 | +1 | 0.8 | ใช้ได้ |
| 5 | ความเหมาะสมของรูปแบบการฝึกทักษะทางด้านจิตใจ | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| | | | | | | | 0.92 | |

**ข้อเสนอแนะ**

-โปรแกรมการฝึกทักษะทางด้านจิตใจมีความเหมาะสม แต่ปรับระยะการฝึกให้สอดคล้องและเนื้อหาให้มีความเหมาะสมกัน

-ใช้กลวิธีทางจิตวิทยาที่หลากหลายในการเพิ่มศักยภาพทางการกีฬา

-ปรับเวลาในการฝึกทักษะทางด้านจิตใจให้เหมาะสม

-ภาพรวมแบบฝึกมีความเหมาะสม ให้เพิ่มวีดีโอที่เหมาะสมในระยะที่ 1

-ปรับวีดีโอการแสดงทักษะกีฬาและสถานการณ์กดดันในการเป็นนักกีฬาฟุตบอล

-มีความเหมาะสมในการใช้ช่วงเวลาสั้นๆในการนำการฝึกทักษะทางด้านจิตใจไปใช้ในการฝึกซ้อมภาคสนาม

**ตอนที่ 3** กลวิธีการฝึกทักษะทางด้านจิตใจในนักกีฬาฟุตบอลโดยละเอียด

| ข้อที่ | รายการขอความคิดเห็น | คะแนนความคิดเห็นของผู้เชี่ยวชาญ | | | | | IOC | สรุป |
|---|---|---|---|---|---|---|---|---|
| | | คนที่ 1 | คนที่ 2 | คนที่ 3 | คนที่ 4 | คนที่ 5 | | |
| 1 | ความสอดคล้องเหมาะสมกับการฝึกซ้อม | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 2 | ความสอดคล้องเหมาะสมกับกีฬาฟุตบอล | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 3 | ความสอดคล้องเหมาะสมกับสภาพปัจจุบันและปัญหาในนักกีฬาฟุตบอล | +1 | +1 | +1 | +1 | 0 | 0.8 | ใช้ได้ |
| 4 | ความเหมาะสมของเนื้อหาทักษะทางด้านจิตใจ | +1 | +1 | +1 | 0 | +1 | 0.8 | ใช้ได้ |
| 5 | ความเหมาะสมของรูปแบบการฝึกทักษะทางด้านจิตใจ | +1 | +1 | +1 | +1 | +1 | 1 | ใช้ได้ |
| 6 | ความเหมาะสมต่อกระบวนการพัฒนานักกีฬาฟุตบอล | +1 | 0 | +1 | +1 | +1 | 0.8 | ใช้ได้ |
| | | | | | | | 0.90 | |

**ข้อเสนอแนะ**

-ปรับระยะการฝึกค่อนข้างน้อย นักกีฬาควรมีการทำสมาธิก่อน (ให้จิตใจสงบ) เพื่อเตรียมพร้อมกับการฝึกจิตใจก่อน

-ปรับรูปแบบการนำเสนอให้มีความเหมาะสม

-ภาพรวมเนื้อหามีความเหมาะสมกับสถานการณ์การเล่นฟุตบอล

# Appendix H

# Letter of Content Validity for Experts

ที่ อว 0605.5(2)/ว3365

คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม
อำเภอเมือง จังหวัดมหาสารคาม 44000

9 ธันวาคม 2565

เรื่อง ขอความอนุเคราะห์เป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย

เรียน รองศาสตราจารย์ ดร.ธนิดา จุลวนิชย์พงษ์

ด้วย นางสาวสุวพร ผิวเรืองนนท์ นิสิตปริญญาโท สาขาวิชาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม กำลังศึกษาและทำวิทยานิพนธ์ เรื่อง แบบฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะกีฬาฟุตบอล ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร (วท.ม.) วิทยาศาสตร์การออกกำลังกายและการกีฬา โดยมี ผู้ช่วยศาสตราจารย์ ดร.ชัยรัตน์ ชูสกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ในครั้งนี้

เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อย และบรรลุตามวัตถุประสงค์ คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรอบรู้ ความสามารถ และมีประสบการณ์ ในเรื่องนี้เป็นอย่างดี จึงใคร่ขอความอนุเคราะห์จากท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย เพื่อนิสิตจะนำข้อมูลที่ได้ไปดำเนินการในขั้นตอนต่อไป

จึงเรียนมาเพื่อโปรดพิจารณา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความกรุณาจากท่านด้วย และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

(รองศาสตราจารย์ ดร.ทรงศักดิ์ ภูสีอ่อน)
รองคณบดี ปฏิบัติราชการแทน
คณบดีคณะศึกษาศาสตร์

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ที่ อว 0605.5(2)/ว3365

คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม
อำเภอเมือง จังหวัดมหาสารคาม 44000

9 ธันวาคม 2565

เรื่อง ขอความอนุเคราะห์เป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย

เรียน ผู้ช่วยศาสตราจารย์ ดร.ศศิมา พกุลานนท์

ด้วย นางสาวสุวพร ผิวเรืองนนท์ นิสิตปริญญาโท สาขาวิชาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม กำลังศึกษาและทำวิทยานิพนธ์ เรื่อง แบบฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะกีฬาฟุตบอล ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร (วท.ม.) วิทยาศาสตร์การออกกำลังกายและการกีฬา โดยมี ผู้ช่วยศาสตราจารย์ ดร.ชัยรัตน์ ชูสกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ในครั้งนี้

เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อย และบรรลุตามวัตถุประสงค์ คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรอบรู้ ความสามารถ และมีประสบการณ์ ในเรื่องนี้เป็นอย่างดี จึงใคร่ขอความอนุเคราะห์จากท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย เพื่อนิสิตจะนำข้อมูลที่ได้ไปดำเนินการในขั้นตอนต่อไป

จึงเรียนมาเพื่อโปรดพิจารณา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความกรุณาจากท่านด้วย และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

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คณบดีคณะศึกษาศาสตร์

งานวิชาการและบัณฑิตศึกษา คณะศึกษาศาสตร์
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ที่ อว 0605.5(2)/ว3365

คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม
อำเภอเมือง จังหวัดมหาสารคาม 44000

9 ธันวาคม 2565

เรื่อง ขอความอนุเคราะห์เป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย

เรียน ผู้ช่วยศาสตราจารย์ ดร.วิมลมาศ ประชากุล

ด้วย นางสาวสุวพร ผิวเรืองนนท์ นิสิตปริญญาโท สาขาวิชาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม กำลังศึกษาและทำวิทยานิพนธ์ เรื่อง แบบฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะกีฬาฟุตบอล ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร (วท.ม.) วิทยาศาสตร์การออกกำลังกายและการกีฬา โดยมี ผู้ช่วยศาสตราจารย์ ดร.ชัยรัตน์ ชูสกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ในครั้งนี้

เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อย และบรรลุตามวัตถุประสงค์ คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรอบรู้ ความสามารถ และมีประสบการณ์ ในเรื่องนี้เป็นอย่างดี จึงใคร่ขอความอนุเคราะห์จากท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย เพื่อนิสิตจะนำข้อมูลที่ได้ไปดำเนินการในขั้นตอนต่อไป

จึงเรียนมาเพื่อโปรดพิจารณา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความกรุณาจากท่านด้วย และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

(รองศาสตราจารย์ ดร.ทรงศักดิ์ ภูสีอ่อน)
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คณบดีคณะศึกษาศาสตร์

งานวิชาการและบัณฑิตศึกษา คณะศึกษาศาสตร์
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ที่ อว 0605.5(2)/ว141

คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม
อำเภอเมือง จังหวัดมหาสารคาม 44000

16 มกราคม 2566

เรื่อง ขอความอนุเคราะห์เป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย

เรียน ดร.วัฒนวัฒน์ รัตนโกเศศ

ด้วย นางสาวสุวพร ผิวเรืองนนท์ นิสิตปริญญาโท สาขาวิชาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม กำลังศึกษาและทำวิทยานิพนธ์ เรื่อง แบบฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะกีฬาฟุตบอล ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร (วท.ม.) วิทยาศาสตร์การออกกำลังกายและการกีฬา โดยมี ผู้ช่วยศาสตราจารย์ ดร.ชัยรัตน์ ชูสกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ในครั้งนี้

เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อย และบรรลุตามวัตถุประสงค์ คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรอบรู้ ความสามารถ และมีประสบการณ์ ในเรื่องนี้เป็นอย่างดี จึงใคร่ขอความอนุเคราะห์จากท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย เพื่อนิสิตจะนำข้อมูลที่ได้ไปดำเนินการในขั้นตอนต่อไป

จึงเรียนมาเพื่อโปรดพิจารณา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความกรุณาจากท่านด้วย และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

(รองศาสตราจารย์ ดร.ทรงศักดิ์ ภูสีอ่อน)
รองคณบดี ปฏิบัติราชการแทน
คณบดีคณะศึกษาศาสตร์

งานวิชาการและบัณฑิตศึกษา คณะศึกษาศาสตร์
โทรศัพท์,โทรสาร 0-4371-3174
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ที่ อว 0605.5(2)/ว3365

คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม
อำเภอเมือง จังหวัดมหาสารคาม 44000

9 ธันวาคม 2565

เรื่อง ขอความอนุเคราะห์เป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย

เรียน ดร.หนึ่งฤทัย สระทองเวียน

ด้วย นางสาวสุวพร ผิวเรืองนนท์ นิสิตปริญญาโท สาขาวิชาวิทยาศาสตร์การออกกำลังกายและการกีฬา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม กำลังศึกษาและทำวิทยานิพนธ์ เรื่อง แบบฝึกทักษะทางด้านจิตใจที่มีผลต่อความเข้มแข็งทางด้านจิตใจและทักษะกีฬาฟุตบอล ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร (วท.ม.) วิทยาศาสตร์การออกกำลังกายและการกีฬา โดยมี ผู้ช่วยศาสตราจารย์ ดร.ชัยรัตน์ ชูสกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ในครั้งนี้

เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อย และบรรลุตามวัตถุประสงค์ คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรอบรู้ ความสามารถ และมีประสบการณ์ ในเรื่องนี้เป็นอย่างดี จึงใคร่ขอความอนุเคราะห์จากท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือที่ใช้ในการวิจัย เพื่อนิสิตจะนำข้อมูลที่ได้ไปดำเนินการในขั้นตอนต่อไป

จึงเรียนมาเพื่อโปรดพิจารณา คณะศึกษาศาสตร์ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความกรุณาจากท่านด้วย และขอขอบคุณมา ณ โอกาสนี้

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# BIOGRAPHY

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| **PLACE OF WORK** | Thailand National Sports University Mahasarakham Campus |
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