

Spring 4-14-2022

Developing Mental Toughness in Collegiate Football: A Phenomenological Study

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Developing Mental Toughness in Collegiate Football: A Phenomenological Study

by

Tarrah Bisch

A Dissertation Submitted in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF EDUCATION

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April 2022

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April 14, 2022

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Dedication

To my advisors, committee members, and the MSUM Ed.D. faculty: Thank you for encouraging me and answering every email, text, and question I had about ontology, epistemology, and APA formatting. I appreciate your time and effort in making this happen.

To my parents: Thank you for the endless hours you have spent pouring into our children's lives. I am forever indebted to you for being part of our tribe in raising our kids and for the Godly examples that you set when I was younger and now for our kids. I am so thankful for your endless support. I love you both.

To my children: Nothing makes me happier than being your Mommy. I pray you find something you are passionate about and never stop chasing your dreams. I love you both more than you will ever know.

To my husband: I could not have done this without you: My rock, my support, my shoulder to cry on, and when I needed it... also the person to tell me to toughen up. I am forever grateful for your encouragement and drive to be better. You push me to be better as well. I'm so blessed I get to do life with you, I love you.

Lastly, none of this would have been possible without the unwavering love from The Most High God. My faith has brought me this far, and my faith will see me through.

Numbers 6:24-26

Abstract

The purpose of this study was to enhance the phenomenon of mental toughness, by addressing the literature gap of how mental toughness can be developed in college football. This qualitative study used a tri-level snowball method, first interviewing head coach participants recommended from a collegiate football expert. Then, interviewing assistant coaches who were recommended by each head coach. Lastly, interviewing a focus group of current collegiate football athletes, who were recommended by both head coaches and assistant coaches. This study addressed four research questions surrounding the development of mental toughness in college football athletes, the differences between coaches' and athletes' perceptions of mental toughness, the incorporation of the four Cs (Clough et al., 2002) of mental toughness, comparing football coaches' definitions of mental toughness, and applying mental toughness found to other sport programs. The following was found: Coaches felt mental toughness was necessary for both life and football and can be developed through techniques both on and off the field involving football; Athletes and coaches agree on multiple aspects of mental toughness but have differing opinions of how it is developed; The four Cs played an important role in the development of mental toughness; That definitions are subjective dependent upon characteristics that each coach deems important, and that mental toughness can be applied to other sports using some of the same techniques that football coaches would use.

Keywords: Mental Toughness, Developing Mental Toughness, Four Cs, College Football, Grit, Resilience, Relentless.

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Developing Mental Toughness in Collegiate Football: A Phenomenological Study

Chapter 1. Introduction

Background of the Study

Mental toughness is defined by Clough and Strycharczyk (2012) as “The quality which determines in large part how people deal effectively with challenge, stressors, and pressure irrespective of prevailing circumstances” (p. 1). Jones (2002) adds to this definition by noting that mental toughness embodies a psychological edge. Jones also emphasized the importance of coping better than opponents as well as being “more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure” (p. 213). College athletes have a plethora of different things on their plate including but not limited to weight training, practice, discipline in their sport, discipline in the classroom, criticism and feedback from coaching staff, rebounding after a loss, practice hours, travel time, game time, and academic preparation. All these could directly impact the mental toughness of a collegiate athlete. Being able to identify characteristics which athletes feel are most important when evaluating mental toughness might be helpful to the coaching perspective to better teach, coach, prepare, and develop mental toughness. With a multitude of pressures and challenges facing athletes, many programs are continually exploring ways to increase rigor and develop mental toughness.

Intercollegiate athletics allows for student-athletes to develop personally, socially, academically, and culturally (Banwell & Kerr, 2016). Many coaches believe it to be their responsibility to develop student athletes for the next step of their lives in becoming leaders and entrepreneurs while developing teamwork and time management skills (Giacobbi et al., 2002). Giacobbi et al. noted that athletes who are unable to take coaching and incorporate the skill of

mental toughness throughout their tenure as a collegiate athlete will struggle becoming a functioning and successful member of society.

Banwell and Kerr (2016) speak to the importance of personal development as an athlete and the influence a coach has in the development process. Different characteristics from coaches can impact personal development such as how coaches instill life lessons, make athletes push through adversity, and overcome fear. Banwell and Kerr noted that coaches who preach morals of right and wrong, rising to the challenge, confidence, control, coping and managing stress, can impact student athletes in a positive manner. In addition to Banwell and Kerr, it was noted by several authors that characteristics such as confidence and control, are central aspects of being mentally tough (Gucciardi et al., 2017; Jones, 2002; Newland et al., 2013).

An absence of mental toughness could potentially be attributed to parents raising young children in a society where coddling and entitlement are encouraging personality traits that are not desirable (Greenberger et al., 2008). Examples of these undesirable traits might include a lack of or poor work ethic, irresponsible behavior, and disregard of how irresponsible behavior might impact others (Greenberger et al., 2008; Haidt & Lukianoff, 2019). Greenberger et al. (2008) noted that the type of parenting style could encourage attitudes and behaviors that might lead to an increased over-confidence, creating unrealistic expectations for children and young adults throughout their lives.

Wieser and Thiel (2014) conducted a study that examined the phenomenon of mental toughness in a sport where other researchers have identified mental toughness as important, college football. Similar to Wieser and Thiel, the proposed study evaluated how coaches built mental toughness in athletes from college football programs across multiple levels and geographic regions. It would be beneficial to understand how college football coaches and their

supporting staff cultivate mental toughness for their team. The understanding includes components on and off the field, regardless of wins or losses, and the effect it has on better preparing student athletes for entry into society after college. Additionally, the previously mentioned study examined mental toughness from the athlete's perspective inquiring what qualities athletes feel are important to persist the days of playing college football while building relationships, working a job, building a career, and becoming more mature to be successful for their future lives. Athletic trainers, coaches, strength coaches, support staff, and administrators could benefit from understanding how coaches are developing this highly sought-after trait in their program. (Wieser & Thiel, 2014).

American football is a high stress arena of often unreachable targets, and fear of failure that can lead to psychological anxiety. However, despite these difficulties, there is ample opportunity for a positive life impact from the coaching perspective (Wieser & Thiel, 2014). There are several avenues of research regarding the phenomenon of mental toughness in the vast world of athletics (Fourie & Potgieter, 2001; Giacobbi et al., 2002; Jones, 2002; Newland et al., 2013; Wieser & Thiel, 2014). However, there are few aspects of research which focus specifically on college football and how coaches can enhance the mental toughness of their individual players while also creating a mentally tough team. Many college athletic programs encourage environments that build a variety of different life skills. Coaches often expect mental toughness to be present in their athletes and do not take the time to fully develop this trait. Not to mention, very few studies incorporate the opinions and research of athletes when evaluating what they deem important in consideration to mental toughness. The purpose of this study was to add to the existing research on mental toughness, specifically analyzing how mental toughness can be created in college football. In addition, it explored how coaches foster a resilient and socially

responsible mindset that continues beyond the football field, transforming athletes into impactful members of society. Understanding the psychological aspect of how the mind adapts to the stressors put on it alongside how the body reacts to the physical demands will assist the researcher in how programs can develop mental toughness in their sport. (Wieser & Thiel, 2014).

As an athletic trainer, strength coach, club volleyball coach, former collegiate athlete, and former collegiate coach, the researcher found it necessary to assist with improving athlete's mental toughness. The researcher has seen firsthand the impacts that embedding mental toughness into a program can have on athletes and performance. Additionally, the researcher wanted to find ways to encourage more resilient individuals and build team grit. Creating a mentally tough culture could benefit the athletic programs as well as the individual athletes.

Clough et al. (2002, 2012, 2015) have done several scientific investigations of mental toughness involving case studies and analyses that breaks down the definition of mental toughness and the concepts behind it leading to the development of the four Cs which include: Control, commitment, challenge, and confidence. The four Cs create the basic breakdown and definition of mental toughness. It is the goal of this researcher to frame an understanding of how mental toughness is established in college football programs through perceptions collected by coaches and athletes. Further understanding each of the four Cs and applying them as a lens may help interpret ways to improve athletic programs, teams, and/or individuals. Clough et al. (2012) embodies the framework of mental toughness and laid out the basis of the phenomenon, particularly the characteristics, definition, and study designs which will be beneficial for this research study.

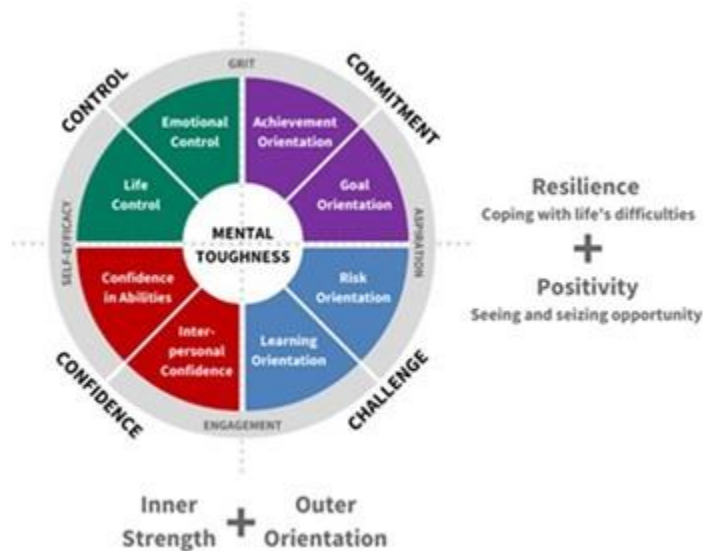
Theoretical Framework

The phenomenon of mental toughness has been widely studied throughout athletics and it supports the notion that mental toughness can be a developed skill (Clough et al., 20002; Driska et al., 2012). Clough et al. (2002, 2012, 2015) created the four Cs which is one of the most widely used theories on how to build, enhance and evaluate mental toughness. For a visualization of the four Cs and their components, see Figure 1. Alongside the four Cs, Clough and Strycharczyk (2012) developed the Mental Toughness Questionnaire (MTQ-48) and the Mental Toughness Questionnaire Plus (MTQPLUS). Both questionnaires are psychometric assessments designed to evaluate the areas of strength and need for improvement when gauging mental toughness for individuals (Clough & Strycharczyk, 2012). An example of the MTQ-48 can be found in Appendix E.

This research was designed to evaluate if college football coaches and athletes instinctively use the four Cs as part of their mental toughness regime. This researcher hoped to create a better understanding of why each attribute is important and determine if there are certain techniques and characteristics being used to develop mental toughness that might be unique to college football (Creswell & Poth, 2018). In this study, expanding on the phenomenon of mental toughness was done by incorporating qualitative research and focusing on data collection of both the coaches and the athletes. Providing both perspectives add to the phenomenon by understanding their lived experiences (Creswell & Poth, 2018). Coaches and athletes expanded on how they incorporate mental toughness into their everyday lives. Clough and Strycharczyk (2012) noted that there is currently no evidence to support a certain technique from coaches in relation to building mental toughness for the individual or the team but that it can be developed by incorporating several different approaches throughout time spent with the team.

Figure 1

Clough and Strycharczyk's model of the four Cs



Note. Strycharczyk and Clough (2015).

In recent years, quantitative research has been used often when evaluating mental rigor. The four Cs have been cited throughout several studies in relation to developing mental toughness, improving performance, enhancing well-being, comparing psychological skills with physical endurance, imagery, coping, and evaluating the overall nature of mental toughness in sports (Clough & Strycharczyk, 2012; Crust & Clough, 2005; Newland et al., 2013). Many of these studies incorporated quantitative research methods to measure the impact of mental toughness. Quantitatively, the MTQ-48 is easy to use and has proven to be effective in determining mental toughness traits that need further development (Clough & Strycharczyk, 2012). Due to the well-developed tool, the MTQ-48 was found by the researcher that the number of quantitative studies outnumbered qualitative studies in relation to the development of mental toughness.

Early mental toughness qualitative research such as Loehr (1982) is critiqued due to the lack of rigor and evidence used to list mental toughness attributes (Liew et al., 2019). While quantitative studies were located that used to four Cs to study mental toughness, no qualitative studies were found that applied the four Cs model to football using both coaches and athletes as participants. Using individualized semi-structured qualitative data interviews and focus groups allowed the researcher deeper dive into personal stories and understand how coaches go about purposefully developing mental toughness in their football programs using the four Cs as a guide.

Statement of the Problem and Need for the Study

The problem presented revolves around the phenomenon of mental toughness. While mental toughness is an understood aspect of being successful in athletics there is relatively limited research on how to develop mental toughness. Many studies suggest that mental toughness can be built and improved individually (Clough & Strycharczyk, 2012; Gucciardi et al., 2009a). There are several variables that can affect building mental toughness, but arguably two of the most influential stakeholders in sports include the athletes and the coaches. There is very limited qualitative research that includes interviewing both coaches and athletes regarding the development of mental toughness in college football.

The phenomenon of mental toughness has been studied in a variety of settings with several different ontological perspectives (Clough & Strycharczyk, 2012). Despite this variety, there are still some important aspects of mental toughness that merits further investigation. First, the definition of mental toughness remains unclear. In many cases the definition is subject to the researcher's perception of reality (Newland et al., 2013). For example, differing sports may have differing beliefs on what mental toughness is, how important it is, and how it is built or

incorporated. Additionally, a definition can be contingent on how mental toughness is evaluated (i. e. quantitatively or qualitatively) as well as, what setting mental toughness is applied (i. e. sport, classroom, and life). While mental toughness is a widely recognized phenomenon, the research involving college athletes and coaches, specifically football, was limited. It is the mission of this study to target college football coaches and football players, to gain a well-rounded perspective of how to build mental toughness.

Purpose of the Study

Clough and Strycharczyk (2012) noted that one of their colleagues, Dr. Keith Earle, viewed mental toughness as an understood and assumed aspect of success in sports. This study utilized college football as a sample population, specifically the coaches and athletes, to better understand how mental toughness is built in a sport that has few qualitative research studies framed using the four Cs. Coaches are a key member of the team structure in college athletics. Weinberg et al. (2011) noted that coaches felt accountable to increase self-efficacy, set goals, and attain higher expectations in their athletes. The traits found by Weinberg et al. are aspects of mental toughness, some of which are initiated from the coach, play a part in creating a more resilient athlete. Being able to understand what football coaches expect through a qualitative lens, how they build mental toughness, and how they might train their football players to be more mentally tough understand the phenomenon of mental toughness through a different lens. Football coaches and athletes can further develop because of this research.

Significance of the Study

This research study carried a substantial amount of personal and professional significance for the researcher who works with student athletes as a certified athletic trainer. Through those experiences, the researcher observed many instances when the presence of mental toughness

elevated student athletes and when the absence created deficits in performance. In working to better understand this concept, the researcher hoped to explore opportunities for mental toughness implementation not readily found in existing research.

Not only will this study potentially benefit other football programs of multiple divisions but the replication of this study using both coaches and athletes could take place across different sports and institutions. Coaches of other sports might be able to use this research to implement mental toughness training throughout their practices, games, programs, and recruiting efforts. Alongside other sports and the athletics community, this research could advance the phenomenon of mental toughness. The research involving mental toughness is vast but there is limited research involving how to purposefully build and develop mental toughness in athletes and athletic programs especially within the framework of the four Cs model.

Research Questions

To enhance the phenomenon of mental toughness in college football this study will be researching the following question:

1. *How can coaches develop mental toughness in college football?*

Additionally, the following questions will be addressed:

2. *Are there differences between athletes' perceptions of mental toughness and coaches' perceptions of mental toughness?*
3. *How do coaches define and characterize mental toughness and are they similar to the views of other coaches?*
4. *How do coaches incorporate the four Cs into their mental toughness regimen?*

Research Design

Creswell and Poth (2018) described phenomenological research as several lived experiences centered around the concept of the phenomenon. The researcher chose phenomenology since athletes and coaches alike have common experiences involving mental toughness. The literature surrounding the phenomenology of mental toughness was missing the specificity of college football. In addition to choosing a specific sport and analyzing mental toughness, the phenomenon also needs examples of how to develop mental toughness. The hope of this researcher was to expand on that research with a qualitative study that sheds light on the development of mental toughness. The aim of this phenomenological study was to evaluate how to develop mental toughness in college football by exploring experiences with mental toughness from the perspectives of current football coaches and athletes.

The data collection procedure used qualitative interviews with coaches and a focus group with athletes. In both methods, experiences in relation to the phenomenon of mental toughness was explored and collected. This qualitative data collection focused on gathering data of prior occurrences and providing an understanding for others by finding commonalities between the personal views (Creswell & Poth, 2018). By interviewing coaches and a conducting a focus group with athletes, the research approached mental toughness from multiple angles. Themes were generated based on significant statements from the coaches as well as from the focus group of the athletes (Creswell & Poth, 2018). These statements assisted the researcher in exploring ways of implementing mental toughness into college football programs.

Marks and Yardley (2004) noted that interviews and focus groups have become a common theme for qualitative research with the ability to gain insight that might not have been considered by the researcher prior to the qualitative encounter. It was also important to realize

the difference between the one-on-one qualitative data interviews with coaches and the focus group with the athletes. The focus group was designed as a social interaction for the athletes to provide an ample number of personal views and experience from the athlete perspective (Marks & Yardley, 2004). The aim of the research was to understand implementation of mental toughness from multiple viewpoints. It should be noted that this study was based in social constructivism, Creswell and Poth (2018) defined social constructivism as, “Individuals seek understanding of the world in which they live and work” (p. 24). Additionally, speaking to the importance the participants play in social constructivism, the researcher developed subjective meanings from participant experience and interactions (Creswell & Poth, 2018, p. 24).

Assumptions and Limitations

The framework used for this research paradigm followed the path of social constructivism believing that there is no single correct answer on how to develop mental toughness and each person’s opinions were indeed their own reality (Creswell & Poth, 2018). The phenomenon of mental toughness has been widely studied; but developing mental toughness in college football players was lacking research. Through social constructivism coaches and athletes generate knowledge from each other. Sharing this information with the researcher and other sports could be valuable in advancing the epistemology of this research.

This researcher was interested in understanding how mental toughness could be implemented and better understood in the realm of college football. The phenomenon at the center of the research was mental toughness and revolves around the lived experiences and the conscious views of these experiences (Creswell & Poth, 2018). The qualitative data collection with the coaches and the focus group with athletes offered an opportunity to explore mental

toughness through personal examples and experiences. These experiences together offered an opportunity to look for tangible ways in which implementation might be defined.

Limitations regarding qualitative research of mental toughness was dependent upon contextual specificity (Creswell & Poth, 2018). In sports, contextual specificity would include size of the team, number of coaches, location of the university, as well as the size of the university. All these specifics could impact an athlete's preferences, how they choose schools, and how they adapt to coaching criticism. These external factors were personal issues for both the coach and the athlete. Qualitative research could also be considered a limitation since time constraints can make scheduling difficult. It could be considered a limitation that this study was only being done with college football coaches and current college football athletes. While it might be a limitation that the research was not expanding the sample size to other sports, the purpose of this research was specific to football. However, it was the hope of the researcher that the in-depth qualitative exploration would give insight enough to overcome the small sample size, leading to an increase in knowledge and understanding of the phenomenon (Creswell & Poth, 2018). The researcher aimed to collect quality data from coaches and the focus group of athletes instead of representing data through quantitative methods. Using the snowball sampling method through an expert, coaches, and assistant coaches could be considered a limitation to some. When head coaches were asked to recommend assistant coaches there could have been limitations within their selection such as offense or defensive coaches, or how busy other assistant coaches might have been during that time.

Definition of Terms

Mental toughness

Clough and Strycharczyk (2012) defined mental toughness as “The quality which determines in large part how people deal effectively with challenge, stressors, and pressure irrespective of prevailing circumstances” (p. 1). In addition to the previous definition, Jones (2002) defines mental toughness as:

Having the natural or developed psychological edge that enables you to: generally, cope better than your opponents with the many demands (competition, training, and lifestyle) that sports place on a performer; specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure (p. 213).

Hardiness

Being able to cope and create an opportunity while being in control of the situation and learning from life events, taking stressful challenges and transforming them into less threatening situations characterizes the concept of hardiness (Clough & Strycharczyk, 2012; Maddi, 2004).

Resilience

Clough and Strycharczyk (2012) note that “Resilience can be described as the process by which people are able to bounce back from adversity” (p. 25).

Head Coach

For this study, a “Head Coach” must be recommended by the initial college football expert and have some form of college football head coaching experience.

Assistant Coach

For this study, an “Assistant Coach” must be recommended by their current head coach. They implement the head coaches idea in smaller athlete groups.

Athlete

An athlete in this study would be a football competitor who is currently a student at their educational institution. To be considered for this study they must be recommended by their head coach or assistant coach who also participated in the study.

Summary

The phenomenon of mental toughness is something that has been around for several years and is only growing in research due to the high demand for sports in society. The researcher’s experiences have been closely tied to building strong programs and athletes. Using a social constructivist approach to collect qualitative data from athletes and coaches allowed for a truer understanding of how to implement mental toughness. The benefits of constructing this understanding may offer opportunities to better support student athletes and collegiate sporting programs. Understanding to the phenomenon of mental toughness may allow coaches to identify factors that can be added, taken away, and improved upon through self-reflection, as well as, through other coaches’ experiences of how they build mental toughness. This study could provide coaches, athletic trainers, strength and conditioning staff, and athletes insight on how to become more mentally tough as an individual and/or as a team.

In the next chapter, the researcher will conduct an in-depth literature review that introduces the reader to the phenomenon of mental toughness and the research that has previously been done. This will involve analyzing mental toughness practices from multiple disciplines but focusing on college football. The sample of this study was chosen due to a lack of

literature involving college football. The reader will also begin to understand the lack of research involving the purposeful development of mental toughness in athletic programs and why this research is important in advancing the phenomenon of mental toughness. There will be a discussion of the methodology in chapter three. Chapter four will contain the research findings including the qualitative data collection interviews and the athlete focus groups. Lastly, chapter five will summarize the information given, evaluate the next steps, and include a conclusion.

Chapter 2. Literature Review

Introduction

The issue of mental toughness in college athletics has been a mystery for several years. Several researchers have cited that performance success does not happen without psychological mental toughness (Goldberg, 1998; Gould et al., 1987; Jones et al., 2007). There is conversation on the difference between games won and games that could have been won if athletes were mentally tougher and able to push through adversity. As an athletic trainer, the researcher interacts with athletes who complain daily about practices, coaches' meetings, and the amount of extra work that goes into being a college athlete. Some argue that achieving some measure of success in the competitive athletic realm can be directly attributed to the mental toughness of athletes (Clough et al., 2002; Cowden et al., 2014; Crust, 2007; Jones et al., 2007). Mental toughness training would benefit college athletes in an effort to re-write the coddling that is present in the current generation of athletes.

This section begins with an analysis of the methods used to search for relevant literature, followed by the theoretical orientation of the study, and finally it will include the importance of expanding the mental toughness phenomenon. The body of the literature review will cover mental toughness and its history, the research, and common findings in the literature. Next, a synthesis of the literature will expand upon why the topic of mental toughness needs more research and larger themes, inconsistencies, relevant new patterns will be addressed, and a critique of previous research will be performed. Lastly, a summary of the conclusions from the literature that support this study will be presented followed by a description on what to expect in the next chapter.

Search Methods

The initial quest to find literature on mental toughness began with the Minnesota State University Moorhead's (MSUM) Livingston Lord Library. These searches included multiple terms associated with mental toughness such as: 'mental toughness', 'mental toughness in college athletics/sports', 'mental hardiness', 'mental resilience', 'how to become more mentally tough', 'coaching for mental toughness', and 'how to develop mental toughness'. The researcher created a personal database that included peer reviewed articles or studies on mental toughness, potential theoretical frameworks for the research, and useful definitions. The library's online search engine has access to multiple online databases such as PubMed, Elton B. Stephens Company (EBSCO), Education Resources Information Center (ERIC), Google Scholar, as well as information from other libraries that are a part of the 30 colleges and seven universities in the Minnesota State Colleges and Universities (Minn State) system. After reading an article the researcher would hand search the references for additional sources to which the article referenced.

Theoretical Orientation of the Study

The purpose of this study comes from the researcher's personal experiences as a collegiate athlete, collegiate coach, collegiate athletic trainer, wife of a collegiate football coach, as well as a coach for a high school volleyball club. Frequent interactions with current collegiate student athletes have initiated a drive to find answers and techniques that can be used in the athletic environment to create mental toughness. Young football athletes can improve their outcomes of success while playing football, this literature could add to the knowledge base of the phenomenon.

The theoretical orientation for this research study followed Clough et al. (2002, 2012, 2015) four Cs of mental toughness: Control, commitment, challenge, and confidence as visualized in chapter one, Figure 1. Clough et al. (2002) developed a process to measure mental toughness. To align with the theoretical framework this study will use Clough et al. (2002) definition of mental toughness:

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

Review of the Literature

College athletics is a fast-paced environment that continues to evolve and advance. In the last several years college athletics in general has become a quicker game with what seems to be more intensity, as well as, more time required outside of the sport. Arguably, the most important aspect of athletics to be successful is mental toughness (Crust, 2007). Student athletes have many personal, academic, and athletic priorities. With a several obligations, one might ponder the amount of mental toughness and mental stamina athletes need. Adding mental toughness to their arsenal would enhance their game as well as their life. This is not to say that all athletes need to improve their mental toughness. Coaches can influence and increase mental toughness in all their athletes to make them more successful in the classroom, successful in their life, as well as on and off the court. Purposefully developing mental toughness could advance their mental toughness throughout their sport and into their everyday activities. With the constant advancement of college athletics, it was important to evaluate and

analyze the opportunities to enhance mental toughness for college athletes to create a more successful environment.

Mental toughness research started in the 1980's so the concept of the phenomenon is relatively young. Although much of the research is devoted to the ability to assist in successful outcomes of sport and business (Gucciardi et al., 2014; Jones & Moorehouse, 2007; Sorenson et al., 2016; Weinberg et al., 2011). This literature review expanded on why mental toughness is pertinent to college athletics today. The review started with the history of mental toughness, how it began to garner attention, and an analysis of the term 'mental toughness'. A large portion of this literature was based off Clough et al. four Cs of mental toughness (Clough et al., 2002; Clough & Strycharczyk, 2012; Strycharczyk & Clough, 2015). These works contributed greatly to the body of research on mental toughness. By understanding and applying these methods and attributes this researcher believes it would benefit the future of college football in multiple ways. Coaches would have access to advanced methods to train and build mental toughness, athletes would be able to develop mental toughness, and society would benefit from a more mentally tough student athlete once they enter the workforce. With the research guided by the four Cs: Control, commitment, challenge, and confidence, an examination of these characteristics of mental toughness will take place. These characteristics of mental toughness might be crucial in the development of mental toughness of college football players. Next, this review analyzed studies done on mental toughness, and common findings that presented themselves throughout the literature were identified. Summary of the review of literature is presented at the end of this section.

Mental Toughness

When referring to mental toughness Wilson et al. (2019) cited, “Mental toughness has been identified as a critical psychological process for managing stressful high-performance demands and achieving success in elite sport” (p. 67). Fourie and Potgieter (2001) aligned with this view and added that mental toughness is a combination of both physical and psychological attributes. If athletes can increase their ability to be more mentally tough, they not only advance themselves for their team and their sport but also for their daily and lifelong activities. It has been previously researched and noted that collegiate athletes generally have a higher mental toughness than the typical non-athlete (Cowden et al., 2014; 2019). Further research can be done on how to increase the mental toughness of athletes but how to train athletes to become more mentally tough (Crust, 2007).

Many collegiate coaches have noticed a lack of mental toughness in their current athletes (Clough et al., 2002). The pressure to win can create a scenario where coaches set the bar for athletes too high, which can lead to psychological stress and ultimately, failure (Wieser & Thiel, 2014). Collegiate coaches need to recognize the effects of a “win at all costs” mindset on the mental toughness of their players. Bull et al. (2005) commented on the environmental factors that influence mental toughness including the effects of parenting and the upbringing of the child as well as the transition period from leaving the house to being on their own. When a child is not challenged before they leave the house, they struggle on accomplishing tasks without constant supervision and reminders to do get things done. Helicopter parenting inhibits the development of mental toughness for athletes. Haimovitz and Dweck (2017) noted, “Children’s mindset about intelligence (as a quality they can grow vs. a trait they cannot change) robustly influence their motivation and achievement” (p. 1849).

Nicholls et al. (2007) noted athletes who have always been “the best player” in high school also seem to struggle when they face adversity or if they are challenged mentally or physically in their sport. These athletes often do not understand how to cope and handle the pressure in a collegiate athletic setting. How to make athletes more mentally tough is a something that coaches, support staff, and psychology experts would all like to analyze and implement into their own practice (Nicholls et al., 2007).

History

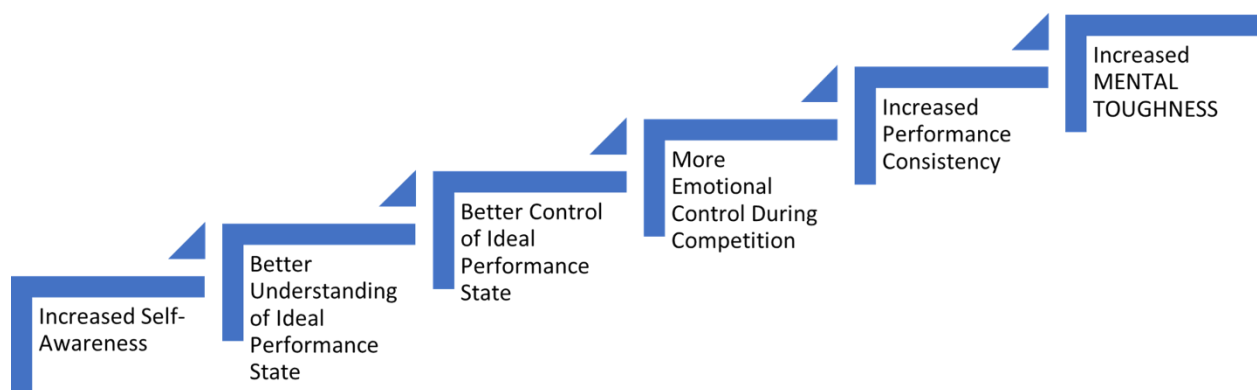
Cattell (1946) studied personality traits and originated ‘tough-mindedness’ when assessing someone’s personality. This sparked the research behind the idea that people could become mentally stronger, maintain resilience and hardiness, and push through adversity on a higher level. Loehr followed the tough mindedness concept and completed research, coining the term ‘mental toughness’ (Loehr, 1982). Loehr (1982) noted that those who might not be mentally tough were not mentally weak but instead mentally sensitive. Loehr (1982; 1986; 1995) began to analyze the didactics of mental toughness and initiate the phenomenon behind developing and creating a more mentally tough mindset. Loehr (1982) noted the importance of mental toughness and created the Athletic Excellence Training (AET) model. An example of this model can be found in Figure 2. This model presented the notion that mental toughness is learned, and consistency is key throughout mental toughness training. Based on AET, Loehr created the Psychological Performance Inventory (PPI) to measure mental toughness based on seven attributes: Self-confidence, negative energy, attention control, visual and imagery control, motivational level, positive energy, and attitude control (Loehr, 1982). The PPI is a 42 question Likert-scale that encouraged self-evaluation of performance and attitude. After completing this

questionnaire, the participant should be able to identify if they have excellent skills, have room for improvement, or needs special attention.

Loehr (1995) discovered that mental toughness can be developed. With the understanding that mental toughness can be developed, creating mental toughness in a college football program begins to identify itself as an important factor. Crust (2008) notes that there is a gap in the literature between the conceptual theory of mental toughness and the practice of enhancing mental toughness. To fill this void in the research more studies need to be completed by adjusting the environment variables as well as incorporating and enhancing mental toughness training (Crust, 2008). Loehr (1982) emphasizes the importance of mental toughness, finding that most coaches would agree 50% of the process of playing sports can be attributed to a mental mindset. Nevertheless, less than 5% of athlete's time is spent mentally preparing for competition (Loehr, 1982).

Figure 2

Loehr's Athletic Excellence Training (AET) Model



Note. (Loehr, 1982, pp. 103-104).

As Loehr (1982) completed further research on mental toughness, his observations on how to develop the trait involved a step-by-step procedure to control the mind and body connection. Loehr's AET involved increasing self-awareness, understand an ideal performance state, being able to control ones-self and one's emotions during the ideal performance state, which led to an increased performance consistency and an increased mental toughness (Loehr, 1982). Loehr also emphasizes the importance of assessing mental strengths and weaknesses to build one's mental toughness. Loehr goes into further detail on how to overcome deficiencies to boost mental capability and performance such as: Setting realistic goals, thinking positively, breath control training and visual imagery training (Loehr, 1982).

Since Loehr's work, Clough et al. (2002) developed the MTQ – 48. This questionnaire identifies characteristics of the four Cs and gives people a deeper understanding of aspects of mental toughness that can be improved. Strycharczyk and Clough (2015) note that the opposite of mental toughness is not mental weakness but instead mental sensitivity. The MTQ–48 gives examples of areas to improve upon and ways to incorporate a more mentally tough mindset. Characteristics of the MTQ–48 will be expanded on later in this literature review. An example of the MTQ-48 can be found in Appendix E.

Gucciardi et al. (2009a) and Sheard et al. (2009) developed questionnaires based around sports. Gucciardi et al. (2009a) developed the Australian Football Mental Toughness Inventory while Sheard et al. developed the Sport Mental Toughness Questionnaire (SMTQ). Gucciardi et al. (2009a) used self-reporting by having one identify their abilities on a scale such as: Belief in mental and physical ability, persistence, concentration, acceptance of team role, personal values, making sacrifices, and accountability. While Sheard et al. also used self-reporting the phrasing was much different with SMTQ. Questions included content in a personal manner such as: "I

interpret potential threats as positive opportunities”, I am committed to completing the task I have to do”, and “I worry about performing poorly” (Sheard et al., 2009).

Throughout the advancement of the mental toughness phenomenon, researchers have struggled to find a consistent definition of mental toughness (Newland et al., 2013).

Understanding the conceptual aspects that were required to be successful became the driving force behind mental toughness research (Newland et al., 2013). Table 1 lists several quantitative methods created to identify mental toughness attributes. Researchers have spent time building a basis of definitions and attributes, shifting the recent research paradigm from discovering mental toughness to developing and creating mental toughness in a person.

Each of the questionnaires listed below have helped define the construct of mental toughness. Together these questionnaires have created a list of mental characteristics for researchers to further explore. When evaluating the attributes measured through these questionnaires there are several points that continually surface. Control was an attribute measured on several scales. For example, Loehr (1986) noted the importance of attention, visual and imagery, positive energy, and attitude control; Clough et al. (2002) measured control through emotions and life; and Sheard et al. (2009) measured control through emotions and cognition. Confidence was another characteristic mentioned multiple time and has been measured as self-confidence, self-belief, self-efficacy, confidence in abilities, and confidence interpersonally. Commitment was interchangeable with several different terms such as dedication, resiliency, and determination (Clough et al., 2002). It became more obvious to the reader that commitment was needed through many different facets of mental toughness. Many athletes began to see progress toward a goal and can achieve success by staying committed (Clough & Strycharczyk, 2012). Challenge was something that all athletes face with mental toughness. This involved being able

to change the negative and positive perspective of an athlete, thriving through adversity, empowering emotions, and creating the optimal performance state (Clough et al., 2002).

Table 1

Measurement Tools for Mental Toughness

Author	Measurement Tool	Attributes Measured
Loehr (1986)	Psychological Performance Inventory (PPI)	Self-confidence, negative energy, attention control, visual and imagery control, motivational level, positive energy control, and attitude control.
Golby et al. (2007)	Psychological Performance Inventory – A (PPI-A)	Determination, self-belief, positive cognition, and visualization
Sheard et al. (2009)	Sport Mental Toughness Questionnaire SMTQ	Confidence/self-efficacy, emotional/cognitive control, and positive perspective
Gucciardi et al. (2009a)	Australian Football Mental Toughness Inventory	Thriving through challenge, having sport awareness, tough attitude, and desiring success.
Mack & Ragan (2008)	Mental, Emotional, and Bodily Toughness Inventory (MeBTough)	Empowering emotions, creating optimal performance state, coping, flexibility, strength, resiliency, preparedness.
Clough et al. (2002)	Mental Toughness Questionnaire - 48	Challenge, commitment, control (emotional and life) and confidence (in abilities and interpersonally).

Development of the Mental Toughness Questionnaire-48

The conceptual framework of Clough et al. (2002) four Cs of mental toughness, commitment, challenge, confidence, and control, in some aspect cover all the attributes listed in the Table 1 questionnaires. The four Cs have been a driving point of research and helped create the MTQ-48 (Clough et al., 2002). The MTQ-48 questionnaire has been used in several

quantitative research studies identified in Table 2. The questionnaire itself can be found in Appendix E. Clough et al. (2002) original research aimed to develop a framework of mental toughness. Clough et al. framework would use a grounded theory approach with an exploratory study. The grounded approach would focus on the emergence of new data involving mental toughness. The exploratory qualitative study used personal experiences of professional or elite athletes to expand on the current identity of mental toughness while also making an effort to understand situations which mental toughness became a necessity (Clough & Strycharczyk, 2012).

Table 2

Research Using the Mental Toughness Questionnaire-48

Authors	Mental Toughness Involvement
Nicholls & Pollman, 2007; Bull et al., 2005; Kaiseler et al. 2009.	Ability to cope
Clough et al., 2002; Gucciardi et al., 2008; Jones et al., 2007; Crust, 2007.	Emotional Control
Jones et al., 2002; Crust & Clough, 2005.	Levels of Achievement and Performance
Sheard et al., 2009; Gucciardi et al., 2009a; Golby, 2007.	Psychological Strategies
Horsburgh et al., 2009; Clough et al., 2002.	Personality
Gerber et al., 2012.	Health
Crust et al., 2010; Stamp et al., 2015.	Education

Clough et al. (2002) found the most common attributes of mental toughness aligned with Kobasa's (1979) hardiness theory. Kobasa's Hardiness theory involved three of the four Cs including control, challenge, and commitment. Confidence was an additional attribute Clough et

al. interviewees spoke consistently about. Confidence described the ability of an individual to cope with the possibility of physical, mental, and emotional setbacks while having self-belief that the task would still be completed (Strycharczyk & Clough, 2015). Confidence was further divided into two subcategories: confidence in one's abilities and interpersonal confidence. The addition of this research developed Clough et al. four Cs of mental toughness: Control, commitment, challenge, and confidence. Developing the questionnaire used existing data and a range of questions which evaluated each of the four Cs in a different manner (Clough & Strycharczyk, 2012).

Clough et al. identified reliability for their test using internal consistency and test-retest reliability. This is important in understanding how consistent the questionnaire is. They also measured four types of validity to prove the effectiveness of the MTQ-48. A definition of terms from Clough and Strycharczyk can be found in Table 3.

Table 3

Definition of Terms from Clough and Strycharczyk (2012)

Term	Clough and Strycharczyk's (2012) Definition
Reliability	Consistency. The test's ability to measure in the same way (p. 41).
Internal consistency	How items cluster or co-vary together (p. 41).
Test-retest reliability	Completing the test twice after a gap between time periods (p. 41).
Face validity	Is the instrument accepted by the target population (p. 42)?
Content validity	Instrument's ability to cover the concept in its entirety (p. 42).
Construct validity	Signifies the test's relationship with other similar tests (p. 42).
Criterion-related validity	Does the MTQ-48 indeed predict mental toughness (p. 42)?

Reliability and validity tests are important components in the process of creating questionnaires. Both provide a benchmark when evaluating questionnaires. As researchers

analyze this questionnaire it needs to be known if the authors are using sound methods.

Reliability measured with Cronbach's alpha for the whole scale was a .91 for 48 questions.

It is also important to understand the audience of the research. If a coach or player wants to apply the theory to practice the values of reliability and validity need to be consistent in measuring what the questionnaire was designed for. Several studies have been completed using Clough et al. (2002) MTQ-48. Strycharczyk and Clough (2015) noted, "Translating the output from a discussion into a set of outcomes which are mapped to the four Cs enables interventions to be selected which can themselves be mapped back to the four Cs" (p. 194). Originally the MTQ-48 was designed to target the athletic population however, since its debut it has been expanded to several different populations. Businesses, teams, and organizations are using the MTQ-48 to enhance their mental toughness and overall success in their field (Strycharczyk & Clough, 2015).

Attributes of Mental Toughness

There were several characteristics in which the literature shows agreement regarding traits of mental toughness. Many authors believed there are certain psychological components of mental toughness that can determine personal well-being (Stamp et al., 2015). Stamp et al. (2015) found commitment, confidence, self-acceptance, and personal growth and challenge, were significant predictors of mental toughness. Gucciardi et al. (2017) identified mental toughness as an assistive device which can further propel athletes and teams to drive through adversity and stressors to accomplish short-term and long-term goals. Bull et al. (2005) noted the debate on mental toughness between individuals and found differences dependent upon personality, psychological characteristics, and an individual's state of mind. In agreement with Bull et al., Jones et al. (2007) identified four dimensions of mental toughness during a competitive state: Attitude/mindset, training, competition, and post competition. Attributes of these four

dimensions can be found in Figure 3. These four dimensions have several characteristics which aligned with Clough et al. (2002) four Cs of mental toughness. Where Clough et al. used control as a larger theme, Jones and collaborators specified a sense of control in each dimension: controlling the environment when in training, awareness and control of thoughts and feelings in competition, and how to handle successes and failures in post-competition (Jones et al., 2007).

Clough et al. (2002) used a research-based approach when they developed the four Cs of mental toughness. A figure identifying the four Cs can be found in chapter one, Figure 1.

Clough and Strycharczyk (2012) deemed mental toughness as a personality trait, something that can be enhanced and formed. This information marked a pivotal moment for research involving mental toughness since it has been shown that traits can be changed through research involving epigenetics, i.e., the study of a gene's ability to change (Clough & Strycharczyk, 2012).

Strycharczyk and Clough (2015) further stated, "It is clear that genetics and environment both play a role in the development of mental toughness" (p. 218). This solidified the need for building mental toughness to advance psychological skills throughout athletics.

The Four Cs

Control, commitment, confidence, and challenge are critical aspects of mental toughness that athletes need to obtain to be more mentally tough. However, obtaining these attributes is only beneficial for an athlete as they practice how to manage them, much like an athlete who can throw a baseball 95 miles per hour is only efficient if they can locate the pitch. Strycharczyk and Clough (2015) agreed that the goal of mental toughness in sport is having the ability to balance outside life with successfully performing in competition (p. 194). Balancing with enjoyment is the key and applying mental toughness will assist in this process.

The goal here is to make the mental toughness model and, in particular the four C components, relevant to the desired outcome. In this way the individual can see the connection and become more likely to be motivated to apply what comes next.

(Strycharczyk & Clough, 2015, p. 194).

Control. Control is the aspect of being able to control feelings, actions, and work ethic to influence the outcome of success. Kobasa (1982) summed up control as “the tendency to believe and act as if one can influence the course of events” (p. 6). The element of control involves self-belief and self-confidence. An athlete who can exercise control over a situation, cope with the stress and adversity they are given, and manipulate the situation to become something positive will experience success not only in sport but in life.

Strycharczyk and Clough (2015) explained control as an individual’s belief that they can influence and make a difference to create a change. Control can be divided into two different categories, life control and emotional control (Strycharczyk & Clough, 2015). See Table 4. Athletes with a high sense of life control carry the belief that they can adapt their behavior to situations that might arise. Strycharczyk and Clough noted:

Athletes with life control believe that they are capable of achieving what they set out to achieve. Those with high levels of life control will have a sense that success is down to them and their own attitude towards the task and they won’t be prevented from achieving it. (Strycharczyk and Clough, 2015, p. 56).

Strycharczyk and Clough (2015) gave several examples of an athlete with a high emotional control. These athletes are unphased and able to process others remarks accordingly and appropriately, they stay calm in a crisis and have a broad perspective. Athletes with a high emotional control are confident in their abilities, able to control their anxiety, as well as control

when they enter a negative emotional state. Controlling emotions on and off the court is often influenced by how well a person can cope with the stressors that are put on them (Jones, 2002).

Table 4

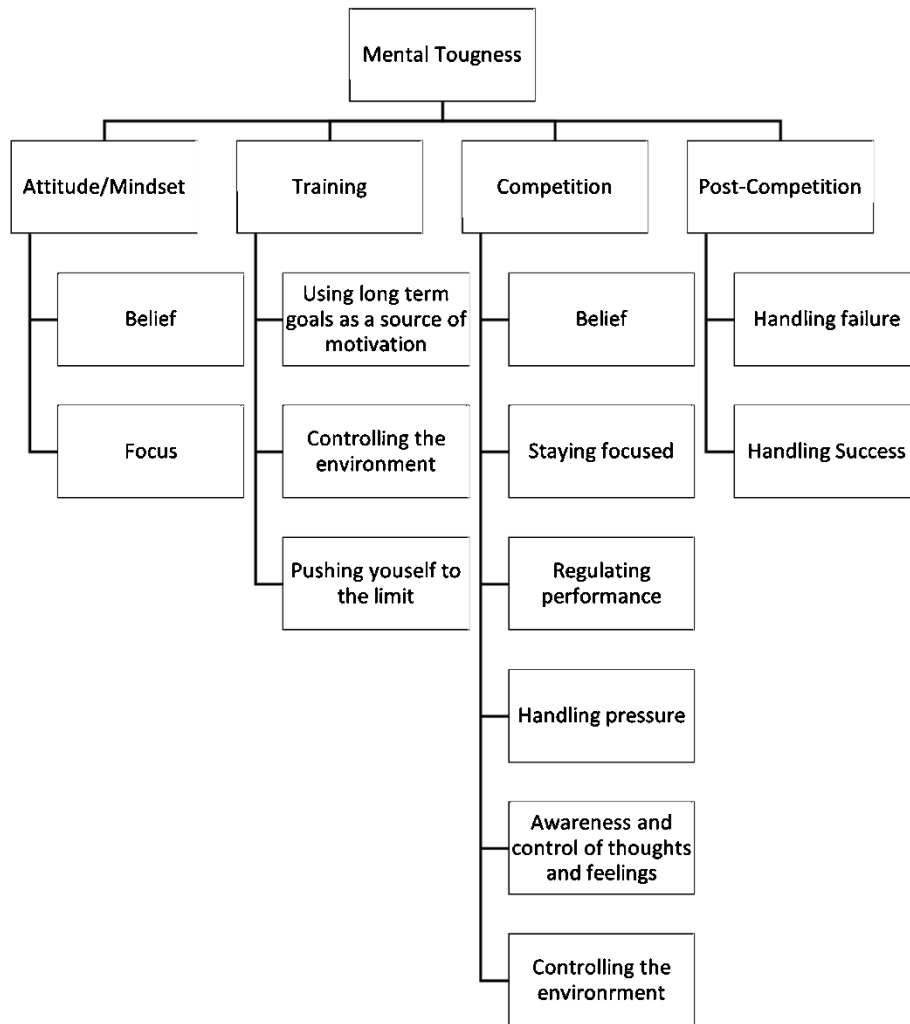
Strycharczyk and Clough's Types of Control (2015, p. 61-62).

High Life Control	High Emotional Control
Can take on multiple tasks at a time	Reveal only emotions and feelings they want seen
Happy to re-organize as they go	Direct their energy toward their choice
Break down tasks into manageable chunks	Stay calm in a crisis
Good at prioritizing	Difficult to provoke or annoy
Uses positive language and expressions	Keep a broad perspective on things
See the solution rather than the problem	Can be insensitive to others' remarks
Their cup is half full	Feel they shape what happens

Jones (2002) agreed with the importance of control by noting that mentally tough athletes accept competition anxiety and can cope with any adversity that they might experience. They are also able to regain psychological control following unexpected and uncontrollable events during their training and competition (Jones, 2002). Jones et al. (2007) four dimensions of mental toughness can be found in Figure 3. This research found that in each phase of mental toughness (i.e., Attitude/mindset, training, competition, and post-competition) involves an element of control. In the competition phase, Jones et al. points out the awareness and control of thoughts and feelings as well as controlling the environment. In the post-competition phase control is emphasized through handling failure and handling success (Jones et al., 2007). These characteristics are built and maintained by each individual. Athletes control their attitude and actions during competition, after a win, and after a loss.

Figure 3

Jones et al. Four Dimensions of Mental Toughness



Note. (Jones et al. 2007, p. 249).

Butler et al. (1993) commented on control and agreed that gaining self-awareness further enabled an athlete to gain control, a necessary aspect of being successful in performance. Clough et al. (2002) went into further detail when describing control by saying, “It allows an individual to choose the most appropriate course of action when faced with a potentially stressful situation and this, in turn, is likely to transform a threatening situation into something more acceptable for that individual” (p.35). Control emphasizes importance in an individual’s abilities, to steer

through stressful events and mesh these stressors with everyday activities, ultimately incorporating these events into the plan for their life (Kobasa, 1979). During stressful life events, control allows an individual to feel comfortable in making decisions (Clough et al., 2002).

Commitment. Commitment can also be referred to as persistence, focus, desire, dedication, resiliency, and determination. Commitment is an aspect of athletics that all coaches emphasize throughout their program (Weinberg et al., 2011). Many coaches would argue that the act of being committed would increase the chances of meeting individual athlete's goals as well as team goals (B. Bolte, personal communication, October 8, 2020). Strycharczyk and Clough (2015) defined commitment as "The extent to which an individual is likely to persist with a goal or task work" (p. 73). Committed individuals maintain focus on achieving their goals.

Kobasa (1982) defined commitment as the "tendency to involve oneself fully in the many situations of life, including work, family, interpersonal relationships, and social institutions" (p. 6). Kobasa identified a committed individual's ability to handle stressful situations by coping effectively. This level of coping and commitment provide a deeper sense of purpose for individuals. This assists individuals in the aspect of setting priorities and goals (Kobasa, 1982).

Weinberg et al. (2011) found a theme among NCAA coaches noting that persistence, or high level of determination, embodied a mentally tough athlete, one who does not quit and will not give up. Jones (2002) also listed commitment in his attributes labeling commitment as having an insatiable desire, internalized motives, and remaining fully focused throughout possible distractions to achieve success during personal life and competition. Commitment is the act of being fully invested and involved throughout all aspects of sport.

Clough et al. (2002) noted the importance of both psychological and personality traits that make up mental toughness, both of which need consistent practice to improve these skills.

Jones et al. (2007) agreed with Clough et al. (2002) and specified the attitude and mindset of mental toughness are psychological interventions each athlete must take to advance their mindset and require focus as a main component. Gucciardi et al. (2017) articulated the importance of commitment and stated that those who are committed will thrive in their tasks at hand. Bull et al. (2005) found that commitment along with dedication are high markers of an athlete who embodies mental toughness. Commitment to these non-physical components of sport is just as important to the physical components. Parkes and Mallet (2011) complimented committed athletes who have overcome adversity stating that these athletes have a greater resiliency as well as confidence to perform their sport. Constant commitment and effort show a person's proactive approach of wanting to be at their best. In comparison, an athlete who is not committed and experiences life and sport stressors are more likely to present in a reactive manner (Clough et al., 2002). Jones and Moorehouse (2007) echoed commitment in a different language but agree that sustained motivation is a pillar of mental toughness. It is also recognized by Connaughton et al. (2008) that developing mental toughness is a long-term process of several individual factors working together. This commitment to bettering ones-self can produce and maintain mental toughness.

Challenge. Kobasa (1982) stated the importance of challenge and an individual being welcoming to change. When an unexpected experience comes, a hardy individual will anticipate the disruption and see it as an opportunity for personal growth (Kobasa, 1982, p. 7). The relationship of challenge within mental toughness might be a conundrum for those who do not understand sports. Many who are not involved in athletics see challenge as something that might hinder mental toughness. Strycharczyk and Clough (2015) noted that the idea of a challenge does not always equate to success. However, challenge in sports creates the opportunity for college

athletes to be successful by pushing beyond their limits. Challenge allows athletes to break their own boundary of how mentally tough they think they are and reach new levels mentally, physically, and emotionally (Clough et al., 2002). An athlete who is highly skilled in the challenge area will see struggles as opportunities and understand that adversity will strengthen their mental and physical ability (Strycharczyk & Clough, 2015).

Strycharczyk and Clough (2015) defined challenge as actively seeking opportunity for further self-development, which is reiterated in Clough et al. (2002) noted that challenge empowers people to seek growth instead of maintaining a static position. Characteristics of the challenge trait can be found in Table 5. Strycharczyk and Clough (2015) identified two important concepts behind the attribute of challenge: 1) The attitude toward changes or a new experience and 2) how one handles a new stressful situation. How the attribute of challenge is perceived by the athlete directly relates to how one might cope, react in competition, or how they manage fear (Strycharczyk & Clough, 2015). Developing the desire to be challenged in an athlete will create a competitive edge that will push them toward improvement.

Table 5

Strycharczyk and Clough's (2015, p. 86) Characteristics of Challenge

Attitude toward change and new experiences	Attitude toward handling stress
Hard working	Finds the positive in situations
Provoke change	Enjoy learning new things
'Addicted' to adrenaline	Able to learn and apply new information
Enjoys competition, challenge, and problem solving	Aspirational always wanting to improve the current project

When athletes are challenged, they are at risk of exposing their weaknesses, to competition as well as their coaches and teammates. Strycharczyk and Clough (2015) noted the importance of understanding that challenge creates a drive in an athlete to further seek

development. This developmental stage the athlete must go through allows for failures, but a mentally tough athlete will see this as a learning opportunity and grow from it (Strycharczyk & Clough, 2015). In relation to growth, Dweck (2016) researched a growth mindset and found that intelligence and talents can be improved through effort and learning if people have the right mindset. Dweck found that students talents and abilities can be developed, and a growth mindset linked to higher motivation along with error correction. Having a positive attitude toward the possibility of change is an important characteristic of the challenge attribute. Jones (2002) found that athletes who can push through boundaries of pain in the physical and emotional realm created a more mentally tough athlete. Seeking improvement is the driving force behind successful college athletes. Accepting change and welcoming growth will take athletes to a new level of mental and physical competition.

Stressful situations are a consistent theme in college athletics. Between responsibilities both on and off the field it is important for an athlete to be able to handle stress in stride, prioritize their time accordingly, and ultimately grow from the experience (Weinberg et al., 2011). During competition college athletes will often experience those ‘big’ games with pride on the line. An athlete can perceive this situation in two different ways: They can be fearful of what might happen, or they can thrive off the opportunity that presents itself. Jones (2002) identified challenge in mental toughness as the ability to rebound from a performance or setback in athletics. When athletes are under the pressure of competition, an athlete who is mentally tough will likely rise to the occasion of a challenge, will raise their game, and thrive under the pressure (Jones, 2002). Having an increased determination will lead to success for college athletes.

Strycharczyk and Clough (2015) identified competitiveness as a challenge characteristic. “The challenge component of our model includes an element of competitiveness – the desire, or

even need, to win” (Strycharczyk & Clough, 2015, p. 91). Competitiveness is a common trait found in college football. Winning games is how many measure successes in college football programs. However, it is important to identify achievement on levels of more than just winning or losing when identifying mental toughness. Competitiveness involved hard work and taking risk which can be a driving source of success (Strycharczyk & Clough, 2015).

Confidence. Having a high level of confidence directly affects how an athlete carries themselves on and off the playing field. Some studies have referred to confidence as optimism, self-belief, and self-esteem (Bull et al., 2005; Thelwell et al., 2011). Being confident had a direct correlation with how athlete’s deal with setbacks and overcome adversity. For example, “Confidence measures the extent to which we have self-belief to see through to a conclusion a difficult task which can be beset with setbacks and the inner strength to stand your ground when needed – particularly when you might need to persuade others to your point of view” (Strycharczyk and Clough, 2015, p. 93). Strycharczyk and Clough (2015) divided confidence into two subgroups: confidence in one’s abilities through external motivation, and confidence in oneself on an interpersonal level. Characteristics of the two subgroups can be found in Table 6.

Table 6

Strycharczyk and Clough’s (2015, pp. 96-97) Characteristics of Confidence

Confidence in abilities	Interpersonal confidence
Need for external validation is small	Will stand their ground
Not afraid to ask questions	Not easily embarrassed
Can provide full responses to questions	More likely to be involved in many activities
Motivated by other’s achievements	Can be aggressive
Draw experiences into what they are doing	More risk-oriented

People who have confidence in their own abilities are optimistic. They believe tasks can be completed with a problem-based coping style which they can alter the event or the source of

the stress (Strycharczyk & Clough, 2015). Weinberg et al. (2011) noted that confidence emerged a lower order theme amongst coaches in the National Collegiate Athletic Association (NCAA). Confidence involved being prepared for what was to come and what needed to be done. Jones (2002) agreed with the importance of confidence in his qualitative study noting that the number one attribute of mentally tough performers was “Having an unshakeable self-belief in your ability to achieve your competition goals” (p. 210). Several studies found confidence and belief in ones-self as a reoccurring theme that is necessary for athletes to be both successful and mentally tough (Bull et al., 2005; Jones, 2002; Thelwell et al., 2011).

Weinberg et al. (2011) noted that there are certain leadership qualities that a confident athlete will have such as a good work ethic, the ability to give constructive feedback, and incorporating team building activities to encourage confidence in teammates. These responses fall under Strycharczyk and Clough (2015) interpersonal confidence. This aspect of confidence is found deep within oneself and can affect others around them. People with an interpersonal confidence give oral feedback and are not afraid to make their opinions on certain positions known (Strycharczyk & Clough, 2015). These people are willing to assert themselves into situations to defend what they believe in or what they know to be right regardless of the potential to be ridiculed or challenged (Strycharczyk & Clough, 2015).

Summary of the Four Cs. This study uses the four Cs of Clough et al. (2002; 2012; 2015) guide to mental toughness to add to the research by analyzing how to develop mental toughness in college football. This will be further discussed in chapter three, Methodology. Understanding the deeper meaning behind each of the definitions, characteristics, and literature of control, commitment, challenge, and confidence is imperative to this research. The four Cs are the essence of the MTQ - 48. While this questionnaire helps identify mental toughness attributes,

it is the hope of this researcher that the four Cs will assist in identifying how to develop mental toughness among college football teams. These attributes are the center of this research and will serve as the starting point for the semi-structured qualitative data interviews that will take place for both coaches and a focus group with athletes.

Coaching and Developing Mental Toughness

“Some people are born tough, and others may develop it. This raises the very interesting question of how mental toughness is developed” (Strycharczyk & Clough, 2015, p. 217). There was a plethora of research regarding the relatively young phenomenon of mental toughness. The most pertinent study that is applicable to developing mental toughness came from Weinberg et al., (2011) who researched the importance of mental toughness in college athletics. Weinberg et al. research involved ten head coaches in the NCAA who were involved in a variety of sports including tennis, golf, volleyball, baseball, basketball, swimming, ice skating, track and field, and hockey. Weinberg et al. found that coaches who created a tough physical practice environment, a positive mental environment, and providing mental toughness learning opportunities were able to positively affect mental toughness. Weinberg et al. also noted that many coaches and their staff have a combined goal of pushing athletes to their limit and reaching their potential both on and off the field.

Driska et al. (2012) also did qualitative research involving coaches. While Driska et al. specified the sport of swimming, the main goal of this study was to get the perspective of the coaches. Thirteen swimming coaches were interviewed about factors that they felt led to mental toughness in swimmers. The coaches were able to narrow down thirteen attributes that agreed with what Jones et al. (2007) found in their study. Interestingly, Driska et al., noted that coachability should be added to the attributes of mental toughness. Athletes who are more

coachable have the drive and willingness to go the extra mile for their coach as well as their teammates.

Regarding the development of mental toughness, many coaches would agree this is an important part of their job (Banwell & Kerr, 2016). Driska et al. (2012) found that in developing mental toughness there are three themes that emerge: expectations, purposeful development, and a motivational climate. An overview of Driska et al. themes for developing mental toughness can be found in Table 7.

Table 7

Characteristics of Developing Mental Toughness (Driska et al., 2012, p. 199-201).

Theme	Characteristics of themes
Demanding and high expectations	Constantly challenging athletes, communication of expectations, and creating emotional challenges.
Purposeful development of mental toughness	Creating challenging workouts addressing physiological, technical, and psychological needs. Practicing at game speed and inducing failure in practice.
Motivational climate	Mastery motivational climate; recognition to reward.

First, coaches who were challenging, demanding, and held higher than normal expectations for their athletes had good success developing mental toughness (Driska et al., 2012). Coaches created emotional challenges at the end of the workout when athletes are tired to build resiliency and mental stamina. Coaches who developed this trait also understood when to challenge and when to back off in effort to increase mental toughness. Gucciardi et al. (2008) agreed with Driska and stated that developing characteristics, creating situations, and analyzing behaviors were part of the challenge of coaching mental toughness. Gucciardi et al. characteristics are further identified in Table 8. Experiencing this situational type of adversity

has a direct implication on the mental growth of the athlete (Cowden et al., 2019). Weiser and Thiel (2014) also agreed with grinding through adversity noting that both physical and emotional stressors for athletes can assist with increasing personal development which can develop mental strength. Driska et al. emphasized how productive and mentally tasking repetition and practicing correct form and technique can be.

You don't harp on kids. It's called do-overs. You either do it right, or you do it over. You can't talk to a kid and have him learn skills. You have to put him in equipment or situations that force him to learn skills. (Driska et al., 2012, p. 198)

Knowing how far and when to push an athlete to their limit will play a part in the success of developing mental toughness.

Table 8

Gucciardi et al. (2008) Three Categories to Develop Mental Toughness

Category	Attributes
Developing characteristics	Self-belief, work ethic, personal values, self-motivated, tough attitude, concentration, resilience, handling pressure, emotional intelligence, sport intelligence, and physical toughness.
Creating situations	Mental toughness during injuries, rehabilitation, preparing and training for competition, challenges, peer and social pressures, and internal and external pressures.
Controlling behaviors	Preparedness, consistency, repeatable good performance, versatility, and superior decision making.

Driska et al. (2012) found the second aspect in creating mental toughness in athletes to be practicing purposeful development of mental toughness. Communication was a key aspect of successful incorporation of mental toughness training. When coaches clearly communicated

what their expectation for the practice and results were the athletes felt they were held to a standard (Driska et al., 2012). Introducing failure was another source of developing mental toughness in Driska et al. research. Coaches started by instilling confidence and then making workouts harder by introducing some aspect of failure during the right time. Failing pushed athletes to respond positively to work harder and increased the desire to get better (Driska et al., 2012). Gucciardi et al. (2008, 2009a, 2009b) researched mental toughness in youth aged and elite Australian football players as well as coaches and found positive changes when psychological skills training was incorporated. Skills training included amplifying situations that demanded mental toughness such as self-regulation, arousal regulation, mental rehearsal, attentional control, and self-efficacy (Gucciardi et al. 2008; 2009a; 2009b). Parents, coaches, and athletes all reported positive changes in their mental toughness as well as their resilience after purposefully practicing the mental toughness skills (Gucciardi et al., 2009; Gucciardi & Gordon, 2009; Gucciardi et al., 2008).

Driska et al. (2012) last theme of developing mental toughness involved the coaching staff implementing positive motivation during practice times. Driska et al. referred to this as a mastery motivational climate. This climate publicly brags on self-improvement as well as showcasing an athlete who consistently gives 100% effort and dedication to the task (Driska et al., 2012, p. 200). Competitive athletes have a drive to be the best. Being publicly recognized for hard working efforts during practice is a positive reinforcement for all athletes. This climate fostered resiliency and built mental toughness (Driska et al., 2012). Nicholls et al. (2007) agreed with the motivational climate and found that the inclusion of optimism intervention techniques by the coaching staff related positively with athletes' mental toughness levels. Ericson et al. (1993; 1996) noted the importance of physical conditioning and competition practices were

necessary to deliberately build mental toughness. This tough practice environment was crucial, but it was equally important to remain positive in that environment as well (Ericsson, 1996; Ericsson et al., 1993). Making practices more competitive either individually or as a team advanced skills and accomplished the goals of the athlete (Bull et al., 2005). Driska et al. commented on competitive practices but stresses variety. Keeping variety in mind will help athletes not become bored with workouts. If boredom sets in athletes tend to get lackadaisical with their approach to training.

Jones et al. (2007) included both coaches, athletes, and sports psychologists in their qualitative study hoping to address a true definition of mental toughness, identify attributes, and develop a framework of mental toughness. Jones et al. were able to identify four dimensions of mental toughness through their interviews: attitude/mindset, training, competition, and post-competition. The attitude/mindset dimension directly relates to belief in oneself. This correlated with Clough et al. (2002) identifier of confidence. Jones et al. expanded on this belief by quoting a participant,

It's that inner arrogance, that bit of an attitude towards things that I set my mind to. It is never ever giving up and knowing that if I just persevere, I know that I am going to be able to do it... I believe I will be able to do it. (Jones et al., 2007, p. 248)

During training, Jones et al. used long-term goals which directly correlated with Clough et al. attribute of commitment, setting goals and not stopping until they are reached. Jones et al. four dimensions of mental toughness are listed in Table 9, and all coexist. The belief of attitude/mindset is the same attribute of belief that happens during the competition dimension. Being able to control the environment during the training dimension falls directly in line with staying focused in competition, as well as handling success and failure during post-competition.

Each of Jones' four dimensions has proved to be an important aspect in developing mental toughness in athletes.

Table 9

Jones et al., (2007) Four Dimensions of Mental Toughness

Dimension	Attributes
Attitude/Mindset	Belief, focus
Training	Long term goals, controlling environment, pushing to the limit
Competition	Handling pressure, belief, regulating performance, staying focused
Post-Competition	Handling failure, handling success

While Jones et al. (2007) focused on dimensions and attributes of mental toughness, Rodahl et al. (2015) embarked on the importance of the coach and athlete relationship. Rodahl et al. noted that in developing mental toughness, athlete satisfaction with the coach is a necessary feeling. Having this positive dynamic promotes mental toughness in athletes. The coach played a pivotal role in the success of their athletes as well as their mental toughness (Rodahl et al., 2015). Crust and Azadi (2009) identified the positive relationship through training and instructive coaching behaviors. Crust and Azadi noted that coaches found commitment and challenge to be significant aspects of a leadership role in a mentally tough athlete. These directly aligned with two of Strycharczyk and Clough (2015) characteristics of mental toughness.

Diment (2014) noted that observing athlete activity in a natural setting, to evaluate specific behaviors in combination with an athlete's personal values and trainable abilities, can give the researcher a better understanding of how to develop mental toughness. It was noted by Cowden et al. (2014) that coaches and athletes do not often agree on the importance of mental toughness. Athlete perceptions of the attributes, how it is developed, and indications can be drastically different from the coach perception.

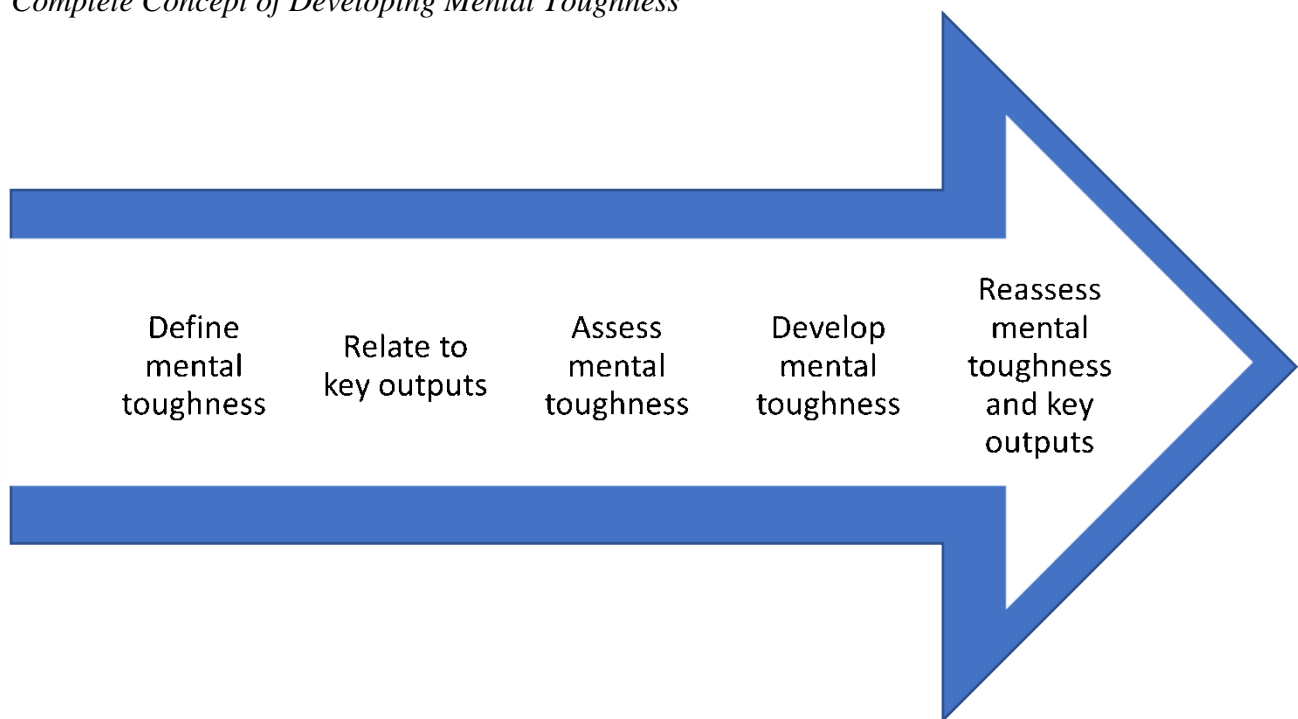
Connaughton et al. (2008) completed a study with previous participants from Jones' (2002) research. The purpose of this study was to add on to the original research and determine if mental toughness was developed and if it required maintenance (Connaughton et al., 2008). It was found that a long-term commitment plan, maintaining motivation, incorporating psychological skills and strategies, experience with the sport, and the determination to succeed were all necessary characteristics one should have when developing mental toughness. A long-term commitment plan involves developing goals and reaching milestones throughout the sport. The psychological skills and strategies that were used to develop mental toughness included practices such as self-talk, imagery, goal setting, and positive thoughts. Connaughton et al. noted when it came to maintaining mental toughness, an athlete needed to practice mental toughness techniques, maintain a continued desire for success, rely on constant support from a network of friends, teammates, coaches, and colleagues, and refine and advance their psychological skill. Participants felt for these practices to be successful they must be practiced on a consistent basis (Connaughton et al., 2008).

Strycharczyk and Clough (2015) encouraged a five-step process to develop the concept of mental toughness, pictured in Figure 4. Before developing mental toughness, defining what the athlete understands mental toughness to be is an important step. Next understanding what they desire as the outcome from their mental toughness training. Strycharczyk and Clough used the MTQ-48 to assess mental toughness. This tool shows specific areas of mental sensitivity as well as areas that are already mentally strong. Using a tool to assess mental toughness allows the coach or staff member to better target their training. In developing mental toughness Strycharczyk and Clough encouraged starting with self-awareness. Once the athlete knows they need to be more mentally tough they are more likely to commit to the actions of mental

toughness training (Strycharczyk & Clough, 2015, p. 222). Lastly, after incorporating mental toughness training it was imperative to reassess the strengths and weaknesses to visually see what the training is doing. If the training was not providing growth in specific areas, evaluating the timeline, consistency, and commitment level of the athlete then a re-evaluation of the training that was done is necessary. Adjusting training to be more athlete specific should also be considered (Strycharczyk & Clough, 2015).

Figure 4

Complete Concept of Developing Mental Toughness



Note. (Strycharczyk and Clough, 2015, p. 222).

Summary of Literature

Thus far, the literature presented several different definitions for mental toughness. Mental toughness has an array of definitions and attributes dependent on who is describing the phenomenon and what sport they are involved with. Clough et al. (2002; 2012; 2015) developed their attributes of mental toughness based on qualitative research. In recent years, using the same

original research, Clough et al. created the MTQ-48. This gave researchers a way to measure mental toughness quantitatively using the four Cs. Alongside the MTQ-48 are surveys such as the Psychological Performance Inventory (PPI) and Sports Mental Toughness Questionnaire (SMTQ). These are all designed to measure mental toughness attributes, strengths, and weaknesses (Liew et al., 2019).

In evaluating how to coach and develop mental toughness the literature agrees upon several techniques and characteristics that can be used. Developing characteristics such as a hard work ethic, good communication, motivation, and resilience are all part of creating mental toughness. Creating practice situations in which the athlete is pushed to their limit, experiences successes and failures, and can refine technique while exercising their mental capability assists in creating mental toughness. Having the athletes control their behaviors, emotions, and outward body language are also necessary aspects of developing mental toughness. In some aspect, the research on developing mental toughness can be correlated back to Clough et al. (2002; 2012; 2015) four Cs: Challenge, commitment, confidence, and control.

The coaching staff played an important role in the development of mental toughness in their athletes. Coaches who created a motivational climate in practice fostered the mental toughness of both the individual and the team (Driska et al., 2012). Understanding the importance behind attributes assisted coaches in the development of mental toughness. Some of the common characteristics in the development of mental toughness included having high expectations, maintaining a motivational climate in practice, and developing goals and seeing them through to completion. A coach elevated the level of play by challenging athletes in practice and games. Controlling the practice environment by incorporating competition and challenge can assist with the development of an athlete's control. Furthermore, instilling

confidence in the athlete and their abilities fostered a positive motivational arena for the athlete. Promoting commitment to the athlete, team, and sport will assist coaches in the developing mental toughness. Incorporating mental toughness through themes such as challenge, control, confidence, and commitment will support a competitive culture and assist with the development of mental toughness.

Clough et al. (2002; 2012; 2015) four Cs of mental toughness are found consistently throughout the research of mental toughness. They can be applied to several aspects of sports and are the backbone of mental toughness. Identifying the four Cs as necessary attributes of a mentally tough athlete would imply that there should be development of each attribute to develop mental toughness. Understanding how to develop these characteristics to advance and develop mental toughness in college football players is the primary purpose of this study.

Critique of Previous Research Methods

Limited research has sought out the development of mental toughness from the coach's perceptions, trainings, and techniques, in conjunction with an athlete's perspective. The reasoning for this is unknown. The lack of research regarding the development of mental toughness overall is perhaps why there is also limited research involving collegiate football.

Several of the qualitative studies that focused on mental toughness use the methodological structure of Jones et al. (2007). Jones et al. (2007) researched eight Olympic or world champions, three coaches, and four sport psychologists. Jones et al. purpose of the study was to develop a framework for mental toughness. The strength of this methodology is supportive of understanding characteristics of mental toughness. Jones et al. identified four dimensions of mental toughness including attitude/mindset, training, competition, and belief. Jones et al. noted the attributes that should be present during each of these dimensions as

opposed to the development of these traits. The demographics of Jones et al. study highlighted the elite athlete.

While information and input from the top tier of athletes is important it is not as applicable to the college population. Elite athletes such as those who participated in Jones et al. (2007) are in the professional arena and were getting paid for their time. Since the purpose of this study was not to further seek characteristics of mental toughness this researcher chose to a different methodology.

There were limited studies that focused on college athletes. There were also limited studies that focused on the development of mental toughness. That was the aim of this research, to develop mental toughness in collegiate football. That made the research of Clough et al. (2002; 2012; 2015) the best methodological practice going forward for this research. The four Cs: Control, confidence, commitment, and challenge are the basis of Clough et al. methodology. Clough et al. phenomenon of the four Cs will give a solid base for qualitative interviews and the focus group in searching for how to develop mental toughness in college football.

Summary

This researcher identified qualities of mental toughness as noted by collegiate football coaches and football athletes with the focus being on developing mental toughness. It is necessary to perform while under pressure as a competitive athlete. Building mental toughness may help athletes handle the pressure of game and practice situations in a more efficient manner (Gould et al., 2002). This research used the methodology of Clough et al. (2002; 2012; 2015) by incorporating the four Cs of mental toughness to understand how college football coaches develop mental toughness in their program. It also aimed to compare coaches' opinions of

mental toughness, while using a focus group of athletes to evaluate experiences regarding mental toughness.

Research on the phenomenon of mental toughness has mostly centered around the inconsistencies of the definitions, attributes, characteristics, strengths, and weaknesses. Furthermore, this researcher sees the future of mental toughness research revolving around the methods of development and implementation. To understand how to develop mental toughness in a team the researcher will interview collegiate head football coaches about their specific tasks and how they incorporate distinct training for their athletes to become more mentally tough. The expectation is that many of these training techniques will line up with Clough and Strycharczyk's (2002) four Cs.

Chapter two focused on previous literature done on mental toughness including both quantitative and qualitative. The quantitative methods of mental toughness often include Clough et al. (2002) MTQ-48 questionnaire. While the MTQ-48 would have been easy to add to the literature, this researcher chose to employ qualitative methods to create the essence of mental toughness throughout the research. Using qualitative research allowed the researcher to understand lived experiences behind the phenomenon of mental toughness (Creswell & Poth, 2018). The human connection, stories, and personal experiences are not something a researcher would get to experience if this study was done quantitatively. Interviewing football coaches and football athletes about their experiences with mental toughness assisted in advancing the phenomenon of mental toughness. Using the theoretical framework of Clough et al. (2002; 2012; 2015) four Cs of mental toughness this research aimed to fill the gap in literature by focusing on college football. Additionally, this study expanded on the phenomenon of mental toughness by unveiling how football coaches cultivate mental toughness in their program. The four Cs would

be used to guide the qualitative data collection and develop the essence of mental toughness in college football.

Chapter three will discuss the qualities behind the phenomenological theoretical framework of Creswell and Poth (2018). These interviews and focus group aimed to find out how coaches and athletes are developing mental toughness within their program. Chapter three will also review the purpose of the study, discuss how participants were selected, the procedures followed by the researcher.

Chapter 3. Methods

Introduction

Creswell and Poth (2018) stated, “The procedures of qualitative research, or its methodology, are characterized as inductive, emerging, and shaped by the researcher’s experience in collecting and analyzing the data” (p. 21). Chapter three will review the importance of the phenomenon of mental toughness, the purpose of the study, the research questions, and the research design. The researcher will then introduce the participant selection, the procedures of the research conducted, participant protection, data collection, data analysis and instruments used. Lastly, chapter three will cover the previous knowledge, bias, ethical considerations, and summary of the chapter.

Mental toughness is a direct representative to success in college athletics (Weinberg et al., 2011). At the front of this conversation is how to build mental toughness. The increase of job pressure on coaches relative to wins and losses puts a large emphasis on the mental toughness of their athletes. Creating a mentally tough athlete will trickle down and create a mentally tough culture. It is not uncommon for college football teams with a mentally tough culture to find a way to produce on the field. This research was designed to understand how a college football program can cultivate mental toughness in their athletes.

Purpose of the Study

The purpose of this study was to review the research on current mental toughness practices and identify key factors in how to develop mental toughness in college football programs. Expanding on the elements of chapter One this researcher hopes to add to the phenomenon of mental toughness by identifying techniques that help build mental toughness in college football. The current literature on mental toughness is vast, but not in collegiate football.

Investigating football coaches and athletes makes this study unique and hopes to advance the practice of creating mental toughness as a college football team.

This study explored the idea that mental toughness can be developed by analyzing current college football programs and their practice of purposefully teaching mental toughness training. By collecting qualitative data from both coaches and a focus group with athletes the researcher has a panoramic view of mental toughness in college football, which addressed a gap in the literature of how to develop mental toughness in college football. The psychological development of college football players being able to adapt to stressors put on the mind and the body will build mental toughness. Incorporating the four Cs (i.e., control, commitment, challenge, and confidence) into their mental toughness training will advance mental toughness on the field, as an individual, and as a team. This information will add to existing knowledge on mental toughness by specifically evaluating college football.

Qualitative research data was collected by using in depth interviews and focus groups involving current practice and beliefs on mental toughness. Qualitative data interviews and focus groups allowed coaches and athletes to self-reflect on past experiences that further developed the phenomenology of mental toughness (Creswell & Poth, 2018). This research took an idealistic ontological perspective of mental toughness in which the researcher, viewed participants' realities of developing mental toughness from the participants' point of view (Creswell & Poth, 2018). Creswell and Poth identified ontology as the researchers view of reality and its characteristics (p. 18, 2018). Idealism creates a reality of what the human mind understands and gives it a socially constructed meaning (Creswell & Poth, 2018).

Several studies have used primarily quantitative data using surveys and questionnaires based on mental toughness. These questionnaires did not allow participants to give personal

reflections, stories, or experiences with in-depth detail. Completing this research qualitatively with interviews and focus groups allowed further expansion on the phenomenon of mental toughness. The act of personal interviews and focus groups and gaining understanding of other's experiences was based on the interpretive framework of social constructivism. Creswell and Poth (2018) noted that social constructivism in an ontological state involves creating multiple realities through direct interactions with other people (Creswell & Poth, 2018, p. 35). Qualitative data interviews and focus groups created an understanding of participant details and lived experiences. It allowed the researcher to connect to the participant based on shared or similar experiences. Representing these experiences as the researcher and applying them to college football would advance the phenomenon of mental toughness.

Research Questions

1. *How can coaches develop mental toughness in athletes of a college football program?*

Additionally, the following sub questions will be addressed:

2. *Are there differences between athletes' perceptions of mental toughness and coaches' perceptions of mental toughness?*
3. *How do coaches define and characterize mental toughness and are they similar to the views of other coaches?*
4. *How do coaches incorporate the four Cs into their mental toughness regimen?*

This study was designed to understand how college football coaches can build mental toughness in their athletes. It took the personal account of successful college coaches from many different levels and their purposeful practice of implementing mental toughness training for their athletes. It also took the account of current football athletes, their perceptions of mental

toughness and characteristics which they feel are needed for it. It dove into their lived and shared experiences regarding football and mental toughness, situations that have made them mentally tough, how they develop their own mental toughness, as well as how they train their mental toughness as a team. Together these accounts will combine to add to the phenomenon of mental toughness, specifically building mental toughness in college football.

Research Design

This research followed Creswell and Poth's (2018) design for qualitative research.

Creswell (2013) gave the following definition for qualitative research:

Qualitative research begins with assumptions and the use of interpretive/theoretical frameworks that inform the study of research problems addressing the meaning of individuals or groups ascribe to a social or human problem. To study this problem, qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in natural setting sensitive to the people and places under study, and data analysis that is both inductive and deductive and establishes patterns or themes. (Creswell & Poth, 2018, p. 44).

Creswell and Poth (2018) outlined an approach to qualitative phenomenological studies that is often used across the academic community to guide research studies.

A philosophical assumption in qualitative research needs to be articulated, presented, and articulated to the reader by defining a direction of research goals and outcomes, explaining the scope of training and research experiences, and forming a basis of evaluative criteria for research-related decisions (Creswell & Poth, 2018, p. 19). This research used an ontological perspective of idealism in reporting the themes and findings. Creswell and Poth (2018) described ontology and how it relates to reality, "different researchers embrace different realities, as do the

individuals being studied, and the readers of a qualitative study. When studying individuals, qualitative researchers conduct a study with the intent of reporting these multiple realities” (p. 20).

This study was designed to understand different personal experiences of college football coaches and college football athletes in terms of building mental toughness. Allowing individuals, the opportunity to describe in detail their stories, thoughts, and reflections regarding the phenomenon will enhance the quality of the data (Creswell & Poth, 2018). The focus of this study centered around how to develop a mentally tough college football athlete. Qualitative data interviews with the coaches and a focus group with athletes were the primary data set that was used. The athlete focus group was used as to further define and add dimension to the concept of building mental toughness.

According to Creswell and Poth (2018), one of the common data collection procedures for phenomenological qualitative research was best practiced through personal interviews. Interviews and a focus group allowed the researcher to understand the lived experiences of the individuals who participated in the study. These lived experiences from the coaches’ perspective provided subjective data including personal efforts to develop mental toughness in their own program. Relying on coaches to give both successful and unsuccessful attempts of building mental toughness allowed the researcher to sift through and compare relevant information between programs, coaches, and athletes. After concluding interviews, Creswell and Poth spoke to the importance of data analysis using a systematic procedure. Phenomenological data analysis involved finding the common and significant statements and developing clusters. Clustering data naturally created a thematic element from the lived experiences of the coaches and athletes (Creswell & Poth, 2018). Ultimately, the interviews and focus group, data, clusters, and themes

began to create the essence of mental toughness. This study exemplified the descriptions of Creswell and Poth's direction of a phenomenon and will be transposed into writing to create the written form of the research.

Unlike many studies involving mental toughness, this research was not designed to determine what characteristics make athletes mentally tough. The purpose is in the implementation of mental toughness, in college football, this includes building and maintaining a culture of mental toughness. This study addressed a gap in the literature by including only college football coaches and athletes. This researcher was unable to find a study done on college football athletes and development of mental toughness. This study will expand on the phenomenon of mental toughness by comparing college football coach's mental toughness techniques and supporting those techniques by athlete perspectives.

Procedures

Participant Selection

Creswell and Poth (2018) noted that snowball sampling uses a chain reaction to find different sources for data. Snowball sampling was used via an expert in the college football community. The expert was well versed in football working with multiple different levels and coaches ranging from NCAA Division I (DI), NCAA Division II (DII), NCAA Division III (DIII), National Association of Intercollegiate Athletics (NAIA), National Junior College Athletic Association (NJCAA), National Football League (NFL), and has also done several presentations at different football conventions. The expert boast post season accolades for teams they have coached for as well as multiple players who have made it to the NFL, the German Football League (GFL), and the Canadian Football League (CFL).

The expert provided five head coaches from multiple different divisions of college football, NCAA DII, NCAA DIII, and NAIA as the main contact point for the interviews. For a head coach to be considered for this study they had to be recommended by the initial college football coaching expert, have college football head coaching experience, and taking steps to develop their student athletes outside of physical conditioning. Each coach was contacted via email asking if they would participate in research on the development of mental toughness in college football players. See Appendix F for initial email sent to head coaches. Each head coach agreed to an interview and times were set up accordingly to their schedule. Using head coaches from multiple levels removed any stigma of division and allowed the focus of mental toughness to be solely on football as opposed to certain divisions, scholarship monies, geographic location, wins, or number of players. These five head coaches gave their perspective on personal experiences with mental toughness as well as characteristics which they recruit, develop, and maintain in their players for their program. Each head coach gave an individual semi-structured interview lasting approximately one hour. An interview protocol was followed during each of these interviews. See Appendix I for the interview protocol. See Appendix A and Appendix C for interview questions and consent form that were used for the qualitative data collection.

At the end of each head coach interview an additional level of snowball sampling was implemented. The head coach recommended an assistant coach who embodied development of players through mental toughness for an interview. Assistant coaches were sent an email to initiate contact asking for their participation in the research study. See Appendix G for the assistant coaches' initial email and Appendix C for the consent form they were asked to sign. Assistant coaches were asked the same questions as the head coach. See Appendix A for interview questions for coaches. Each assistant coach participated in a semi-structured interview

lasting approximately one hour. Assistant coaches followed the same interview protocol as the head coaches and can be found in Appendix I.

The last level of the snowball method was used in finding athletes for a focus group. Both head coaches and assistant coaches were asked to list their three most mentally tough athletes on their current roster. Using the head and assistant coaches to find the athletes was the best practice to ensure the researcher had the most mentally tough athletes to interview. Each player must have met the inclusion criteria of being recommended by one of their coaches to be included in the initial contact for the athlete focus group. See Appendix H for initial email that was sent out to athletes. The researcher ended up with a focus group of five players that were all interviewed together. See Appendix B for focus group interview questions. See Appendix C for consent form athletes had to sign. Creswell and Poth identified the features of a focus group stating:

Focus groups are advantageous when the interaction among interviewees will likely yield the best information, when interviewees are similar and cooperative with each other, when time to collect information is limited, and when individuals interviewed one-on-one may be hesitant to provide information. (Creswell & Poth, 2018, p. 164)

The purpose of this focus group was to obtain the perspective from the athletes, compare the athletes' perspective to the information from the coaches, and use it to compare mental toughness training with the structure and philosophy that was outlined by the coaches on staff. Hearing from the athlete group gave clarity and identified successes of the teams' culture of mental toughness. This also allowed the athletes to voice lived experiences about certain pieces of the mental toughness training. The addition of a focus group gave an inside perspective that allowed the researcher to understand mental toughness from two unique angles.

The sample size for the qualitative study was small. However, according to Creswell and Poth (2018) an acceptable number of participants for a phenomenological qualitative research project can range from 3-10 participants. This study is comparable to the recommendation, using five head coaches, and five assistant coaches. The addition of a focus group of athletes highlighted unique perspectives that supported each coach's techniques of building mental toughness. This provided a personal view of how the development assisted athletes in their current life regarding football, building relationships, jobs, and school.

Protection of Participants

After determining if participants were eligible and willing to participate, an informed consent document was sent electronically via email to all participants. See Appendix C for informed consent. This document stated the rights of each participant and asked for their voluntary participation. The document outlined important factors including the fact they would be recorded on Zoom (*Zoom Video Communications, n.d.*). Each recording would be transcribed verbatim and sent back to the participant for their review, their name and school would not be used but their division and certain characteristics about their school and team might be used if necessary. They would be identified as Head Coach 1 (HC1), Assistant Coach 1 (AC1), etc. and Athlete 1a (ATH1a), Athlete 1b (ATH1b), Athlete 2a (ATH2a), Athlete 2b (ATH2b), etc. Each athlete number would be the same as their coach's number for example: Head Coach 1 and Athlete 1 would be from the same school. The informed consent encouraged the coaches and athletes to ask questions before, during, and after the interviews and focus group to ensure a completely open door of communication and realism from the researcher. Participants were allowed to withdraw their participation during the study at any time.

Data Collection

Data was collected by means of a semi-structured interview. The semi-structured interview allowed the researcher to go into further depth during the interview and use a script loosely, unveiling additional techniques and concepts used to develop mental toughness (Creswell & Poth, 2018). The questions were guided by Clough and Strycharczyk (2015) four Cs of mental toughness: control, commitment, challenge, and confidence. All interviews used the same questions for the coaches. See Appendix A for coaching interview questions. Questions for the athletes revolved around the same concept but were structured in a different way as to get their lived experience. See Appendix B for athlete interview questions.

Informed consent was received and filed on a password protected computer before interview times were set up. The researcher allowed the coaches to see the interview questions in advance, so they had the opportunity to prepare answers. The athletes were given topics in advance. The researcher attempted to cover all topics during the focus session but was mindful and respectful of their time. All participants were interviewed over the video conference Zoom platform. The researcher's Zoom room was password protected and is under the Minnesota State Colleges and Universities (MinnState) system to ensure privacy during the call. MinnState used Zoom as an online web-based platform that can video call multiple people at once, record, share screens, chat, and transcribe the session. The advantages of using Zoom video conferencing included the ability to see facial expressions and body language that added to the researcher's perceptions of the data collected (Creswell & Poth, 2018). As part of the informed consent, each participant agreed to being recorded, but prior to recording the researcher asked for a second verbal consent from the participant and informed them that the researcher would take no more than 90 minutes. Zoom allows participants to see when they are being recorded, this showed

transparency in what the researcher was recording. The researcher ensured the privacy of the participants and noted that the recording was used simply for reference of discovering concepts and themes. The video recordings, transcriptions, and notes will be deleted destroyed by May of 2027. The researcher had an alternate means of communication through telephone call if any internet outages occurred during the interview or focus group. If the phone call was unable to go through the researcher would attempt to set up a different date with the coaches and athletes.

Data Analysis

Interviews and focus groups were the main source of data collected for this study. The data analysis process closely followed Creswell and Poth's (2018) model for phenomenology. Creswell and Poth identified five major activities of the data analysis spiral: Managing and organizing the data, reading and memoing emergent ideas, describing and classifying codes into themes, developing and assessing interpretations, and representing and visualizing the data (p. 187). Each of the previous listed data analysis activities incorporated different analytical strategies and outcomes as shown in Table 10.

Interviews and the focus group were transcribed using Zoom's automated transcription feature and were be reviewed and analyzed for accuracy by the primary researcher before proceeding with the analysis. These transcriptions were sent back to the participant for them to review, confirm, and approve before it is used for this study. Creswell and Poth (2018) identified the importance of collecting data, reviewing or analyzing data, and then collecting more data (p. 186). This revolving door of data collection allowed the researcher to develop a more distinct thought process, focus more precisely on the building of mental toughness, and engage in a more detailed interview.

Table 10

Creswell and Poth's (2015) Data Analysis Spiral, Strategies, and Outcomes (p. 187).

Activities	Strategies	Outcomes
Managing and organizing the data	Preparing files Securing files Selecting analysis modes	Organizing database Create long term file storage Use of software
Reading and memoing emergent ideas	Taking notes Writing thoughts as reflecting Summarizing notes	Written memos lead to coding. Reflections develop over time. Summaries across files
Describing and classifying codes into themes	Working with words Identifying codes Applying codes Reducing codes to themes	Initial coding begins Developing categories Assigns codes across files
Developing and analyzing interpretations	Relating categories and themes to literature	Context and diagrams become theories and propositions
Representing and visualizing data	Create a point of view Display and report the data	Develop a matrix Account of the findings

Once transcriptions were depicted verbatim, memos were put in the margins by the researcher. Memos were defined by Creswell and Poth (2018) as “Writing down ideas as data that are collected and analyzed” (p. 84). As ideas were written down, the memos were given an identifier. This identifier allowed the grouping of common findings to begin to occur (Creswell & Poth, 2018). Creswell and Poth encouraged coding during qualitative data analysis (2018, p. 188). Coding is when “Researchers build detailed descriptions, apply codes, develop themes or dimensions, and provide an interpretation in light of their own views or views of perspectives on literature” (Creswell & Poth, 2018, p. 189).

Instruments

Instruments that were used during the qualitative portion of the data collection can be found in the interview protocol in Appendix I. Since participants for this research were all from different geographical areas, Zoom allowed participants to be seen and heard through a video call. Zoom allowed the researcher to record the interview and will also be the transcription service that was used during the data analysis. A link was provided with the recording so the researcher could review, re-watch, and analyze the interview. Being able to record and re-watch the interview is an advantage to the researcher in case there were any subtle cues that might have been missed during the initial contact. During the interview, the researcher also took notes as stated in the interview protocol, emphasizing the body language and voice tones from the participant. These are all imperative aspects of qualitative research and provided a base for the reader to better understand the study. After the interviews were completed and transcribed the researcher used Quirkos, a qualitative data analysis software used to theme, code, and organize qualitative data.

Role of the Researcher

In the field of qualitative research, personal interactions from the researcher are considered an instrument to the study (Creswell & Poth, 2018, p. 43). As an instrument to this study, the researcher took on the aspect of data collection and data analysis. In phenomenological research, the role of the researcher can influence the way the information is presented (Creswell & Poth, 2018).

Previous Knowledge and Bias

The researcher's experiences with college athletics gave the researcher a personal bias in the realm of mental toughness. At the college level, the researcher has been involved in athletics

as a volleyball coach, athletic trainer, alumni athlete, and wife of a football coach. Mental toughness has surfaced as an imperative part of success in college athletics. The researcher has seen the strengths of mentally tough athletes shine through in tight scoring games as well as games that come down to the wire. Working closely with teams and coaches as an athletic trainer has given an inside perspective of how mental toughness can be developed.

It was a bias of the researcher that mental toughness is a trait that can be developed, built, trained, and maintained. This bias came from personal experiences including successes and failures as a college athlete. In the event of researching mental toughness as a phenomenon, the researcher employed Moustakas' (1994) transcendental phenomenology. This method focused on the descriptions and experiences of the participants. Moustakas emphasized bracketing out a personal experience to better focus on the participants. After collecting data, the researcher attempted to find significant statements and theme the information for example, coaches spoke on their efforts of making athletes more confident in developing mental toughness. The theme in this example would be confidence, that was then supported by other techniques to build confidence. Creswell and Poth noted:

The researcher develops a textural description of the experiences of the persons (what is experienced), a structural description of their experiences (how the experienced it in terms of the condition, situation, or context), and a combination of the textural and structural descriptions to convey an overall essence of the experience. (Creswell & Poth, 2018, p. 78)

The textural and structural description was created by listening, feeling, understanding, and removing personal bias and opinions from the researcher's data. Bracketing out these personal

experiences allowed the data to better describe the essence of building mental toughness and the importance it plays in college football.

Ethical Considerations

By utilizing Creswell and Poth's (2018) framework when considering ethical issues in the research, the researcher has minimized any ethical dilemma from a personal standpoint. Ethical considerations were evaluated prior to conducting the study, beginning the study, collecting data, analyzing data, reporting data, and publishing the study (Creswell & Poth, 2018, p. 55). All findings were reported using ethical standards, using transparency throughout the data collection and analysis. Participants were made aware of the researcher's position as a Division II athletic trainer and the spouse of a football coach. The researcher used the utmost care when considering confidentiality of the participants and kept all files on a password protected and locked computer.

Before formal data collection, the researcher collected pilot data from colleagues at the researcher's place of employment. To mitigate the possible conflict of interest between the coaches, athletic trainer/researcher, and current players, a conversation between the coach and the researcher took place with the understanding that this research would not affect current practices by the researcher as the athletic trainer. Any players with specific identifiers were to have a pseudonym during the interview. The snowball method was piloted with this interview and an assistant coach was recommended. A pilot interview was done with the assistant coach as well. Feedback was sought from both coaches involving interview questions, order of questions, and content of questions. There was not a pilot focus group done for this study. It should be noted that none of the research from the pilot interviews was used during this research.

An informed consent was signed by all participants of this research which outlined the purpose of the study, their role as a participant, their ability to ask questions or withdraw, and stated that the participation in this study would bring no harm. See Appendix C. Prior to conducting this research, the researcher was granted IRB approval by Minnesota State University Moorhead IRB board.

Summary

The purpose of this study was to better understand the phenomenon of mental toughness by answering the primary research question: *How do coaches develop mental toughness in college football players?* There has been a significant amount of mental toughness research done using quantitative methods. The qualitative studies used to discover mental toughness were lacking sport specificity of college football. Many qualitative methods focused on the characteristics of mental toughness. This study acknowledged that mental toughness exists and is a necessary part of college football. It aimed to further develop the phenomenon by attempting to understand how coaches can build mental toughness in their athletes and their team.

Individual interviews with coaches were used to collect data. Each coach was asked to give written consent via email, sign an informed consent document, as well as give a verbal consent to be recorded directly before the interview began. Each interview consisted of questions guided by Strycharczyk and Clough's (2015) four Cs of mental toughness and how these coaches incorporated the four Cs into their program to build mental toughness.

Each head coach gave the researcher the name of one assistant coach and of three athletes who they felt were the most mentally tough athletes on their current roster. The assistant coaches also gave the researcher the name of three athletes who they felt were most mentally tough. The athletes were contacted by email asking for their participation and a date was set up for a focus

group interview. All athletes who consented to participation via email, signed an informed consent document, and gave a verbal consent to be recorded directly before the interview. The athletes were notified that all information was confidential and under no circumstances would information be shared with their coaches. The athletes gave their experiences through a focus group on their perceptions of mental toughness, how it was built, and techniques that were productive or counterproductive. The focus group allowed the athletes to share stories and create a relationship in which the researcher was able to better understand the essence of mental toughness through the eyes of a college football player.

This researcher employed snowball sampling for selecting coaches via an initial college football expert. The researcher used additional snowball or chain sampling, relying on the coaches to give the researcher the names of one assistant coach and of their most mentally tough football athletes. The only stipulation for the athletes was that they were recommended by their coach, and they were a current athlete on the team roster.

Data analysis closely followed Creswell and Poth's (2018) data analysis spiral. These included interviews being transcribed, memoed, coded, themed, and representative of the lived experience. Each of these stages of data analysis was completed multiple times. Analyzing each interview after it was completed and before the next interview allowed the researcher to make any adjustments necessary based on information that surfaced. After the initial analysis, each participant was sent a copy of the transcription for participants to provide any feedback or clarification.

All participants interactions remained confidential and protected on a password protected computer. The researcher followed an interview protocol and used semi-structured interviews to allow conversation to flow but used a script to stay on topic. The researcher attempted to

understand the essence of building mental toughness through each participant's lived experiences (Creswell & Poth, 2018). The researcher employed ethical practice in the research by reporting all findings even if they were not the personal beliefs or opinions of the researcher. IRB approval from Minnesota State University Moorhead was obtained prior to conducting any interviews.

Chapter four will provide details about the snowball sample. Further explanation of Creswell and Poth's (2015) data analysis spiral and how it was applied to the data from the interviews will be noted. Lastly, the researcher will expand upon the data reported and go into further depth of the procedures of analysis.

Chapter 4. Findings

Introduction

Mental toughness in college football is a vastly complex phenomenon that can assist the development of athletes in multiple facets. In efforts to further develop the mental toughness of college football athletes, qualitative research studies such as this one, are needed to explore specific tactics used by coaches. Chapter four describes the researcher's interest in the phenomenon of mental toughness and the role the researcher took in the process. The research plan that was explained in Chapters 1-3 will be described thoroughly as it was executed with participants. In this section, the researcher described how interactions took place with participants, a review of the data analysis process, and answered the primary research question and secondary questions. In addition to the research plan, the researcher gave an in-depth description of the qualitative exchanges that took place with participants, the findings of the data including how the data were analyzed, grouped, and executed, and finally the results of the data and findings.

Role of the Researcher

As previously stated in chapter one, the researcher's interest in mental toughness came from direct involvement in numerous college athletic activities. At the time of this study, the researcher held the position of an athletic trainer for a National Collegiate Athletic Association (NCAA) Division II football team. The findings from this study might impact multiple facets of college football starting from the football coaching staff, to the support staff including athletic trainers and strength coaches, and finally cascading down to players. By creating a better understanding of mental toughness, there is an opportunity for athletic programs to better support their players on and off the field with valuable life skills.

As a professional athletic trainer, the researcher had a great deal of familiarity regarding team structures and routines. The researcher had a personal and professional connection to this study. Beyond the researcher's work as an athletic trainer, the researcher also worked in a variety of coaching roles and participated in collegiate sports as an athlete. This past experience, while useful for understanding ways of interacting with participants and scheduling around team events, also opened the door to potential bias when analyzing the data. The researcher took great care to remain objective and open to new emerging themes by regularly reviewing notes and recordings. Additionally, the researcher allowed participants the opportunity to validate the data. To maintain an unbiased position, the researcher implemented member checking with each interview participant allowing them the opportunity to review the transcribed research, ask questions, and make corrections or clarifications. Fully relying on the participants to describe their team situations, past and current experiences, and their own reality gave the researcher the ability to form the ideal reality in which mental toughness could be developed in college football.

The researcher previously completed multiple courses to prepare for the in-depth process of personal interviews, including a qualitative methods class with supervised field experience. The researcher implemented Creswell and Poth's (2018) methods regarding phenomenological research. The researcher also reviewed multiple dissertations on a Repository of Digital Collections to gain an increased awareness of phenomenological research.

Research Methodology

A snowball sample was employed to find quality participants for this study, which meant the researcher used an initial contact who was well versed and active in the college football profession. The first conversation with the college football expert stemmed around a book regarding mental toughness and how athletes can build grit. As a current college football coach,

this expert employed several mental toughness building techniques with their players and implemented the acronym MPET, meaning Mentally, Physically, Emotionally Tough. The expert had a wide network of football colleagues and acquaintances from working summer camps including but not limited to: (NCAA DI, NCAA DII, NCAA DIII), presenting at conventions, recruiting, as well as publishing articles in the American Football Coaches Association (AFCA) magazine. Additionally, the expert was involved as a player, coach, or operations assistant at multiple levels of football including, NCAA DII, NCAA DIII, National Association of Intercollegiate Athletics (NAIA), National Junior College Athletic Association (NJCAA), and the National Football League (NFL). After a few more conversations regarding mental toughness, the expert agreed to assist the researcher for this study. By acting as a starting point for the snowball sampling method wherein someone familiar with the topic helps build out a sample population. The researcher requested the names of five head coaches whom the initial contact knew, who purposefully aimed to develop mental toughness in their college football players and program. The initial contact provided five head coaches from different institutions, different divisions, and different geographical areas of the United States. Further details for each coach will be expanded on in the Description of the Sample section. The head coaches were contacted via email (Appendix F) to identify interest in the study. For coaches who responded, an email was used to schedule an interview, obtain an informed consent (Appendix C), and provide the interview questions (Appendix A) so they had the opportunity to prepare. All five participants provided by the initial expert were willing and able to participate in the study and sent back consent forms. Interviews were scheduled, recorded, and transcribed via the video streaming platform, Zoom. Zoom has the capability to record both audio and video and were saved to both a password protected computer and password protected cloud.

At the culmination of each head coach's interview, snowball sampling was again utilized. Each head coach was asked to provide the name of a current assistant coach, who they felt assisted in building mental toughness. Each assistant coach was contacted via email (Appendix F) by the researcher requesting their participation in the study. The researcher explained that their name was given by their current head coach because they encompassed mental toughness and helped build mental toughness in their players. All five assistant coaches were willing to participate in the study and were sent a Zoom link, informed consent (Appendix C), and identical interview questions to that of the head coaches (Appendix A).

A third snowball sample method was used to source participants for a focus group of current collegiate football players. Each head coach and assistant coach was asked at the end of their interview for three of their most mentally tough players on their current roster. The researcher asked for this information at the end of each interview, so the coaches were put on the spot and had to think about athletes who encompassed everything that had been discussed throughout the interview. An overview of the cascading effect of the snowball sampling method (where each recommendation originated) can be found in Table 11.

Table 11*Coach Recommendations of Mentally Tough Athletes*

Athlete	HC1	AC1	HC2	AC2	HC3	AC3	HC4	AC4	HC5	AC5	Responded	Participated
1a	X											
1b	X										X	X
1c	X											
1d		X									X	
1e		X										
1f		X										
2a			X									
2b			X								X	X
2c			X									
2d				X								
2e				X							X	
2f				X								
3a						X					X	X
3b						X					X	X
3c						X						
3d					X							
3e					X							
3f					X							
4a							X					
4b							X	X			X	X
4c							X					
4d								X				
4e								X				
5a									X		X	
5b									X		X	
5c									X			
5d										X		
5e										X		
5f										X	X	

Note. This table represents every athlete that was listed from the coaches' interviews in the

column on the far left. The first row across the top identifies if the Head Coach (HC) or Assistant

Coach (AC) recommended them. The "Responded" column identifies who responded to the

emails about attending the focus group. The "Participated" column identified participants in the

focus group.

An initial email was sent from the coach to the athletes with the purpose of introducing the athletes to the researcher. In all cases, the coaches carbon-copied (cc'd) the researcher on the initial communication. The researcher asked each coach to make a simple introduction via email to introduce the researcher to the athletes, letting them know they had been recommended as a mentally tough athlete. For example, HC5 sent an email thread stating: “[The Researcher] is going to reach out to you. She’s working on her doctoral dissertation on mental toughness. I recommended that she speak with you.” At that point the researcher responded to the college athletes only and not the coaches (Appendix H). Two emails (Appendix H), each sent one week apart, were sent to each athlete inviting them to take part in the research focus group. A total of twenty-nine names were given to the researcher. Ten college athletes responded to the researcher’s separate email. An additional email was sent providing the college athletes who responded with an informed consent (Appendix C). Seven of the athletes returned the informed consent via email, two of the seven athletes did not participate in the focus group. The five focus group participants all signed an informed consent. A Zoom link was created and sent to the ten college athletes who responded. Each of the five schools were represented in the initial contact and response from the athletes. Initial responses are shown in Table 12.

Table 12

Athlete Responses to Researcher's Email

School/Coach Number	Number of Athletes Responded	Number of Athletes Participated
1	2	1
2	2	1
3	2	2
4	1	1
5	3	0

Three reminders were sent to the ten college athletes: One week before the Zoom meeting, one day before the Zoom meeting, and an hour before the Zoom meeting started. Five college athletes showed up to the focus group to participate in the study, four of the five schools represented the focus group. School 5 did not have any athletes show up to the focus group. Table 11 demonstrates the number of athletes who responded versus the number of athletes who participated in the focus group.

Each interview was scheduled, recorded, and transcribed via the video streaming platform, Zoom. Interviews were stored on a password protected computer and password protected cloud. The informed consent documents that were received by the researcher were stored in a file on a password protected computer. The data will be stored for five calendar years from the dated publication of this study. Each interview ranged from 58-65 minutes except for HC2 and HC5, which were 90 minutes. The researcher asked at 60 minutes if they would like to keep going and finish the interview. Both coaches replied with a yes. The focus group with athletes also lasted 60 minutes. Each interview was transcribed verbatim by the researcher by watching the recordings and changing any incorrect words picked up by Zoom during the transcription process. The final transcription was sent back to the participants (head coaches, assistant coaches, and athletes). To validate the data that had been collected. This member checking process helped to ensure the researcher did not inaccurately collect qualitative data in the research process (Creswell & Poth, 2018). Participants were asked to review the transcription and respond if they felt it was inaccurately transcribed. Responses were received from AC2, HC3, HC5, and AC5. AC2, HC3, HC5, and AC5 verified their interview and had no changes to make to the transcriptions.

The data analysis process began immediately following each interview with the transcription. The process of transcribing interviews and reviewing each interview before the next scheduled interview. Themes and codes began to emerge during the interviews allowing the researcher to create memos in the margins of the notes that were taken. Fully transcribed interviews were loaded into Quirkos, a password protected qualitative data analysis software. Quirkos allowed searching of terms, highlighting, and placing each highlighted area into a specific theme and code. Interviews were re-watched again to catch any missed cues and body language that added to or clarified the participants' descriptions. After being unable to find any additional data that might have been missed the researcher felt that saturation of the data had been met.

In an effort to increase the validation of the research being done, the researcher piloted the interview questions with one head coach and one assistant coach who were unaffiliated with the study. It was the goal of the researcher to prevent any bias throughout the study, so these interviews were not used for the actual research but instead used to evaluate how questions were understood by participants. Additionally, the piloted interviews allowed the researcher to understand the pacing of the interview time and offered an opportunity for the researcher to get feedback on the questions being asked, thus increasing the overall validity of the collected data. Both interviews took approximately one hour, which was the goal time limit set by the researcher. No changes were made to the interview protocol.

Description of the Sample

Five different head coaches were recommended using a snowball sample method. An additional snowball sample method was used by asking head coaches to recommend one assistant coach that embodied purposeful development of mental toughness in their program. Each head coach gave the name of one current assistant. Each assistant coach agreed to participate in an interview. Both head coaches and assistant coaches were asked to give their three most mentally tough athletes on their current roster to participate in a focus group. All coaches provided names and initial contact information for current athletes. Table 13 includes demographics of universities as well as coaches' years of experience.

Head coaches' total years of experience culminated at 130 years, while the assistant coaches totaled 62 years of experience together. Each head coach had been or was currently employed at a school that was part of the NCAA, and at some point, during their career, each head coach was at a NCAA Division II school. Two coaches had prior NCAA Division I coaching experience. Four of the five educational entities were public universities and the other was a private college. Three of the schools were four-year universities while the other two schools were two-year colleges.

Table 13*Coaches Demographics*

Coach Title	Geographic Location	School Division	School Demographics	Public/Private	Years of Coaching Experience	Other Divisions of Experience
Head Coach One (HC1)	Midwestern Heartland	NCAA DII	Four-Year	Public University	21	NJCAA NCAA DII
Assistant Coach One (AC1)	Midwestern Heartland	NCAA DII	Four-Year	Public University	17	NJCAA NCAA DII HS
Head Coach Two (HC2)	Midwestern Heartland	NAIA	Four-Year	Private University	33	NCAA DI NCAA DII NAIA
Assistant Coach Two (AC2)	Midwestern Heartland	NAIA	Four-Year	Private University	9	NAIA
Head Coach Three (HC3)	Midwestern Heartland	NJCAA	Two-Year	Public Community College	23	NJCAA NCAA DII

Assistant Coach Three (AC3)	Midwestern Heartland	NJCAA	Two-Year	Public Community College	17	NJCAA NCAA DII
Head Coach Four (HC4)	Southern	NJCAA	Two-Year	Public Community College	20	NJCAA NCAA DII
Assistant Coach Four (AC4)	Southern	NJCAA	Two-Year	Public Community College	6	NJCAA HS
Head Coach Five (HC5) KB	Upper Midwest	NCAA DIII	Four-Year	Public University	33	NCAA DIII NCAA DII
Assistant Coach Five (AC5)	Upper Midwest	NCAA DIII	Four-Year	Public University	13	NCAA DI NCAADIII

Note. Acronyms: National Collegiate Athletic Association (NCAA); Division I (DI); Division II (DII); Division III (DIII); National Junior College Athletic Association (NJCAA); National Association of Intercollegiate Athletics (NAIA).

Five current football athletes participated in the athlete focus group. Each participant was labeled under by the same number as their coaching staff. For example, the athlete that was represented School 1 was coached by HC1 and AC1 and was referred to as ATH1. There were five athletes present for the focus group. Each school had an athlete representative except School 5. There were originally two athletes from School 5 who responded to the invitation. Each athlete (ATH5a and ATH5b) had said they would be present. ATH5a and ATH5b were unable to attend due to the date of the focus group interview being so close to their report date for football. See Table 11 for athletes who responded and/or participated. There was a school represented which had two athletes present. For this situation the athletes were listed as 'ATH3a' and 'ATH3b' since they were from School 3 and coached under HC3 and AC3, respectively. At the time the focus group was completed, summer was coming to an end and athletes were getting ready to report to their respective programs with the intent to start training as a team. These report dates, often at the end of July or beginning of August, were the start of what many football programs term 'fall camp' where they focus on training to prepare for a new season. Athletes who participated in the focus group took an hour out of their day while preparing for their upcoming football season. Unbeknownst to each athlete, at the end of the focus group the researcher told each athlete they would receive a \$10 gift card to a grocery store in the town where they attended school. Participant recruitment materials did not mention any incentives; therefore, they had no influence over participant answers.

Presentation of Data

The interview questions were specific in identifying multiple characteristics of mental toughness. The researcher was very precise and detailed by asking additional questions to identify common language that might be interchangeable. The researcher used follow-up

questions to ensure a solid understanding. If further questioning was needed when listening to coaches describe specificity of mental toughness, they were asked to go on and describe it in further detail to be sure it was coded and themed in an appropriate place. See Figure 5 for a roadmap of the findings, organized by research question.

Figure 5

Roadmap of Findings

Research Question	Themes	Finding Statement
1: <i>How can coaches develop mental toughness in athletes of college football program?</i>	<ol style="list-style-type: none"> 1. Coach Philosophies 2. Lead by Example 3. Practice Drills 4. Team Culture 5. Personal Motivators 	Coaches felt they incorporated positive, confidence building, mental toughness training. By incorporating these techniques, they were developing mental toughness that would help young football athletes on the field and later in life.
2: <i>Are there differences between athletes' perceptions of mental toughness and coaches' perceptions of mental toughness?</i>	<ol style="list-style-type: none"> 1. Physical Conditioning 2. Practice Situations 3. Motivation from Coaches 4. Player Coaching 	Athletes agreed certain techniques that coaches use are beneficial but athletes often don't understand 'why' coaches are having them do certain things. Athletes feel they develop their mental toughness as from life experiences, self-motivation, and self-accountability.
3: <i>How do coaches define mental toughness and is it similar to the views of other coaches?</i>	<ol style="list-style-type: none"> 1. Relentlessness is a Cornerstone of Developing Mental Toughness 2. Developing Mental Toughness Through Internal and External Relentlessness 	While definitions are subject to each coaches opinions, being relentless was a common theme amongst definitions. Developing mental toughness needed both internal relentlessness and external relentlessness which could be characterized by different important traits.
4: <i>How do coaches incorporate the four Cs into their mental toughness regimen?</i>	<ol style="list-style-type: none"> 1. Control 2. Commitment 3. Confidence 4. Challenge 	<p>Coaches had a hard time explaining how they help develop control, many did this proactively through team meetings about life and reactively disciplining players by decreasing playing time for a lack of control.</p> <p>Commitment was important to evaluate during the recruiting process, making sure players would fit into the team culture would help with commitment. Player coaching and goal setting were important factors of developing commitment.</p> <p>Coaches mentioned confidence as a necessary trait of mental toughness and noted they needed to build confidence by introducing successes and failures to their athletes.</p> <p>Challenge was developed by a competitive nature. Incorporating competitions and adversity in practices both in season and off season helped develop the challenge trait.</p>

Research Question 1

To answer research question one, *how can coaches develop mental toughness in athletes of a college football program*, five themes surfaced from the different coaches based on how they felt mental toughness was developed, 1) coaching philosophy, 2) lead by example, 3) practice drills, 4) team culture, 5) personal motivators. A flowchart of the five themes and additional codes can be found in Figure 6. An additional data table identifying coaches and athlete responses can be found in Appendix L.

Coaching philosophies were the basis of how coaches developed mental toughness. At the core of their philosophies was what coaches felt were important for football and mental toughness. An obvious emergent theme were comments involving the athlete's life, post collegiate athlete. In reference to development, 80% of the interviewed coaches held beliefs and philosophies that involved their desire to impact their young men physically, mentally, and emotionally for the future generation. "Making an impact on young athletes that can further develop life skills and mental toughness is a life skill that is transferrable from the football field" (HC2).

The next theme that emerged in developing mental toughness was from coaches AC2, AC3, AC4, AC5, HC1, and HC2 who felt mental toughness was a top-down mentality and it started with how the coaches acted in adverse situations and how open or vulnerable they were with the athletes. This emerged as a "lead by example" theme. When analyzing data around building mental toughness, 60% of coaches mentioned coaching leadership or modeling behavior in their interview. Being honest and up front with them allowed athletes to build a trust in their coaching staff that helped develop mental toughness. Coaches also mentioned the importance of

developing staff to help further develop players. Pouring into staff would ultimately impact their ability to lead their players.

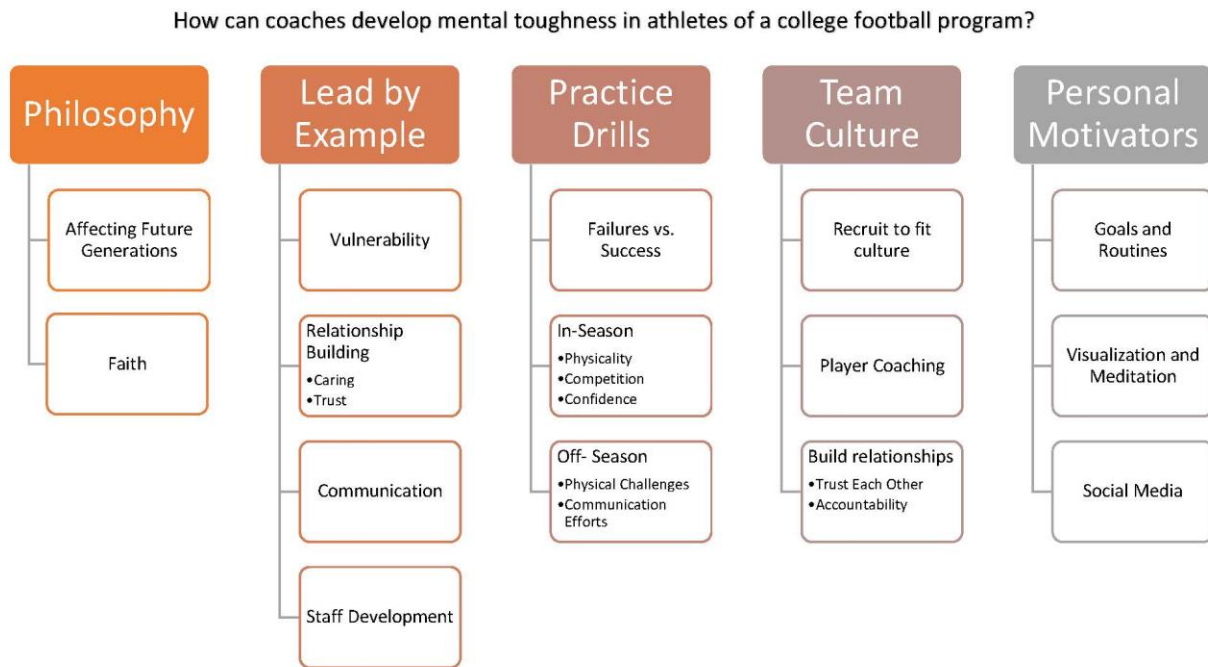
A prominent theme that every coach had very specific examples that were centered around football, involving preseason individual and team building, practice drills during season, and off-season physical training. These specific trainings, team meetings, and practice drills were designed to assist in the mental toughness preparation of athletes for tough situations both on and off the field. There were three codes that emerged from the practice drills to build mental toughness, 1) introducing failures and success, 2) in-season, and 3) off-season.

Many coaches noted the importance of developing a strong team culture and how it can assist with mental toughness development. There were three codes that formed from the team culture theme, 1) recruiting to fit the culture, 2) player coaching, and 3) building relationships. Having player coaching on the field, classroom, and sideline assisted with keeping athletes accountable and developing both skill and mental toughness. This was a highly identified topic with the focus group noting that a player led team would increase mental toughness and success.

Lastly, the responses showed that personal motivators were pertinent to development of mental toughness in college football. Athletes have both internal and external factors that motivate them. Identifying these motivators for each individual could assist in the mental toughness development. For personal motivators, three codes emerged, 1) goals and routines, 2) visualization and meditation, and 3) social media. Each of these codes has both internal and external factors, finding what motivates each athlete differently could give coaches a better idea of how to approach individual situations.

Figure 6

Flowchart of Themes and Codes for Research Question 1



Theme 1: The Importance of Affecting Future Generations Through Coaching Philosophy

A coach's philosophy was a large part of how the coach was their parental and coaching upbringing and what values were instilled in them. For many coaches, they had previous coaches as role models who were noted to have made significant positive impacts in their lives.

Throughout these conversations it became apparent that coaches have a desire to make an impact on the lives of their athletes and 1) affect their future. A second code began to emerge involving values as many coaches spoke highly of their 2) faith as part of their philosophy.

Affecting Future Generations. While analyzing the data, coaches spoke about their coaching philosophy, how it played an impact on mental toughness, and why the development of mental toughness in their players was pertinent for their current lives but also for their future.

When referring to overall mental toughness and why it is important for development of college

football players it was stated by AC1, AC3, AC4, AC5, HC1, HC2, HC4, and HC5, that they wanted to better players for the athlete's future.

I take a lot of pride in it [developing mental toughness], just because I want our guys to be prepared for the real world as much as possible, I want them to be great husbands someday, great fathers, great figures in their community. (AC3)

In line with AC3, HC1 spoke to the development of raising boys to men and helping to create each athlete as an overall better young man.

If there is one thing in this world that I love doing it's being a football coach and developing young men. Not even so much in football but just how they develop themselves in life and bettering themselves as an employer, maybe a father, or a provider someday. (HC1)

HC4 noted the same importance of developing players by stating, "I think really our goal is to help the kids and help the team succeed, and then help them succeed in life." AC4 spoke of the importance of second chances as part of his coaching philosophy. These second chances might help impact an athlete, giving him an opportunity to better himself as a person.

My philosophy is to help change the lives of young men that are looking for that second opportunity, to get another chance to showcase their talents of playing football. I want to make sure guys who come here, leave different. (AC4)

Faith. Another code that emerged from AC2, AC3, AC4, and HC1 was the view on how faith was the base of their philosophy. AC2 commented on their coaching philosophy and how their faith was attributed to this philosophy.

I want to build great young men of character that see in me, my values, and Christ-like qualities. I do not believe I was called to necessarily be a football coach, I believe I was

called to help raise young men and turn them into great older men. So that they also can raise up a new generation. (AC2)

In support of a philosophy based on faith, AC3 spoke of faith as an integral part of lessons that they learned in life and in turn applying those lessons to help student athletes take a step back from being submerged in football.

It's [my philosophy] the life experiences I had and it comes back to my faith, what I stand for, and what I believe in, treating people the right way. That to me, is understanding that I am trying to impact these kids and get them to see the big picture. It's not just about x's and o's, because when they are young that's all they think about. So, I'm trying to get them to understand what it means to be humble and be a leader. Understanding that I am a teacher as opposed to a commander is a huge part of my philosophy. (AC3)

Theme 2: Developing Mental Toughness Through a Lead by Example Mentality

The lead by example mentality is a theme that involved several codes. Initially, the theme began to surface as an idea that coaches set the example of mental toughness through their actions. Players needed to see this modeled through the coaching staff. However, this theme entailed many other little details that involved a coach's 1) vulnerability, 2) relationship building, 3) communication with the athletes. In addition to these codes or characteristics of the lead by example coach, it was noted by HC2, HC3, HC5, AC2, AC4, and AC5 that taking time to 4) develop leadership traits for your staff was imperative for staff development. This might be done by identifying a persons' "why" as mentioned by HC5 and AC2. Understanding one's own identity would assist coaches in developing mental toughness traits in their players.

Vulnerability. Both head and assistant coaches from School 2 and School 5 mentioned showing vulnerability as a coach at the forefront of their lead by example mentality. HC2

described this vulnerability by getting mentality as a coach who players would want to model but more importantly as someone players felt they connected with on a personal level. In addition to HC2 speaking about vulnerability, coaches HC2, and AC5, HC5 also touched on the subject.

I really think a big part of helping with mental toughness is when you are vulnerable. I mean, when people see a side of you that they haven't seen. That you have a little more grit and that whatever you do, people know your story. That's the toughest part about coaching, is digging deep into the heart. (AC2)

Along the lines of being vulnerable, AC5 noted, "I think that's important as a leader to show them that you're vulnerable." The purpose of being vulnerable was to show athletes that coaches are human, they might make mistakes, but ultimately, they learn from them and apply what they have learned to everyday life and football. HC5 went on describing vulnerability in the form of empathy and seeing the world through someone else's eyes. "It's all about empathy, I've got to try to see the world through your [coaches and athletes] eyes and make sure I put you in a position to be successful" (HC5).

Relationship Building. When building relationships with athlete's, two-character traits surfaced: caring and trust. Coaches HC2, HC5, AC1, AC4 AC5 spoke about relationships with athletes. However, 100% of coaches identified caring for athletes and how that was important in building the coach athlete relationship. Coaches noted that establishing trust and building rapport involved building strong relationships. They noted that advocating for athletes went a long way to building trust. In reference to building trust, 100% of coaches mentioned trust during their interview. In the discussion around the theme of Relationship Building, several codes emerged as important building blocks for the formation of strong relationships. These codes included: Care and Trust.

Caring. HC1 talked about the importance of caring about athletes in the coaching world and how showing care for an athlete develops a respectful coach and athlete relationship.

You know, if you want your kids to buy in, you let them know you care about them and everything that you do, you have their best interest in mind. You hug them when they need to be hugged and then you coach them as hard as you possibly can when they need to be coached. (HC1)

Similarly, HC5 spent 24 out of 90 minutes emphasizing the importance of caring for athletes, being empathetic to their needs, and building a relationship which they trust the coach. HC5 spoke about caring for athletes by checking in on athletes by bringing them into his office for any reason. These reasons might include being late for practice, meetings, or a workout, having a great practice, having an off day, complaints in academics, the radio wanting to interview an athlete, or a community service opportunity. Using both positive and negative experiences as an excuse to call athletes to his office shows athletes that it isn't always bad when they get called in. He uses that time to check in with athletes and to monitor their mental status. He spoke highly of face-to-face communication and how it can become a teaching opportunity.

If I can find a reason to bring a player to my office, I'll bring them to my office. There is so many times I could do stuff by phone but that doesn't allow me to really monitor how the players are doing. (HC5)

Athletes needed to know they were cared for and be able to trust that coaches wanted the best for them. AC2 also touched on caring for athletes by incorporating the importance showing love for their athletes to understand and follow noting, "As a coach, that's so big, to be someone who shows love and is able to receive love. I think the number one thing is to model it [love], especially with kids nowadays" (AC2).

AC2 used hand movements signaling moving from phase to phase as they emphasized the importance of setting the example when it comes to caring about athletes and their well-being. Directly involved with caring about athletes was listening to athletes. Modeling behavior, listening and teaching athletes how to listen was mentioned by coaches HC1, AC1, AC3, and AC5.

It [caring] starts with listening. I mean they need to know that you care if they are going to tell you anything of value. So, I try to ask in every meeting, personal questions or non-football questions, to develop individual relationships. They need to understand that not everything is football all the time. Life is a complex place and there's a lot going on, so you have to find some balances between those things. (AC2)

Trust. Trust was a second level code of building relationships. Trust was identified by 100% of coaches as being an important factor in building relationships between athletes as teammates as well as a trusting relationship between athletes and coaches. Trust was a necessary factor in relationship building. In describing building trust, HC2 noted the importance of transparency and being honest with athletes. "We're not going to sugarcoat it; we have total transparency. I think when you get total transparency that builds trust. Once someone knows that you trust them, and they trust you that makes them better" (HC2). AC4 agreed with transparency by speaking of honesty throughout the recruiting process and when they step foot on campus. "When we recruit a kid, we're not going to lie to them just so they can sign with us. Put the facts out there, tell them everything up front, because if you don't then that trust isn't there" (AC4). Similarly, HC3 agreed with the importance of building trust by relating it back to an athlete's past. "A high majority of kids nowadays lack trust because they've been screwed so many times

by somebody. It's hard, you've gotta [sic] find those guys and build that trust before anything else. You do that by showing them you care" (HC3).

Communication. HC1 noted the importance of teaching communication by teaching listening, "I try to educate them on how to listen, by listening." HC1 and HC5 both spoke to the importance of asking questions and explaining things to athletes. Being clear cut with expectations raises the standard of play and mental toughness. HC1 uses a technique called "Capturing Kid's Hearts". HC1 implements three questions anytime an athlete is doing the wrong thing both on and off the field. This allows the athlete to self-reflect and identify a way to be successful. HC1 said, "Three questions. What are you doing? And he'll tell you. Okay, what are you supposed to be doing? He'll tell you. Okay, then the next question is how are you going to do that?" HC1 noted this technique was educating young men using this technique by teaching them to listen as well as modeling listening while they spoke.

In reference to establishing communication and setting standards, HC5 talked about the importance of having standards for both staff and athletes. Understanding the different levels of standards and how each process has a standard was a big part of developing mental toughness according to HC5. This coach gave examples of expecting his staff to uphold a standard. Coaches uphold these standards by walking into the meeting room and making sure every athlete already had a notebook open and a pen to write with. HC5 spoke highly of locker room etiquette, having equipment in the right place and a clean locker. It was also mentioned throughout HC5's interview of being present in the moment and using the term "eyes up" if someone seemed to be drifting off into space. It was made clear that the goal throughout these standards was not to single athletes out if they were not prepared but simply make them aware of their mental lapse.

Encouraging athletes to step back, be disciplined to stay in the present moment, and bring them back into focus.

Staff Development. Lastly, staff development was a common code of the lead by example mentality amongst coaches HC3, HC5, AC2, AC4, and AC5. How coaches can continue to develop themselves to better the opportunities of greatness for their players were something each staff aimed to be proficient in. HC5 talked about the importance of teaching his staff. “I know my identity, and staying consistent to that identity at all times, being in the present. My mission as a teacher is to teach and learn; not just to teach, to teach and learn” (HC5). In another example of understanding identity, AC2 commented on developing staff by questioning the why.

It’s a lead from the top, it always trickles down. I pour into my assistants so that they can pour into their players, so we can infect the campus community. I call it the why trail. So, I ask my coaches, why are you here? What do you feel like our summit is for our team and how do we get there? I always try to dig deeper and deeper down the why trail and that’s how I learn people’s motivation. (AC2)

Theme 3: Incorporating Practice Drills to Develop Mental Toughness

During the interviews and analyzing the data, it was noted that 100% of coaches described specific drills they try to incorporate during practice that would develop mental toughness in their football players. There were three major codes that the practice drills could be split into, 1) introducing failures to build success, 2) in season practice drills (the time frame from the moment the athletes stepped foot on campus and started official team workouts until their season has ended) and 3) off-season practice drills (the period of time after a season in

which athletes train with their team to develop for the next season until their next season has started).

Introducing Failure. It was noted from AC1, AC2, AC3, AC5, HC2, HC3, and HC4 was the ability of a staff to incorporate some sort of 1) failure for athletes in order to 2) increase their level of success. HC3 noted the importance of having both to be able to push athletes further, “When someone fails at something they love, they’re going to work hard to get back what they want. They love it. So, they are going to work a little bit harder and have a little bit of pride to win it back” (HC3). HC3 spoke to failures by referring to times when athletes might have playing time or reps cut due to a lack of effort or performance. AC2 took failure one step further and related it to competition and games. Talking about an opposing team rival he said, “We’re trying to dominate them but if they do something better than us then they’ve sharpened us for the next season. So hopefully we can come back and be better at that skill than they are” (AC2).

Increasing Success. The coaches also identified the opposite end of the spectrum and spoke about success, “It can’t always be about the competitive winner and loser. You have to put them in situations to be successful in practice. You can tell them they can do it all you want, but they have to experience it to believe it” (HC3). Similarly, HC4 spoke highly of a breaking point for athletes and how it can increase their ceiling or opportunity and potential.

We talk a lot about pushing them to the point of exhaustion, they didn’t think they could do it, but hey you did. And the next time you’re going to do more. You keep pushing your limits with what you can do. Once guys see that they can do it, it’s like a building block where they just eventually become more and more confident. That’s what we want

Confidence comes from being successful at things. I think it's etched into you more when you're successful with things that you didn't think that you could be successful at. (HC4)

In Season. Throughout each interview, coaches gave football stories and practice situations in which they purposefully were aiming to develop player's grit on the football field without taking time to really pause and think about their answers. The stories were direct and second nature in terms of responding quickly. Codes revolving around in season mental toughness involved, 1) in-season physicality, 2) in-season competition, and 3) in-season confidence.

In-Season Physicality. One hundred percent of coaches spoke of some sort of physical grind involving running, lifting, tackling, and exhaustion that would develop mental toughness. Both athletes and coaches in the study agreed with previous research by Jones (2002), noting that athletes who are able to push through tough physical challenges will experience growth mentally. "Get comfortable being uncomfortable" was a common phrase used in interviews from the focus group and from HC3, HC4, AC3, and AC5 to describe developing mental toughness through the physical realm. This phrase was used as coaches described certain situations they use to try and push athletes mentally. When talking about taking repetitions in practice AC3 described an uncomfortable exhaustion by players.

I'll leave somebody in there longer than what they should be, like instead of being in there for four plays I'll leave them in for eight. I want to see how they respond, are they going to quit or are they going to fight to finish? I try to put them in environments that are going to make them uncomfortable in practice. (AC3)

AC3 described the weather being a great natural element to help develop mental toughness because it caused athletes to focus more mentally even though their body was physically cold.

Being outside when it's cold, where the kids know we have an indoor, but we choose to go outside with them anyway just to get them out of their comfort zone and get them in an environment where there is a little bit of adversity. (AC3)

In-Season Competition. In reference to building mental toughness 100% of coaches both head and assistant noted the importance of incorporating 1) competition, 2) urgency, and 3) adversity into practice drills. Having competition was also mentioned in the focus group by ATH2 and ATH3a of how athletes would push themselves to be better. HC1 made the statement, "the most mentally tough kids I've ever coached are the most competitive kids." Likewise, AC3 suggested making practice as game like as possible to help develop that mental toughness for pressure situations. "I'm always trying to put them in competitive environments, I want to see the live situations as much as possible against the best players on the other side of the ball" (AC3).

HC5 spoke about the importance of an athletes' "3%" in their program. He challenges athletes to get 3% better every day, 1% better as a student, 1% better as a football player, and 1% better as a human being. Each player's initials in each position group are written on the side of each coach's white board along with a quick phrase or word. After watching film from the day of practice each coach takes one specific thing, they want each athlete to work on as an individual.

When the researcher asked what determines the 1% HC5 responded with,

An athlete's 1% is the low hanging piece of fruit in your skill development. It is the most basic thing that you need to concentrate on. And every single practice that is your primary objective, your 1%. (HC5)

HC5 and AC5 both described the 3% and gave some examples of how the athletes could work on their percentage every day. Both coaches noted that each person as an individual might have

different things to work on. As a human it was working on listening, being a better communicator, or caring about people. As a student it was improvement in the classroom and the expectation was to be in class, paying attention. As an athlete it was improving consistency of play, being on time, and being disciplined to do the right thing. The overall focus of the “3%” was to challenge the athlete to be better every day, being in competition with themselves to be better for their future and for their team.

HC5, AC5, and AC4 spoke of competitiveness noting the sense of urgency in practice was a great way to set the tone and example for being competitive.

We put a sense of urgency into our guys’ step, as soon as you hit that field there is no BS’n [*sic*]around. It’s get on the field and get it done. Let’s have a good day or practice, watch film, and come back and do it again tomorrow. (AC4)

It was noted by AC4 that urgency was established every day but that there would be days where the focus of the urgency might be different. On days where there were a lot of mistakes the day previously the urgency became consistency and polishing up small details. On days where the practice was full pads the focus of the urgency became to play fast and physical. The challenge of always being urgent in practice helped make the practice competitive.

In line with having competitive practices, 100% of coaches gave examples of advantage and disadvantage drills during practice as ways to create mental toughness through adversity. For example, HC3 might put the defense through a conditioning drill and during that time the offense would get a water break. “The defense has to win from a disadvantaged position and the offense needs to capitalize on the prosperity because they have the advantage” (HC3). HC1 spoke to the importance of situational instances in practice to help build mental toughness. Putting the offense or defense in a bad situation in practice makes them push a little bit harder than they might have

to during the game. “What that does is puts them in a spot where they are going to have to push through, then when it comes to the game, they know they’ve already done it” said HC1 when referring to practicing mental toughness. Referencing advantages and disadvantages, AC2 and HC2 also talked about fighting through adversity throughout practice by making bad calls or random penalties to test the player’s stamina and mental toughness. “We’re just trying to put them in a bad situation so I can see how they respond. I’ll call a penalty to see how they respond to being in for four to six more plays” (HC3). AC1 felt pointing out advantage and disadvantaged wins gave each athlete more accountability. When athletes were in the advantaged position, they felt they needed to win or should win. Whereas when athletes were in the disadvantaged position, they had a desire to win regardless of being disadvantaged. It created healthy competition and made their position group better.

Alongside these bad situations HC3 spoke to the importance of competition, “Showing kids that there is always a winner and a loser, and there is a consequence when you lose. We put them in situations where they aren’t always going to be successful, and they get punished.” He spoke about having athletes learn how to fight through failure during practice so during a game they can push through hard things.

In-Season Confidence. The third code that emerged from developing mental toughness through practice situations was building confidence both on and off the field. Much like incorporating physical drills and competitive drills in practice, 100% of coaches also mentioned the importance of building confidence through practice drills to build mental toughness. AC3 mentioned the importance of success and confidence throughout practice.

If my quarterback is struggling a little bit, I’ll set up eight to ten plays where I put the defense in a bad situation and him in a good situation and let him go down, drive the

field, and score. They go back and see it on film and experience that success. It builds their confidence. (AC3)

AC1 spoke of the importance of grading practices as feedback. When evaluating practice repetitions, HC1 and AC1 will 'grade' a player based on several factors including but not limited to: a) effort, b) correct technique or placement, c) causing a turnover, or d) completing a play for positive yards. Each athlete gets graded typically with plusses or minuses for the performance each repetition they take. Grading factors can change based on coaching staff and what they are looking for out of their athletes. For example, AC1 noted how he has started grading according to advantaged or disadvantaged positions during a repetition. If a player had an advantage and won, they got credit for it. But if a player was disadvantaged and won, they got extra credit. If a player was trying to score on the defense and was two offensive players versus one defensive player, the offensive players should win, they would receive a positive mark on their grading sheet. However, if the defensive player made the tackle or the stop, he would get two positive marks on his grading sheet since he was at a disadvantage. He noted the difference he has seen in his players confidence with this advantage and disadvantaged grading system. Showing athletes that they were successful in a disadvantaged position, and it was noticed by the coaches builds confidence.

Players look at that and go, okay, coach is trying to help me improve this. He talked about it in meetings, he helped me practice it, we did drills for it. Now they [athletes] feel they need to work harder and improve at it. (AC1)

AC2, AC3, AC5, HC1, and HC4, who talked about the struggles of developing mental toughness particularly through the COVID-19 pandemic. During the pandemic it was important to establish that confidence, AC3 talked about partnering up young freshmen with older guys

during lifting, conditioning, or team activities that they were taking part in to help build confidence. In reference to picking partners, AC3 noted:

It allowed them to say, okay, this is what this guy is doing all the time, this is tough, I have to work as hard as him. Sometimes that's what kids need, to be pushed a little bit further. When I put them with someone who might be a little bit better than them it mentally raises their level of play, develops good habits, and over time things are going to change for them. (AC3)

Also the coaches noted the importance of building an empowering environment throughout practice and how that can affect an athlete's confidence and mental toughness. AC1 with passion and excitement in his voice noted, "When you see a good play, tell them it's a good play and be excited about it. Make sure they know that you think it's a good play. It [being excited] changes their level of emotional arousal." He went on to note that sometimes he makes a big deal out of things just so athletes know it was noticed.

Sometimes I make a cut up of someone doing it right, and then I'll video my face and send it to him as I'm celebrating. Players take that stuff to heart. They care about that stuff. When they care about what you think those little extra moments of excitement go a long way. (AC1)

Off Season. The off season is the time which teams would prepare for the upcoming season, aim to get stronger, faster, and more consistent with techniques. Off season workouts was mentioned by 100% of the coaches that interviewed making this a code for specific practices to develop mental toughness. In the midst of off-season mental toughness development there were 1) off season physical challenges that would be implemented as well as a more personal approach to developing mental toughness such as 2) off season communication efforts.

Off Season Physical Challenges. HC3 spoke about uncomfortable situations and making his team do 5:00 A.M. conditioning in the off season.

It's not so much that we are trying to kill them, it's the fact that if you get up for eight weeks, two days a week, at 5:00 A.M. and you're in uncomfortable situations, you want results. You expect them when you get out there. They [athletes] become more invested, they feel resilient. Most of these kids have never been up at 5:00 A.M. for extended periods of time. It builds confidence, like, hey I can do this. And no other team is here working this hard at 5:00 A.M. (HC3)

HC4 spoke about an offseason program that he felt built both physical and mental toughness in their program which this coach termed the "Grindhouse Five." Some of these physical challenges include sled pushes, bear crawls up and down stairs, flipping a 10-foot pole 30 times in six minutes, and a heavy ball (80-100 pounds) carry up and down the stairs. HC4 described his challenges in the following sense:

It's five physical challenges that everybody has to do in the offseason to be a part of this team and come back. And they are really hard, they're uncomfortable, but everybody can do them. We've never had a guy not be able to do them. We've had guys fail on them once, twice, five times, but everybody can do them, and it was designed like that intentionally. Where everybody can do these, but it might take a little bit of belief, it might take failing a few times but every single person no matter their body build can do those things. It's not comfortable, its challenging.

HC4 and AC4 spoke to the importance of mental competitive challenges that incorporate, trying to activate the athletes' arousal control. Arousal is known as both a physical or psychological activation. As an example, athletes must do something physically challenging to increase their

heart rate and then immediately move to a device assembly where they look at a completed diagram and have to put something together. They might have to re-arrange weights, do something mental such as catch playing cards, or do something in front of people where they are having to perform under pressure. Throughout these mental challenges they must be able to control their heart rate arousal, focus mentally, and control their thinking to complete the task. Similarly, HC1 spoke highly of developing mental toughness during the beginning of the off season before spring football starts.

We take the first three weeks after winter break and do physical and team building exercises. It has nothing to do with football or any kind of condition cycle. We flip tires, we do partner poles, we do stuff as a team, pushing plates together. We push them physically harder than they've ever been pushed. You learn real quick who leaders are and who is mentally tough and can push through things. (HC1)

For athletes who struggled mentally getting through those three weeks HC1 noted that more time needed to be spent with them pushing their development of mental toughness throughout the off season.

Off Season Communication Efforts. Personal conversation both individually and as a team came up in multiple interviews as a method that addressed life issues outside of football. Something they did at HC4 and AC4's current school is what they called 'Real Life 101.' "It's got to be more than just teach them how to win football games. A lot of these kids come from different background and haven't been taught anything," said HC4 when talking about the life talks. The importance of teaching young men how to be successful in life was mentioned during both coach's interviews. AC4 and HC4 spoke highly of the process and vulnerability coaches had to show, and the respect that players gain for coaches just from hearing their stories. In

School 4's situation, these talks would take place once a week during the off season and approximately six times a week in the preseason. During the off season they would give life lessons to the players on things that they might not have ever learned in school or from home such as changing a tire, writing a check, how to buy a car, how to tie a tie, how to write a resume, how should they dress and act in an interview, when you should and shouldn't pull a chair out for a woman, proper etiquette, and how to change your oil.

HC5 and AC5 mentioned their non-football related team talks which they called "Team Conversations." They began to focus their conversations on several current life issues. During the time of the interviews, the events surrounding the death of George Floyd was a conversation that sparked topics that affected multiple members of teams. During one of their team conversations, the topic focused on overcoming racism, an athlete mentioned the importance of just walking and making eye contact, smiling and saying hello, would make a huge difference in people's days. HC5 mentioned the positive team feedback that was given after these team conversations.

I think that in the end, with all of this, that our society is dealing with can we just teach people to care? Care enough to say hello, smile at somebody, nod, and wave? Care enough to talk to each-other? That's mental toughness. I really think by doing those things you build that. (HC5)

HC4, HC5, AC3, AC4 and AC5 noted that their staff did some type of off-season communication activity that allowed teammates to build trust with each other such as putting partners together and having them ask each other questions, where they are from, who their hero is, ask about their background and then come back and explain to the coaches what they learned about their teammates. They might do the same activity the next day with multiple new partners.

Theme 4: Developing Mental Toughness Through Team Culture

A topic that came up repeatedly between AC2, AC3, AC5, HC2, HC3, HC4, and HC5 was the culture of their team and how this contributed to mental toughness. The importance of a positive, hardworking culture was also mentioned by the focus group as an important aspect of mental toughness. When identifying codes for culture, 1) recruiting was a resounding agreement between coaches. Coaches knew their type of team culture and they recruited athletes who will thrive in that culture and help further develop that culture. Additionally, a large part of building a mentally tough team culture was 2) player coaching (players coaching players). As players became comfortable coaching each other they began to further 3) build their relationships with each other. This led to a more trusting team who was able to hold each other accountable.

Recruiting to Fit the Culture. When referring to incoming recruits HC5 noted, “I want them to learn the standards of technique, of conduct, and of expectations.” HC5 went on to talk about the culture of staff and players and how the interaction between the two can set a tone for the culture of the program. “I believe in setting the standards, I demand the standards of everyone. But there is a difference between being demanding and being degrading. We are demanding, but not degrading” (HC5).

AC2 mentioned how they recruit athletes to match the culture they have built. He identified the importance of establishing expectations in the recruiting athlete process as well as hiring of new staff members. “Hey, this is what we believe, this is what we’re about, and if you don’t think you’re about these things, you will hate it here and you probably should not come” (AC2). While it was noted that AC2 lost out on recruits because of the bluntness of describing their culture it was also noted, “If you’re not about what we’re about, you’re not going to flourish here” (AC2). Recruiting the right type of athlete was an important aspect of how they

maintained their culture. Bringing in players that would mesh well together was a way they could control the cohesiveness of their group. HC4 agreed with recruiting players that would mold well into the culture but also noted that coaches must uphold the standard of what was expected, making it the same for every athlete regardless of position or person.

If we are going to maintain our culture, we aren't gonna let you fight, your toe can't be on the line, you've got to be wearing these shorts, you've gotta *[sic]* be here on time. If this is what we expect and this is what is going to be expected of you at your next school, we can't let you slide on any of that. I don't care if you were an All-American starter at your last place, this is what we do here. And we don't let them slide on anything. (HC4)

As part of the culture, coaches also mentioned sayings or phrases they felt helped athletes buy in or further commit to their culture. Having some type of mantra was a way to keep everybody on the same page, committed, and working as one unit to accomplish a team goal. Mantras that coaches often said to players were not be identified by the coach that used them as to respect confidentiality but would include things such as: "Pull your trigger", "Blue collar football", "Count on me", "Champs", "Do your job", and "Grindhouse".

Player Coaching. When it came to player coaching, every head and assistant coach mentioned player coaching except HC4. Coaches felt this was a huge compliment to their program, the culture, and the mental toughness of players. Additionally, all five athletes in the focus group mentioned the importance of a player led team, and player-initiated accountability. HC2 spoke highly of this attribute for all football programs. "I think the best football teams, the most mentally tough football teams are player led and not coach led teams. They [players] hold themselves to a high standard, and then they hold others to the same high standard." AC2 noted that he often has athletes run their position meetings to practice coaching their teammates. He

noted the empowerment from teammates in the room when players are giving other players advice but also the difference it made on the field because they took accountability for what they were teaching at the time. HC5 also spoke highly of player coaching and how it breeds trust between players.

So, when we talk about every one of our players is going to teach, we mean every single one of our players is going to teach. We demand it of them. Why do we do that? Because if you're required to teach something it makes you learn it on a higher level. (HC5)

HC5 goes on to mention the importance of allowing the freshmen to watch and be coached and then beginning to coach as a sophomore, doing so creates "a bond of trust and caring." HC5 talked of the importance of player coaching and how it can impact the whole team and coaching staff. The researcher continued with player coaching by asking how they might specifically incorporate player coaching throughout practice? HC5's response was immediate with the sense that it happened often in their practice. HC5 replied,

I might be watching [player A] do something, and his first step is too long and it's obvious to me. Now I'll look at [player B] next to me on the sideline and say, [player B], what do you think he did wrong? First step coach. You got it [player B], now go coach him. I'm not going to go coach him, I'm going to make player B go coach him. Because now player B is giving player A something, and they are making a bond of trust and caring.

Build Relationships. AC4 also highlighted relationships and trust between their players. AC4 noted the difference between being a junior college and a four-year university. "Having to rely on sophomores to coach and hold a standard as opposed to seniors is a big difference. But I constantly tell my guys, I'm not the only coach out there, ten sets of eyes are better than one"

(AC4). HC2 stemmed off player coaching and noted how they emphasize it at their university. “I’ll pick guys to run an entire practice during the summer or the off season. Where they take a group, and they actually coach for the whole practice” (HC2). AC2 went on to state:

You can’t just expect it [player coaching] to happen organically, it has to be attacked.

Just like I can’t expect a concept to be ran correctly if I don’t teach it constantly, watch it, rework it, find the next issue. When you get kids to coach each other and do it in the correct way, blunt but loving, you build trust within the player group. Iron sharpens iron.

HC1 spoke to the importance of a 90% rule when determining if players are on the right path and following the standards that have been set in football, school, and life. HC1 went on to point out that coaches have to release that need for control as a coach and allow the 90% or the herd [players] to help establish control. AC5 spoke to how player coaching was a big part of their mental toughness development particularly during the COVID-19 pandemic. Since groups of players could only be so big it put more responsibility on certain leaders. “I’d have the position leader be responsible for these four players, if I have a freshman with a high ceiling, I want to make sure he’s with the starting player in his position” (AC5). Coaches spoke highly of player coaching as a way to instill team accountability, give and accept criticism, and further develop a positive competitive team culture.

Theme 5: Developing Mental Toughness Through Personal Motivators

Throughout the interviews, coaches identified multiple techniques used to enhance mental toughness. These techniques could be applied in multiple situations for the athlete and were not specific for football. Three codes emerged that could be grouped together, 1) setting goals and developing routines, 2) visualization and meditation, and 3) the impact of social media on mental toughness.

Goals. Goals were noted as an important factor by 100% of the coaches as something that helped develop mental toughness throughout college football. The importance of goal setting was also mentioned in the focus group as an ideal way to develop as a player and a person. This aspect of the interviews directly aligned with previous research done by Connaughton et al., (2008) noting that long term goals were an important aspect to the maintenance of mental toughness. HC2 and AC5 noted they have their athletes set SMART (Specific, Measurable, Attainable, Relevant, Time-Based) goals.

We get into multiple goals in academics, football, strength and conditioning. We get into community service goals, social goals, and even spiritual goals if they have them. It's important for them to set goals, so they can concentrate on the task at hand and go out there every day and try to achieve those goals. (HC2)

AC5 noted the importance of the coach and the athlete keeping goals set by the athlete, "I keep it and they keep it, they write it down and I want them to put it somewhere where they are going to see it every day. And then we re-evaluate them" (AC5). The significant factor was the re-evaluation process. Once they have reached their goals AC5 also talked about setting additional goals to keep athletes hungry and not be complacent.

AC1 commented on setting team goals and adjusting those team goals as the season goes on. "We slightly move team goals based on how we performed the week before. Fewer rushing yards, or completion percentage, or something the guys can focus on to reinforce that it's about us" (AC1). AC2, AC4, HC2, HC4, and HC5 talked about the ultimate goal for athletes off of the football field being graduation. AC4 noted, "Obviously on the football field [our goal] is to win a championship. But the end goal that is most important is to get their degree and get an education."

Routines. AC1, AC3, AC5, HC1, and HC4 spoke on the importance of routines in sports and mental toughness. Referring to routines, AC3 noted the little things they expect athletes to do correctly and how that can play into mental toughness.

They're doing some physical stuff but it's also a lot of self-responsibility. They have to go to a meeting at this time, and they're watching film a certain way, then they go train, they might get some time off, then coming back to do more. It's a mental grind that they need to understand, this is what it is going to take to be successful (AC3).

In regard to routine, HC1 spoke highly of trying different things and finding what works for specific people or teams.

I just took from what all those coaches (previous colleagues) did and I kind of pieced together our weekly routine on what I thought could help with making the complete young man. And once again, it goes back to a regimented routine. (HC1)

Visualization. They felt keeping a positive attitude and being able to keep your eyes set on what you are trying to accomplish would assist with getting through adversity mentally.

When it came to visualization, AC3, AC5, HC2, and HC5 spoke to specific techniques that were used to promote the idea of visualization or meditation. AC5 noted time with the defense the night before their game by recalling:

I'll have them shut their eyes, and I start talking through certain things, see yourself do this, see yourself do that, see this formation, see what's offset and now the ball is coming your way, you intercept it. And then I'll have them finish the scenario. I'll even talk about the smell of the grass. I literally have them put themselves in that situation. When you've been there visually, there is a confidence that will overcome you. (AC5)

AC3 also spoke highly of visualization techniques and how they approach encouraging the practice of mental focus with their athletes.

One thing I try to explain to my guys is visualizing things, it's a big deal just seeing what you want to have happen, seeing the positive things, get the negative junk out of your head, don't think negatively and even in those adverse situations, visually you've got to psych yourself up in the right way. (AC3)

Meditation. When referring specifically to meditation, AC3, AC5, HC2, HC3, and HC5 all spoke of the importance of understanding how to breathe, relax, and be present in the moment to enhance mental toughness. HC5 spoke of a personal practice with meditation. HC5's practice of meditation began without knowing the effect it would have on clearing and refocusing. "I go running with my dog every morning, but I realized at the beginning of the day, that's my meditation" (HC5). HC5 went on to note that in the middle of every day they take time to re-focus so they will close the office door, put calming music on, close their eyes and take deep breaths. "It helps me to focus and get back in the present" (HC5). Alongside HC5, AC5 also spoke highly of meditation practice and simply, "Be where your two feet are. Be present. That's going to allow you to not be anxious or depressed. Deep breathing, the simple inhale, exhale. Meditation. Yoga. I think that needs to be a part of the curriculum" (AC5). Additionally, HC2 suggested an aspect of meditation that they teach their players to encourage a clear mind before a bad action.

Breathing. We're talking more about breathing now than we ever have before. I tell them, once something happens start taking a deep breath. Like a four to six ratio. In for four breaths, out for six breaths. And really think about your next action rather than making a

bang-bang decision that is too quick. Because understand this, for every action, there is going to be a consequence. So, we have got to make sure we keep our composure. (HC3)

Social Media. In AC1, AC2, AC3, AC5, HC1, HC2, HC3, and HC4's interviews, the influence of social media came up from the coaches' perspective and how it can play a large role in the mental toughness and performance level of athletes. Social media could play both a 1) negative role in an athlete's life or could impact them 2) positively.

Negative. AC3 noted that the instant gratification aspect of social media has made recruiting and developing players over time a harder sell for young athletes,

Part of it [lack of mental toughness] is social media, like everybody wants instant gratification, they want the scholarship, they want this now, don't necessarily want to work for it all the time and think things should just be handed to them. (AC3)

AC1, AC3, and AC5 described the constant comparison of yourself to others as a negative aspect of social media. AC5 spoke to mindfulness of feelings athletes might experience while they are on social media. AC5 gave advice for athletes who found themselves in the comparison trap stating, "quit worrying about being judge by other people, quit comparing yourself to other people on social media. Comparison is the thief of joy. Be your best, compare yourself today to yourself yesterday" (AC5). HC2 aimed to make things plain and simple for his athletes as well when the coach stated:

We explain social media and that there are great things about it, but there is also the negative. What are you talking about and what are you representing? You represent [university] and your own last name. Everything you put on social media is like a tattoo. It's for the rest of your life, grandma and grandpa will see it, or your future employer. (HC2)

HC1 noted the negativity with social media particularly during the COVID-19 pandemic when things were shut down and athletes didn't have a place to relieve stress, workout, or be around people. They might sit there swiping on social media all day instead. "I mean, when you surround yourself by negativity, wherever its coming from, it's going to make you a negative person. So how does that negativity [from social media] not play into what you think about when you get done swiping?" (HC1).

Positive. There were a few positive comments from AC1, HC1, and HC2 that were made about things that social media can be used for. For example, social media might be used to promote an athlete's confidence. HC2 laughed as the coach noted, "I have one coach who is probably the best at it, Friday nights he's putting pancake blocks out for his position group." HC2 spoke highly of this type of pregame hype and felt that their players responded well to this. AC1 noted how they had to adjust their coaching feedback to fit the social media instant gratification.

It's a short-term open feedback loop. They post something, they look at it, they see people like it, and it makes them feel good. I found with a lot of our younger players I have to be really positive with them quickly to get them on board. And then I have to slowly wean them off. So, I'll give positive feedback eight times in ten plays. The next day I might give it to you six times in ten plays. And the next day four times in ten plays.

I'm just going to slowly wean you off of needing that constant positive feedback. (AC1)

HC1 summed up social media well when the coach stated, "I think social media can be the best thing in the world. It can also be the worst thing in the world." HC1 also noted how social media was a great way to keep up with past players on what they are doing in life, if they got married, had kids, and is a way to see success as a person.

Research Question 2

To answer the question, *are there differences between athletes' perceptions of mental toughness and coaches' perceptions of mental toughness*, it was imperative to get the opinion and view of college football players to compare perceptions of mental toughness. Using the snowball method, the researcher developed a focus group, asking them six questions that were specific to mental toughness and how it might be developed in their current programs. See Appendix B for the interview questions for the focus group with athletes. The athletes were told about the researcher's venture to better understand mental toughness and how to develop that in college football. As the Zoom started, ATH1 joined late, in the middle of question one, ATH4 was speaking at the time but kept explaining what he was talking about and was not affected by the late entrance. ATH2, ATH3a, ATH3b, had their cameras on the whole time. ATH4 could not get his camera to work. ATH1 athlete would have his camera on and off. In evaluating an athlete's perception of how coaches build mental toughness four themes emerged from the focus group including: 1) Physical conditioning, 2) practice situations, 3) motivation from coaches, and 4) player coaching. See Figure 7 for a flowchart of the themes for research question 2. An additional table of athlete's responses can be found in Appendix K.

Figure 7

Flowchart for Themes of Research Question 2



Theme 1: Physical Conditioning

One hundred percent of athletes in the focus group spoke about physical conditioning and that it was meant to increase the mental toughness of each player and team. There was a mix between conditioning that would be done in season and off season. Although athletes might not always understand the reasoning behind the conditioning, ATH3a noted the importance it played in mental toughness development.

There's stuff we do at practice that most teams probably don't do, and it doesn't help us in football in anyway, so I would say it helps us build mental toughness. An example for us is we have these four boards, and we push them back and down the field. It doesn't help us in football in anyway, but it's tough. I think it makes you tough too. (ATH3a)

ATH3b talked about the extra repetitions that some athletes do as part of their program. ATH3b noted, "We might have extra sprints after practice, or extra stuff in the weight room. It's really the guys who decide to do it and put your all in it that build that mental toughness." ATH 1, ATH2, and ATH 3a nodded in agreement when ATH3b noted, "Get comfortable being uncomfortable," the athlete also went on to speak about the importance of an athlete's mental state of mind during training. "Getting the mindset of realizing the pain you're putting yourself through, you're only going to be stronger tomorrow because of what you did" (ATH3b). ATH4 also suggested that hard physical activity encouraged athletes' development mentally but was also a good way to mentally lock in and focus on tasks at hand. ATH4 spoke of a physical conditioning punishment they might have to do for missing a meeting or class. "We have slab runs or 300's before practice which is bear crawl 100 yards, log roll 100 yards, and bear crawl back 100 yards. It helps us grow up a little bit" (ATH4). This accountability helped them to be successful as an individual and as a group in football and in school activities.

ATH1 and ATH4 mentioned some activities that their coaches do during the off-season to assist in the development of mental toughness. ATH4 noted a “Strong Man Competition” that this athlete’s football team does during the off season that was both physically and mentally challenging. The strongman competition included high intensity activities that would have a punishment if it wasn’t done correctly or to their standard of excellence. “We’ll flip logs, carry posts, flip tires, stuff like that. If you’re not your best they make everybody stop and roll [log roll] ‘til they feel like they’ve gotten your best” (ATH4).

ATH1 commented on a two week “Team Survivor” that helped develop mental toughness. ATH1 talked about being constantly watched by the coaches and every action earned a grade. Competitive athletes wanted to win the competitions. In reference to the competitions, ATH1 noted:

They’ll [coaches] have us show up to the field at 5:30 in the morning and you don’t know what you’re doing. They’ll grade things like how well you’re doing high knees. If I’m not doing them well or not trying, they’ll say, minus five for [athlete 1]. It kind of pisses you off a little bit. We do other random workouts like carrying a telephone pole with your team around a field and you can’t drop it. You have to do a bunch of different exercises with it.

These grades got posted for athletes to see who was in the lead and which off-season team was winning the competition. Competition winners would get a prize, merchandise, or gift cards to incentivize the hard work that was being put in.

Theme 2: Practice Situations

In reference to developing characteristics ATH3a noted, “I mean, some of the stuff we do, it doesn’t help us in football in any way, but I can see how it might help us with mental

toughness.” The sincerity in the tone of this statement seemed to resonate throughout the Zoom room as if athletes hadn’t thought about coaches actually trying to develop their mental toughness but instead just desired to do football related things. After this statement was made 100% of athletes gave an example of specific practice situations that coaches might put them in to make them more mentally tough. ATH3a went on to note the tempo of practice and how that can impact mental toughness.

The structure of our practice, it’s very high tempo we’re always flying around. Coming from high school it’s a lot to take in because there is so much more to learn, to do and you have to do it well. I think that takes a mental effort for you to be able to compete and do well. (ATH3a)

ATH3b stemmed off his teammate and agreed with the fast pace and shorter practice developing mental toughness. ATH3b mentioned, “you do something wrong, and you just have to bounce back and go onto the next play, that has really added on to my mental toughness.” This athlete went on to mention the theme of advantage and disadvantage in development of mental toughness. ATH3b felt when coaches put them at a disadvantage or in a bad position in practice it was able to transfer to a game situation. Likewise, ATH4 noted being mentally tough enough to get through the disadvantages helped prepare them for bigger scenarios. “Just being in those tough situations at a high tempo where people are screaming at you, it’s a lot in the moment. But when it comes to game time, you’ve been there, and it makes you ready for whatever you might face” (ATH4).

Theme 3: Motivation from Coaches

The third theme that emerged from the focus group was the idea that coaches aim to motivate athletes to push to a higher ceiling and be a better athlete. Again, every athlete gave

examples of how their coaches were motivational. This motivation put a desire in the athletes to get better, pushing them mentally. Motivational tactics from coaches included, 1) setting goals, 2) visual graphics, and 3) playing time.

ATH4 spoke of the importance of coaches having athletes set goals and evaluate their own consistency. “We set goals. You know, it’s easy to become distracted, you better have a goal set. But don’t just set the goal, work toward that goal. Can’t be content where you are at because then you can’t get nowhere” (ATH4).

Some of coaches’ motivation might include graphics, designs, or sayings that would help the athletes push their limits more. ATH3a noted a wall mural outside of the locker room with former players who have gone on to play saying, ‘Who Will Be Next?’ He noted, “Every time I go in the locker room, I look at that. I use that as motivation.” ATH2 noted that coaches often try to use film to help motivate actions and effort during practice. According to ATH3b, film could be used both negatively or positively to point out actions’ players should or shouldn’t be doing.

Using playing time as motivation had a personal effect on athletes to make sure they were doing the right thing as a person. If an athlete had playing time or repetitions cut, it was a motivator to push further, do the right thing, and work harder. Ultimately, athletes were working through adversity. While the issue of cutting playing time was respected, reactions and feelings seemed to be mixed on this topic due to inconsistencies coaching. For example, ATH3a, ATH3b, and ATH4 agreed that the discipline their coaches implemented for an athlete who had a personal foul in a game, did something they weren’t supposed to be doing, or were not upholding a representable standard of team would be punished by getting playing time cut. ATH4 expanded on this topic and said, “Something our coaches do is a punishment for a personal foul. If you get a personal foul, you’re not going to play the first half of the next game.” ATH3a also echoed the

consistency of coaches upholding expectations, “Agreed, our final game of the season we had a few guys get sat purely off of a personal foul.” All three athletes felt that the punishment for committing a personal foul made them re-think their responses and reactions during games. Having to sit out a half or a game for a spur of the moment mistake wasn’t worth it to them. However, ATH2 didn’t feel this was the case with his team or coaching staff. For example, if the star running back had a misconduct or penalty, this player would still start the next game. ATH1 didn’t comment on this subject during the focus group interview.

Theme 4: Player Coaching

In consistency with the coaches, 100% of athletes mentioned the importance of player coaching. There was also mention of terms such as player accountability and being a player led team. ATH2 established the importance of being competitive.

A good way to build it is surrounding yourself by people that are better than you are that have the same [mental toughness] honestly. So, if you want to build more mental toughness find someone that’s more mentally tough than you, find someone that no matter what the odds are no matter how its stacked against you, train with that person that is tougher than you. (ATH2)

ATH1 suggested the most mentally tough players would seek out competition and constantly surround themselves with and beside the best players. This allowed the athlete to always push their self both mentally and physically. ATH2 noted the type of athletes they have in their program. He felt coaches didn’t necessarily need to develop drills in practice because of the athlete’s abilities to push each other. Commenting on player accountability ATH2 noted:

As long as you’re not pushing yourself to your absolute 100% or trying to get to your 100% then it really wouldn’t matter what they [coaches] do. Overall, the guys we have in

our program have developed mental toughness because we like to push each other to different heights and challenge each other in different drills. (ATH2)

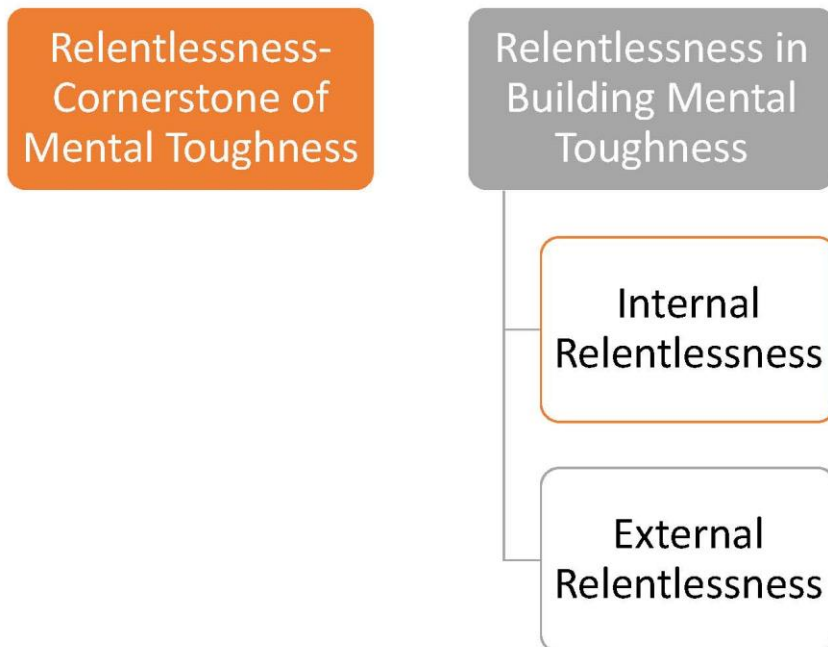
“Competitions, hard workouts, and even punishments that are high intensity and max effort definitely allow you to push yourself hard and to the limit” (ATH4). A big part of building mental toughness at their school according to ATH4 was being accountable by both your team and your-self. When teammates didn’t hold each-other accountable there was a punishment that helped athletes realize they are part of a team, something bigger than themselves.

Research Question 3

In answering research question three, *how do coaches define mental toughness and is it similar to the views of other coaches*, there was a resounding theme from coaches that surfaced as ‘relentlessness’ being the cornerstone of mental toughness. Relentless has several components that make it imperative to building mental toughness, however these components can be separated into two categories which introduced the second theme of this research question, *relentlessness in building mental toughness: Internal relentlessness and external relentlessness*. See Figure 8 for a flowchart of themes and codes for research question three. An additional table of coaches’ and athletes’ responses can be found in Appendix L.

Figure 8*Flowchart of Themes and Codes for Research Question 3*

How do coaches define mental toughness and is it similar to the views of other coaches?

***Theme 1: Relentlessness is a Cornerstone of Developing Mental Toughness***

Throughout the interviews, every coach dove into mental toughness and what they felt it was and what it involved. Every coach mentioned the aspect of challenge but specifically involving challenge were terms involving relentless or pushing through adversity. For example, AC3 noted his definition of mental toughness involved the characteristics of mental toughness. Both aspects of mental toughness could be summed up with one word, relentless.

I always think of mental toughness by transforming the word [mental toughness] into relentless. For me that just means you are always able to keep going, you are always able to figure it out. You are relentless in pursuing the right decision, regardless of your circumstance. (AC3)

In agreement with AC3's definition of mental toughness, HC4 described relentless in a different manner, "I think mental toughness is the ability to withstand tough times and tough challenges and to be successful through those tough times and tough challenges" (HC4).

Describing mental toughness through a different lens, HC5 spoke about competitiveness through adversity. "At the end of the day, it all stems from competitiveness. How do you respond when something doesn't go your way? How do you respond when either adversity happens, or something you've strived for doesn't happen? That's mental toughness" (HC5).

HC1 also mentioned adversity but gave an additional insight on how to handle adversity. HC1 noted a definition of mental toughness stating, "Accountability through adversity or an aggressive routine." The accountability piece of mental toughness came from coaches upholding and setting a clear expectation. While the adversity was accomplished purposefully through on field experience. HC1 noted putting athletes through challenging situations on and off the field while watching and assisting an athlete if needed on how they could conquer those challenges.

When referring to athlete's holding themselves accountable, HC2 noted that mental toughness was "being at your best physically, mentally, and emotionally at all times." Athletes who always presented their best and held themselves to that standard were considered mentally tough to this coach. After evaluating the definitions given by coaches, the term that encompassed these definitions that also embodied mental toughness was "relentless."

Theme 2: Relentlessness in Building Mental Toughness. Internal and External

Character traits that were mentioned by more than one coach as codes were: 1) Physical, 2) discipline, 3) committed, 4) confidence, 5) unselfish, 6) trust, 7) motivation, 8) love, and 9) competitive. Traits that were categorized as internal relentlessness were, 1) discipline, 2)

committed, 3) confidence, 4) unselfish, 5) trust, 6) motivation, and 7) love. Traits that were categorized as external relentlessness were 1) physical, 2) discipline, 3) committed, 4) confidence, and 5) competitive. It was important to note that traits can be classified under both internal and external relentlessness depending on the situation which the character trait was being used.

Internal Relentlessness.

Discipline. HC5 spoke of discipline both on and off the field, but that off of the field is where discipline will develop mental toughness. This off the field discipline was a reference to internal relentlessness. HC5 noted the importance of staying in tune and being present. “Discipline is being in the present,” HC5 went on to give an example of athletes having a messy locker. If the locker room wasn’t up to the standard, he would move athletes to the visitors’ locker room. “Everything we do is very intentional in being disciplined in the present. Doing things right” (HC5). HC2 noted that discipline meant, “staying true to your word and doing what is expected of you at all times.”

Committed. HC3 noted the importance of commitment and how they try to build it at School 3 by having an open line of communication and clear expectations of athletes. HC2 agreed noting that in the recruiting process commitment is one of the character traits they seek out in future athletes:

Are they all in, do they play other sports, have they quit those other sports and why? Are they committed to school, do they have absences or tardies? We are talking about who you are as a person 24/7. That will show me your commitment level. (HC2)

AC3 noted their stories of past athletes who have had success seemed to drive the level of commitment when it came to athletes buying in to the process. “I understand, guys are here for a

reason. But you have to buy into this team. When the team thing doesn't happen, individual accomplishments don't happen either" (AC3).

Confidence. AC1 noted the importance of building confidence in his team by creating success first, then introducing failure, to ultimately build back up to success. AC5 agreed with creating success by noting, "You give them affirmation, tell them things they've done well. You have to know your players to know how much they can handle."

Unselfish. AC3 noted the importance of being unselfish as a teammate and how that is part of being mentally tough. "Trying to get them to be unselfish, to buy into the team and the big picture. Then results will come" (AC3). Along the lines of unselfishness, HC2 commented on their team values. HC2 had his team right out their core values and give them all definitions, this was an open line of communication on expectations for the team. "Selflessness was described as unity for one another, with a bigger purpose than oneself, toward the best interest of the program" (HC3). He spoke highly of this value and felt that having the team make the definitions assisted in the accountability and standard of upholding the values.

Trust. HC5 noted, "The true essence of leading is the person that can talk one on one with somebody and help them develop trust. Finding that timing is vital." AC2 also noted the importance of developing trust between the coach and player relationship and why it can be so hard at times. "Some coaches are always looking to climb that ladder; a lot of athletes don't trust us because they rotate through coaches and don't know when we are going to leave" (AC2). HC3 noted that to build trust you have to care. "They gotta [*sic*] know you care about them, and there is a lot of truth to that. A majority of kids now lack trust because they have been screwed over. Build the trust, show them you care" (HC3).

Motivation. AC2 spoke of being able to tap into an athlete's motivation through the "why trail." "If you keep asking why, you're eventually going to get to the point where you can't answer anymore. There's your motivation" (AC2). HC5 noted the importance of identifying that trait throughout the recruiting process. "I'm candid. I need to see that somebody has a fire in their belly, that they've been able to develop a skill, and they are hungry and have that motivation to get better" (HC5). HC4 stated, "Not everyone's goals are the same, not everyone's motivations are the same. Motivation is an individualized trait, to build mental toughness is to understand what drives someone."

Love. "Kids just want to be loved," was stated by AC3. In a similar statement HC1 noted, "You've gotta [*sic*] love 'em [*sic*] up." In addition to love, HC5 noted the importance of teaching athletes to love each other. "You teach kids how to love each other by teaching them how to trust each other. When you develop that trust between teammates you teach love" (HC5). AC2 noted the importance of being able to give and receive love as an act of teaching love. "Being able to show love, be vulnerable. Because that's hard, to let people get close. You have to model love, pour into others, and love people" (AC2).

External Relentlessness.

Physical. HC4 spoke of the importance of being in great physical shape to enhance mental toughness. They went on to note that "Physical conditioning is a big component of accuracy and success in anything. Can you be mentally tough in a physically demanding situation" (HC4)? HC4 encouraged football players to control their heart rate, to bring it back down to a manageable rate during physical conditioning so they could take the next rep.

AC3 took a different approach to physical and noted, "The physical part of being tough, that's what mental warfare is. Stressing to these kids to do the little things correctly and they will

see improvement.” AC3 felt that physicality had a relation to the next code of reoccurring character traits, discipline.

Discipline. Discipline fell under both categories, internal and external relentlessness. Discipline on the external side was being locked in physically to do the right thing and give 100% effort all the time. AC1 noted the importance of coaches expecting a standard when it came to discipline.

Instilling discipline is holding guys to a standard. Every detail matters. Start behind the line, wear the right shorts, be early. When you uphold a standard of discipline from coach to player then you start to see players holding the standard for each other. (AC1)

Committed. HC3 gave examples of an external relentlessness as part of commitment when they talked about having off-season conditioning starting at 5:00 a.m. This required players to be there by 4:50 a.m.

We are going to see how committed kids really are when they don't want to get out of their warm beds to come to early morning conditioning. The kids who can do it and don't complain, who know they will be better for it, those are the mentally tough kids. I want them on my team. (HC3)

Confidence. HC4 described an external confidence in their players as a type of swagger that an athlete carries about themselves. HC4 noted:

I think guys who are confident, they have what it takes. It's a key component to being mentally tough. They're confident, they won't give up. They are going to persevere.

That's who will make it through the long workout, the long game, the long semester in the classroom, or whatever. Those guys are willing to stay the course and not give up at the first sign of adversity. (HC4)

Competitive. HC1 noted, “The most mentally tough athlete’s I’ve ever coached are the most competitive kids. They put so much time and effort, they are willing to run through a wall for you.” HC1 went on to note that “Anytime you’re testing your competitive drive it makes you better.” In agreement with competitive drive HC3 noted, “You have to have that competitive drive, with whatever you’re doing, that you want to do your best, and you want to be the best.” AC3 agreed with the competitive environment noting:

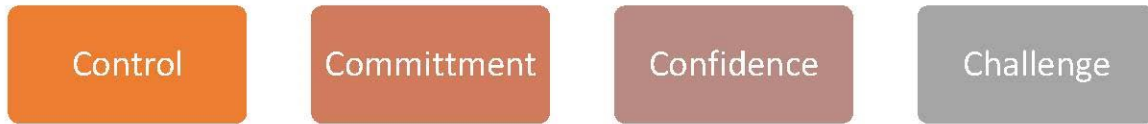
Putting them (athletes) in competitive environments, it’s only going to help them. Life is going to be the same way. There is going to be times you’re not going to get that job you want. But that competitive side of you has to dig in and keep going. (AC3)

Research Question 4

In order to answer research question four, *how do coaches incorporate the four Cs into their mental toughness regimen*, it is important to recall the four Cs: 1) Control, 2) commitment, 3) confidence, and 4) challenge (Clough et al., 2002; Clough & Strycharczyk, 2012; Strycharczyk & Clough, 2015). The researcher was able to analyze each C in depth from the interviews. Each coach touched on all four Cs in a different manner for example, HC4 spoke about adversity and the importance of fighting through that adversity in creating mental toughness. Understanding adversity, this was coded under challenge. HC1 spoke about getting athletes to buy in to the culture and be patient with the process, this was coded under commitment. Creswell and Poth (2018, p. 193) note that prefigured themes should be noted. While this research uses the four Cs as prefigured themes the data will add characteristics to each C to enhance and develop the C. See Figure 9 for an outline of the prefigured themes for research question four.

Figure 9*Flowchart of Themes for Research Question 4*

How do coaches incorporate the four Cs into their mental toughness regimen?

***Theme 1: Control***

Every coach and athlete spoke about the element of control through different words such as composure or the ability to stay locked in under pressure situations. HC2 defined composure in relation to control stating, “Composure is being able to handle the mental, physical, and emotional demands of your endeavor, under pressure, when it matters most.” HC2 mentioned being proactive in their approach to teaching athletes’ composure in both football and life situations. They might do this by addressing the team before practices, before games, or during a film session, using film as a teaching moment. “Control what is actually controllable,” a statement made by AC1 was the best way to sum up how coaches felt about the aspect of composure both on and off the field. Many of the coaches said they feel a sense of understanding when athlete’s come to them with issues both in and outside of football, because they have been in their shoes before as a college athlete. AC3 was especially vocal about his past experiences and how he helps athletes stay on track.

I try to stay in their head about opportunities that they have and things that they don’t want to see slip away. I just constantly remind them, guys, you don’t quite understand it yet, you might think you do. I thought I had it all figured out when I was your guys’ age, but I was nowhere even close. (AC3)

This understanding of feelings allowed AC3 to feel empathetic for athletes who were experiencing stress but also allowed the coach to give life advice from past experiences on how they might be able to handle the situation. Similarly, AC5 echoed the comment from AC1 saying, “Outside circumstances that you can’t control, well let’s try to remove that and find out, what is the actual challenge? Break it down to the most basic, elementary parts, and is it really that challenging” (AC5)? AC5 found success through having athletes walk through situations step by step, talk them out, and understand if what they were stressed about was really something that they were able to control. “Having the attitude of let’s find the good, let’s figure out what are the things we can control here, and let’s find a way to thrive” (AC5).

HC2 spoke highly of breathing methods and being present in the moment when aiming to teach athletes how to compose themselves in tough situations. HC2 spoke about teaching athletes about deep breathing and having them practice the technique to help their composure through situations both on and off the field. Using hands to help illustrate the story it was noted,

One thing we’ve talked about is that you’re always going to have a stimulus [holding up right hand] and you’re always going to have a response [holding up left hand]. But there is that space in between [moving hands back and forth to show space]. So, if there is a stimulus there will be a response, and we want it to be stimulus, space, response. (HC2)

In that space is where HC3 spoke highly of deep breathing to help control the heart rate and emotions. This relates directly back to regulating the athlete arousal control that was touched on by HC4 and HC5. HC5 spoke of correction to assist with control,

It’s teaching them to have control of the high intensity and be really aggressive. But it’s a way of living life too. Be assertive in life. Go look off the edge of the cliff, get as close as

you can, sometimes you might go off. But when you do you gotta [*sic*] apologize, make a modification, and then keep going. (HC5)

HC4 noted the importance of giving examples to athletes through personal development seminars on composure and being able to control emotions, actions, and reactions in the moment. This coach felt it was important to show real examples. “We showed them a few Power 5 kids who have gotten in trouble so they could see the consequences. The more they hear it the better, but they have to be able to see something tangible as well” (HC4).

In reference to control on the field it was important for coaches to set the standard and uphold the standard when it came to their expectations of actions, emotions, and behaviors. “There’s got to be consequences for certain things. Guys who get an unsportsmanlike penalty, to me, that’s just a total lack of mental toughness and something we can’t have as a program” (HC4). HC4 felt that his team was better at handling their composure, particularly on the football field, because of the open communication and consistency of enforcing the consequence

If a guy gets one of those (personal foul or 15-yard penalty), he has a pretty severe physical consequence on Monday, where you don’t want that consequence. And then you’re going to sit for the entire first quarter of the next game, I don’t care who you are. And then after that it’s going to be a half, or a game. If you don’t understand what you’ve cost your team and how important that is during the game, then maybe you’ll understand the consequence when it comes to your individual playing time. (HC4)

This consequence aligned directly with ATH4’s comments in the focus group regarding the coaches upholding a standard and treating everyone the same, enforcing the same consequences regardless of talent.

Theme 2: Commitment

The researcher noted a difference between answers from coaches who were at a two-year school (School 3 and School 4) and coaches at a four-year university (School 1, School 2, and School 5). AC3 noted the difference between a two-year school and a four-year school in the amount of time a coach gets to develop athletes. Having coaches at both types of universities, AC3 noted at the two-year school it's an expedited process and athletes who aren't willing to buy in often do not go on to transfer and play at another level.

I would say to them when they [athletes] first came here, there's a little bit of selfishness in you. You want to achieve, you're here for a reason. But to be able to get to that point, to get to that level [Division I], you have got to buy into this team. Otherwise, if the team thing does not happen then the individual accomplishments are not going to happen.

(AC3)

Every coach mentioned some sort of team bonding or team activity that would take place. Preseason was an important time to implement some type of activity which the athletes had to work together and learn to count on each other. AC3 noted the importance of doing things as a team while doing things for other people. Having their athlete do community service was an important element of team bonding for AC3 and HC3.

You can build that [culture] by doing team activities and or having them get involved in the community, doing things together. To see them working together, as a team, with kids in the community, that's culture. They're developing friendships, bonds. That relationship will allow them to sell out for each other on the field. (AC3)

School 4, the other two-year college spoke along the same lines of creating a culture and getting athletes to stay bought in. HC4 talked about the importance of communication when it came to having an athlete buy in and be committed to the process. He stated,

I think it's important to tell guys why we do things. I try to explain everything and why we do it. I try to explain the strength exercises that we do, I try to explain our speed program, I try to explain our kind of mental toughness development and our team building. I try to just tell them why so then they maybe understand. I think them knowing the why helps them buy in. (HC4)

HC4 agreed with AC3 and HC3 when it came to showing off past successes of athletes who have gone on to a bigger division. HC4 said,

We've got pictures on the wall of guys who have signed places so they can see, oh this really does work. It shows them the long term. A lot of the guys are so short sighted, if there is a light at the end of the tunnel and this will pay off in a few years, that helps them buy in. (HC4)

When analyzing the four-year universities, AC2 highlighted the ability of returning players to assist in the development of buy-in and commitment from new recruits. AC2 noted, "You're relying on previous work you've done. When you lead your current roster, that helps with buying in. If someone doesn't buy in, that roster will absorb them and teach them the way of the culture that you've set". When an athlete isn't necessarily patient with the process and is having trouble understanding why he should stay committed, HC1 noted that often they just need to know they are cared about. He went on to note that athletes will jump through big hoops for someone or something that they truly care about, reciprocating that feeling.

Just like anything, buy-in and commitment go both ways. You let them know you care about them and in everything they do, that you have their best interest in mind. Not only in football, but academics, and treating them correctly as a person. (HC1)

While there was a difference between years of experience of athletes when it comes to commitment, HC1 made a statement agreeing with the two-year coaches from School 3 and School 4. HC1 pointed out the positive buy-in that comes from an athlete seeing something every single day. “You’ve gotta [*sic*] have a motto, something that they visually see or hear every single day. It needs to be simple (HC1)”. Throughout their interviews, coaches mentioned their mottos or team slogan that they could use to help encourage guys to dig deeper or embrace the grind and stay committed, they included things like: “Grindhouse,” “Count on me,” “Pull your trigger,” “Who will be next,” and “Blue-collar football”.

Additionally, AC4 spoke to the things that athletes often care about the most would classify as their ‘why’ and their reasoning behind their actions and commitment. “I like to make sure they know their why. We have a conversation about it. Then I have them set a goal with their why as a motivator. Then make sure they have tunnel vision to accomplish that goal (AC4).” HC3 also commented on an athlete’s “why” in relation to football, “How important is it [football] to them number one, but really trying to put them in those situations so they become invested and they feel resilient.” The aspect of feeling invested assisted with athlete commitment in the long run.

Theme 3: Confidence

In reference to confidence, 100% of coaches mentioned how important confidence was during their interview and how confidence played in developing mental toughness as well as how confidence can be developed in relation to football and life. Confidence was the only C that was

not mentioned during the focus group. “When kids are confident, they can get through anything. Confidence builds them up. They believe they are going to get a first down, they believe they are unstoppable. If there is confidence, then mentally, they can do it” (HC3). HC4 noted the importance of success as the first step in overcoming slumps and developing confidence. “I think to have confidence, you have to have some kind of success” (HC4). Putting athletes in situations where they can be successful is an important aspect of being able to overcome obstacles and fight through adversity. AC3 asked and answered his own question, “Well, what comes first? Success or confidence? And really the answer to that is success.” While HC2 mentioned a comment very similar stating, “success breeds success.” AC3 went further to note the importance the coach plays in the success of the athlete particularly in practice.

You’ve [coaches] got to put them in situations where they [athletes] are going to experience a little bit of success. Once you start to have success then that confidence just grows. So that falls on me as a coach. How can I put them in an environment where they can taste success? (AC3)

When referring to developing confidence and athletes coming out of a slump or struggling with life situations AC5 spoke about the culture of positivity that needs to be created to pull athletes out of that slump. “Who do you talk to most of the day? You talk to yourself, so are you telling yourself good things? Or are you telling yourself bad things? I encourage positive self-talk, making sure that they have that confidence in themselves” (AC5). Similarly, AC2 was specific in promoting self-identity when trying to pull athletes out of their slump. AC2 encouraged athletes to realize there is more to life.

So, when kids come in and they are in a slump I try to let them know that being a football player isn’t their identity. It something they are really good at, that they do, and that they

should keep doing it. But that it is not who they are. And once kids start to feel that, and you can get to that point without lowering the importance of football and performing well but having them understand it is not the utmost importance then it really frees them. Then you start to see less slumps because they aren't letting one little thing bother them. (AC2)

Similarly, AC1 spoke to the importance of elevating an athlete's level of confidence by also vocalizing positivity, "First thing is when you see a good play be excited about it. Make sure they know that you think it's a good play" AC1 continued, "If I make it personal then they know that I was paying attention to them, that I saw their effort, and I made a big deal out of it" (AC1). Alongside being positive, HC1 noted when athletes come in and are frustrated or confused with situations and unable to work through them that showing love helped with the situation. With a smile from ear-to-ear HC1 noted:

You just love the heck out of 'em [*sic*]. You know what I mean? Anything you can do to boost them. Anything they do good, anything they do great, you tell them about it. Not only them, but you tell the whole team. I think it's the best thing in the world for 'em. [*sic*] I truly believe confidence comes from being happy. (HC1)

Coaches felt that the development of confidence and the ability to overcome challenges and adversity could try to be taught proactively through different drills, one on one talks, and team discussions. AC2 noted, "We try to be proactive in everything we do." AC4 also noted the advantage of being proactive. "We are proactive. We don't want it [athlete's mental lapse] to start with one kid, creep to another, and then get into another kid's mind. We want to nip it in the butt before it starts" (AC4). AC5 also agreed with a proactive approach but noted the reactivity that is necessary to make changes to specific things.

We try to make it [responding to slumps] proactive, but it might not always be proactive. If something comes up, I have to assess the situation and respond. That would be reactive. But the proactive approach would be to listen to our feelings. Understanding that our attitude toward something is a choice. It's tough to have a good time with a bad attitude. So, I try to give them perspective, let's think about the challenges that some people might be facing and let's think about what you are facing. Is it that bad? And it might be. But it's all about perspective. (AC5)

Theme 4: Challenge

Every coach mentioned challenge, the fourth C, as well as each of the focus group of athletes. Challenge was an imperative part of mental toughness. Challenge was also referred to as adversity or competition. HC1 noted the importance of an athlete's ability to challenge themselves and their teammates by being competitive with each other.

I think the most mentally tough athletes that I've ever coached are the most competitive kids. They put so much time and effort they think their way through things, and their willing to run through wall for you. If they get injured, they might not be able to play the next game but they're trying to play. (HC1)

An important aspect of challenge was the physical toughness athlete's need in football. Athletes use physicality to be competitive with each other. "Mentally tough young men are physically tough. They can fight through the minor injury or maybe a little bit of sickness to continue to get better on the field" (HC1). HC4 also noted the advantage to having athletes who compete on his team and how their drive helps determine the success of the team. "Competitiveness is key. They just want to win, and they are determined they're gonna win no matter how hard it is. They pride themselves on their willingness to win and do more than the other person" (HC4).

In reference to practice drills or situations that would present adversity or challenges every coach felt this was a necessary piece of having success in college football. Again, noting the advantage and disadvantage situation, AC4 noted:

We'll put a kid at a disadvantage like two on one whether the kid has to get through two guys to get to a bad or touch the ball carrier. In those type of drills, we look at things like, does this kid have a fight when he's at a disadvantage or is he just going to fold in and give up? That kid that has a fire to succeed, those are the types of kids you want on your team. (AC4)

HC3 identified adverse situations and how athletes respond was a key indicator on if they would be successful on the field.

When they get into an adverse situation, they take it head on, regardless of what the outcome is going to be. Win or lose the game, win or lose the block, my main goal is that when they get into that tough competitive situation that they want that opportunity. When someone puts your back against the wall how are you going to respond? I tell them right from the beginning, it's competitive here. If you're afraid of competition this probably isn't the place for you. I want the guy who is not afraid to come in and compete. (HC3)

AC1 noted the ability to present adversity through coaching. He gave an example of coaching two athletes, one of a high skill level, and one of a lower skill level, and how he would coach them differently depending on their skill level. AC1 mentioned that being open and honest with communication was an important key to this type of approach.

I might not coach player A the same as player B because I expect more out of player A. But I have to tell them that. You're treated differently because your better than that guy.

And that's okay. He's trying to get to his maximum and you're not at your maximum yet.

Letting players know they can do better presents adversity to them. (AC1)

The act of encouraging the athletes to reach for a higher ceiling helped give them something to focus on. This focus helps develop mental toughness through challenging athletes physically and mentally.

HC5 promoted adversity in practice situations by always creating a sense of urgency on the field. It was noted that this type of urgency was not always easy, there were often situations through an athlete or coaches' day that would hinder the sense of urgency. Being able to push past those situations assisted with the development of mental toughness. Encouraging all athletes and coaches to be mentally locked helped them get through the adversity of the day.

There are some people at every single practice there's an unbelievable sense of urgency to what they do and then there's other people that they're at 98%. We don't want to be at 98%, we want to be at 100%. So, urgency and teaching our players how to be urgent became something we aimed to do. It's muscle memory. Everything I do is urgent. (HC5)

Alongside a sense of urgency, AC3 spoke of the challenging and adversity filled practice that they put their players through. This coach felt that going live helped build mental toughness, as well as grit when preparing for games. "I want those live situations as much as possible. That's the only thing that's going to help us prepare for the game" (AC3). In describing the adverse practice situations that might be used AC3 continued:

I want them in the competitive environment where they are stressed but they aren't afraid of losing. And guess what? If they do lose, they are going to bounce right back in there and want to beat that person the next time. The more I can put them in a competitive environment it's only going to help them. (AC3)

AC5 also touched on how resiliency can help athletes get through an adversity filled practice.

“You’re going to fight through it, you’re not gonna give in, when your feelings are telling you not to or that you don’t want to do this, you’re going to continue to do it. That’s resilient” (AC5).

Additionally, AC3 described a conversation with an athlete about resiliency and how it correlates between football and real life.

Life is going to be the same way. You might not always get the job you want. But I instill that competition in those kids, and they just keep going. [They] Accept the negative moment, understand that hey, I may need that negative moment, but in the end, it could actually be the best thing that has ever happened to you. You just have to get up and keep going. (AC3)

Summary

The findings from the coaches’ individual interviews were encouraging for the development of mental toughness and how they aim to instill it in their football programs. The findings from the focus group aligned with a large part of what the coaches believed and incorporated into their program with a few differences that will be discussed in chapter five.

While many techniques and purposeful practices directly aligned with the four Cs from Clough et al. (2002) there were additional themes discovered that can be advocated for when developing mental toughness in college football players. These additional themes include a coach’s philosophy, coach’s leading by example, incorporating mental toughness drills into practice, creating a mentally tough team culture, and identifying personal motivators for each athlete.

Chapter five will present a detailed analysis of the data that were found.

Chapter 5. Discussion and Recommendations

Overview

Mental toughness is a word that is tossed around often in the realm of college athletics and can be a factor of a team's success both on and off the field. There have been numerous research studies done on mental toughness characteristics, but few studies directly involved the development of mental toughness in college football and there is still limited information to help explain how athletes develop mental toughness. Many college football athletes are under an enormous amount of pressure to perform well for coaches, administration, fans, peers, and/or the media. Additionally, athletes must take care of school and social relationships. A coach's ability to develop a more mentally tough athlete may help build a culture of success amongst their team as well as encourage growth for the athletes as individuals.

This research study was propelled by the researcher's career as a National Collegiate Athletic Association Division II (NCAA DII) athletic trainer, who has observed a number of student athletes who struggle to overcome adversity in their lives. This study afforded the researcher the opportunity to learn and understand how mental toughness can be developed and led the researcher to explore how athletes can help overcome adversity. The researcher believed the inability to overcome adversity was due to a lack of mental toughness but also understood that some of these athlete's might never have been taught to be mentally tough. It became very clear that collegiate football coaches were an integral part when beginning to develop mental toughness on their football team. The lack of research surrounding college football and how to develop this trait needed additional research. With the idea that mental toughness needed to be taught and used as a tool, the researcher started to seek out mental toughness research and how she as a support staff, could make a difference in the lives of football athletes. To enhance the

phenomenon of mental toughness in college football the researcher pondered the following question:

1. *How can coaches develop mental toughness in college football?*

To assist in answering the primary question, three secondary questions were created to further explore mental toughness characteristics and definitions from the view of coaches and athletes:

2. *Are there differences between athletes' perceptions of mental toughness and coaches' perceptions of mental toughness?*
3. *How do coaches define and characterize mental toughness and are they similar to the views of other coaches?*
4. *How do coaches incorporate the four Cs into their mental toughness regimen?*

Much of the recent research regarding mental toughness centers around surveys and questionnaires. Additionally, previous surveys that were completed focused on explaining the character traits of mental toughness and not particularly how one might develop these traits. Previous studies done were not specific for college football. The researcher selected the qualitative method of personal interviews to explore the details that surround developing mental toughness and how they are incorporated into a football program. To understand this phenomenon the researcher used the snowball sampling method and sought out a college football expert, a current college football coach who has had experience with National Collegiate Athletic Association Division I (NCAA DI), Division II (DII), Division III (DIII), National Junior College Athletic Association (NJCAA), National Association of Intercollegiate Athletics (NAIA), and the National Football League (NFL). The expert identified five head college football coaches who had developed a mentally tough football team, culture, and individual players. A variety of geographies and years of experience with head coaches having 130

combined years of experience and assistant coaches having 63 combined years of experience. Using the snowball method, each head coach recommended a current assistant coach for an interview to validate and enhance the data from the head coaches' perspective. Lastly, all coaches recommended three athletes on the current roster who represented mental toughness on their team. Twenty-nine different athletes were given with only one name overlapping from school 4. See Table 11 for reference. These athletes were all sought out to participate in a focus group that would enrich the study by providing validation of coaching methods and observe if athletes and coaches agreed when it comes to mental toughness. Ultimately, a group of five athletes and four schools were represented in the focus group.

Although success is not always defined by wins and losses, it should be noted that four of the five coaches that were interviewed proceeded to post-season play in their respective divisions during the season which they were interviewed. Advancing to the post-season is a notable achievement. For the divisions that were represented in this study, there was a total of 169 NCAA DII football teams, 250 NCAA DIII football teams, 65 NJCAA football teams, and 96 NAIA football teams (Next College Student Athlete, n.d.). During the fall 2021 football season, three of the five coaches won their conference, one of the five head coaches made it to the round of 'sweet sixteen' of playoffs for their division, one of the head coaches made it to the final four of their division, and lastly, two of the five head coaches took their teams to the national championship game to compete. One of the five head coaches ended up as a national runner-up in their division. Ultimately, one head coach ended up as a national champion in their division.

This study found several methods which coaches utilized to build mental toughness for their athletes, and to assist with their growth as a human being and a football player. The analyzed data found that developing mental toughness started with a coach's personal actions.

They incorporated specific practice drills and habits, developed player accountability of discipline, and held meetings to encourage life skills into their mental toughness regimen. The following section will go into further detail on how the findings compare to the four Cs, review additional themes found throughout the study, and analyze the focus group of athletes and their thoughts on developing mental toughness.

Interpretation of Findings

Research Question 1

The overall theme of the study was addressed in research question one: *How can coaches develop mental toughness in college football?* Throughout the interviews, several important themes emerged that were similar but the delivery for each program was individualized and different. This question was answered with a plethora of different examples and stories but most of the development came down to the individualization of each coach's philosophy. If a coach believed highly in mental toughness, that was identified as part of their philosophy of training. It was noted throughout analyzing the data that 100% of coaching participants felt mental toughness was a necessary aspect of being successful both in life and in football.

The first theme that emerged from this study was "Affecting future generations through coaching philosophies." Noting that the overall goal in making college football players mentally tough was not just to win games but to enhance their future. The coaches that contributed to this theme agreed with Wieser and Thiel (2014) noting that a "win at all costs" mindset would ultimately lead to failure instead of success. While winning was a nice caveat, every coach noted the importance of future development and life success. One of those defining successful moments in life that was mentioned was walking across the graduation stage.

Creating an example for players to follow was an important piece to the mental toughness component. These codes formed the second theme “Lead by example mentality.” One of the main characteristics of this theme was the importance of building relationships. This is an important factor to note since very little literature focused on the importance of building relationships to develop mental toughness. Coaches felt that athletes wanted to know they could rely on their coaches. Through this relationship building, four second level codes developed: Caring, trust, communication, and staff development. Coaches taught the trait of how to care about other people by modeling it. Caring for their athletes and having their backs was the initial phase of the next code. Once an athlete felt cared for, they began to develop and put trust in their coaches. Trust allowed athletes to buy-in to the culture that coaches were trying to develop. Coaches modeled communication by hosting some type of team communication. This communication aspect of mental toughness agreed with Driska et al. (2012) identification of communication being one of three components in developing mental toughness. “Team talks” allowed athletes to voice opinions and build trust with each other. Coaches and athletes learned to listen and show vulnerability during these exercises. The traits analyzed from the lead by example theme were the base layer of getting an athlete to work harder, listen to coaching, apply what coaches were saying, and ultimately impact their life. Lastly, coaches felt that in an effort to make a bigger impact on young football athletes they had to develop themselves. Incorporating staff development allowed coaches to enhance their own lives while further developing college football players. These relationship building techniques were an important aspect to the missing piece of literature on developing mental toughness. This research found that to further build mental toughness in athletes a coach must develop a relationship with the athlete first.

The third theme that emerged when analyzing data for incorporating practice drills to develop mental toughness. These drills might seem like every day ordinary football drills, but coaches would purposefully put these in practice to initiate a mental response from players. The act of implementing failures and successes into the sport as part of a competitive environment and a way to boost confidence was an emergent theme throughout mental toughness. Creating an environment where an athlete experiences success builds confidence. Allowing an athlete to experience a certain amount of failure will drive their desire to get better at a skill. This can be incorporated into other sports in several different facets. Additionally, information on discipline, accountability, and work ethic highlighted the importance of developing solid practice habits which would assist in an athlete's development of mental toughness. These drills might be something that put an athlete at an advantage or disadvantage to see how they handle it, how an athlete responds to being tired, being able to push through adversity, or how an athlete responds to teammates. While these conditions were specific for college football this study agreed with Jones (2002) and Weinberg et al. (2011) noting the importance of athletes getting better from stressful situations and learning to thrive off of adversity.

Next was the theme of building a mentally tough team culture. This included recruiting to fit the culture, encouraging player coaching, and building relationships with athletes. It was found in this study that coaches had more success of getting an athlete to be committed if they were upfront during the recruiting process about their school, policies, and how they run their program. It was suggested that trained and beneficial player coaching helped develop mental toughness and allowed athletes to learn how to take constructive criticism from peers. Player coaching or having a player led team was also mentioned by the athletes in the focus group as an important aspect of having accountability to teammates. The findings from this section are

applicable to both college football players on the field and in life. This study aligns with Weinberg et al. (2011) as they noted that one of the qualities of a good leader was giving constructive feedback. Also in agreement with the literature was Jones (2007) and Connaughton et al. (2008) who found that incorporating training, competition, as well as specific psychological skills and strategies throughout practice helped develop mental toughness. This research noted, from coaches and athletes, that a player led team and athletes who are able to give that constructive feedback as a player coach are more likely to develop mental toughness throughout their season. Lastly, this research found that at the core of building a mentally tough culture was the importance of building relationships between coach and athlete. Getting an athlete to trust a coach and know they are cared for allows athletes to trust and care for each other as teammates, further enhancing the team culture.

The last theme that developed was identifying personal motivators. The codes for this theme included setting goals and routines, implementing visualization and meditation techniques, and monitoring social media to enhance mental toughness. Using motivational techniques aligns with previous research done by Driska et al. (2012), Weinberg et al. (2011), and Connaughton et al. (2008) all agreed that a motivational climate as well as creating a positive mental environment for the athletes to be in was necessary for the development of mental toughness. One of the most cited themes from the interviews was having the athletes create goals and routines. Having goals and routines is something that every coach of any sport can incorporate into their regimen with athletes. Following up with the athletes and re-evaluating the goals is a necessary aspect for growth of the individual and the athlete. Creating goals can fall under multiple aspects of the Four Cs but can be directly related to commitment and challenge. Goals allow an individual to stick to a plan as well as push an individual to better themselves. Visualization and meditation

were described as avenues to assist with the development of mental toughness through mental clarity. Being able to visualize oneself in a positive environment, in sport, and in life was a way to enhance the mental toughness component. Many athletes already use a form of meditation whether it be running, yoga, weightlifting, or some other type of physical outlet that assists in the aspect of mental clarity. Both visualization and meditation are easily applicable to athletes of other sports. The importance of visualizing a positive environment mirrored the previous research done by Driska, et al (2012) and Connaughton et al. (2008). The next aspect of developing mental toughness emerged from the commonly used social media platforms. Coaches noted the importance of setting the tone of what was acceptable and unacceptable with social media use. There were comments noting the negativity of social media, the constant engagement with that negativity only created a more negative environment. Alternatively, there were positive remarks about social media included the confidence booster it can be if used by coaches in the correct manner. Posting highlight tapes and graphics for kids to see was a great way to get them excited and build confidence. Monitoring the correct use of social media and implementing a standard can be used for other sports.

Research Question 2

When evaluating the findings of interviews for research question two: *Are there differences between athletes' perceptions of mental toughness and coaches' perceptions of mental toughness*, there was the sense of 'same, but different' when it came to the athlete's thoughts on mental toughness in comparison to the coaches' thoughts on mental toughness. It is important to realize the coaches and athletes have a similar view of mental toughness but differences in opinions on how this trait is developed. This aligns with previous research done with both the coach and athlete by Cowden et al. (2014). It was found that coaches and athletes

often have vastly different opinion on mental toughness attributes, how it is developed, and the indications of mental toughness. While many of the attributes that were listed from the focus group lined up with the coaches, the idea of how mental toughness was developed was self-experience from the athlete instead of drills and purposeful development from the coaches. This study found evidence to support coaches' development of mental toughness through building relationships, specific drills in practice, and implementing player coaching in practices.

However, it was suggested by members of the focus group that athletes feel they control their own development of mental toughness characteristics through life experiences, self-motivation, and self-accountability. The difference between the two groups was the perception of "why." Coaches felt they are developing mental toughness through specific drills or activities such as a 5AM workouts, disadvantaged situations, and mandatory team meetings. Coaches knew the "why" behind what they were doing. Coaches felt they are incorporating the relationship building through communications as found with Driska et al. (2012). Coaches wanted to see reactions from certain drills, they wanted to see growth from team conversations, and ultimately, they want to see successful college athletes become successful young men. Implementing these opportunities for growth aligns with Dweck (2016) who found that growth and change can happen for people, but only if they have the right mindset. On the contrary, athletes seemed to lack this understanding or felt that they did mental toughness drills and activities on their own.

It should be noted that although athletes were unsure of the "why" for certain drills or team activities, they agreed with the coaches on several things that helped build mental toughness. Athletes felt that physical conditioning and pushing past limits was an important factor in developing mental toughness. Athletes agreed on the importance of getting through tough exercises and being able to rely on teammates to encourage each other when things were

hard. Athletes also noted specific drills that were done in practice, mainly disadvantaged drills, that would require athletes to dig deeper, build grit, and develop mental toughness. This study found that athletes pushing each other created a desire or need to win and get better, directly aligning with Strycharczyk and Clough (2015) who identify this trait as a “challenge.”

Research Question 3

Research question three aimed to answer the question: *How do coaches define and characterize mental toughness and are they similar to the views of other coaches?* Each coach had their own thoughts and definitions of mental toughness. Coaches gave tremendous thought toward their answer and included in their definition what they felt was pertinent to obtaining the skill. The concept of their definitions was similar in many ways, but characteristics and traits varied widely.

It became clear to the researcher why Jones et al. (2007) noted that there is a “muddy definition” of mental toughness in the athletics world. Each definition of mental toughness is subjective according to feelings or opinions of what is important according to the person describing mental toughness. To answer the research question, the researcher evaluated each coach’s definition of mental toughness in comparison to their own answer to the question, “What are the top five-character traits you look for your athletes to have or that you aim to develop and briefly describe each answer.” Most of the coaches had one or two of their listed character traits weaved throughout their definition. After reviewing the definitions multiple times, the emergent theme that jumped out of several definitions was the term ‘relentless’ or terms that can mean relentless such as: “driving actions” (AC2), “be successful through tough challenges” (HC4), “be at your best at all times” (HC2), “when you get knocked down, you stand back up, you persevere” (AC5), and “how you respond when it doesn’t go your way” (HC3). Each of the

previous pieces of definitions entail some type of relentless effort made by the athlete. This study found that relentlessness was a cornerstone of developing mental toughness. Kobasa (1982) described a relentless individual as a “hardy” individual. A hardy individual identifies unexpected experiences and takes advantage of personal growth during adversity.

When evaluating the second part of the research question, “*and characterize mental toughness*” the researcher found multiple character traits that coaches aim to develop as part of their mental toughness development all surrounding the same idea of being relentless. After further evaluation, coaches would describe character traits as an internal relentlessness or an external relentlessness, also noting that some traits can be used in both categories. The character traits that were identified as internal relentlessness were discipline, commitment, confidence, unselfish, trust, motivation, and love. Traits that were identified as external relentlessness were physical, discipline, committed, confidence, and competitive. These emergent character traits were important pieces of developing mental toughness through drills, life talks, and the perception of character. This study found character traits that college football coaches found necessary and desirable were aligned with the previous research of the four Cs from Clough et al., (2002) including: Discipline directly aligned with control; Trust, unselfishness, and commitment all lined up under commitment; Physical and competition related to challenge; Love, motivation, confidence and humbleness were classified under confidence. Kobasa (1982) also noted three of those characteristics as important aspects of mental toughness; control, commitment, and competition.

Research Question 4

How do coaches incorporate the four Cs into their mental toughness regimen was research question four? This question involved multiple interview questions which allowed coaches to expand on their own thoughts and ideas of how these character traits might be developed along with importance of each trait. An additional table highlighting coaches' and athletes' responses can be found in Appendix M. There were several similarities through each interview that aligned with Clough et al. (2002, 2012, 2015). However, in addition to the four Cs there were a vast number of emerging concepts that provided a preview of how college football coaches aim to develop mental toughness. The following describes the qualitative data collected to form an outline of how coaches can better develop mental toughness in college football.

When examining the transcripts and re-evaluating the Zoom sessions, it seemed that coaches had the hardest time trying to develop the element of athlete "*control*." Teaching an athlete to control emotions, reactions, and responses to a situation both on and off the field was a conundrum for most coaches. Coaches talked about things they tried to incorporate into their regimen such as visualization and meditation techniques, open door policy, "Real Life 101" talks, "Team Conversations," and player accountability. These aspects of control aligned with Strycharczyk and Clough (2015) references to emotional control. This study found that an open line of communication that entails issues outside of football between coaches and athletes was imperative to developing emotional control. However, it seemed the best way to get a player's attention to make them realize their actions were inappropriate and unnecessary was to decrease playing time. Incorporating some type of accountability for an athlete to have them self-evaluate their actions before they lose control was the most logical way to get a player to respond and

make a change. The struggle for coaches was ensuring the consistency of this rule, making sure that all players were held accountable equally. Athletes 3a, 3b, and 4 all felt their coaches were consistent in holding players accountable regardless of who the player was. Athletes 1 and 2 did not necessarily agree with this statement, noting that if a big game was on the line the protocol might be changed for certain players. This inconsistency should be noted for coaches of athletes that consistency across the board will help develop mental toughness and team culture. Giving certain players special conditions leads to mistrust and animosity amongst team members.

It is important to note that the coaches spoke the most about the “*confidence*” of each athlete and how it played into mental toughness. Coaches felt it was part of their job to build that confidence which allowed for a player to reach their ceiling. In the eyes of the coaches, motivation was a way to accomplish this encouragement of confidence, but athlete’s felt that coach’s motivation was more to get the most out of them as players and seemed to be less about building confidence. The importance of a positive motivational climate was also noted in Driska et al., (2012) study in which athlete’s noted the importance of the motivational climate that coaches foster in an effort to develop mental toughness.

The third C involved “*commitment.*” Communication and team bonding was an overall premise of how successful coaches were in keeping athlete’s striving and dedicated to the process. Both coaches and athletes felt a sense of responsibility to this character trait and mentioned this was an important factor to evaluate during the recruiting process. There were comments that commitment was harder to get athletes to understand from the coaches at a two-year school as opposed to those at a four-year university. Both coaches and athletes also felt that the current athletes on the roster also had a big part in maintaining the level of commitment with incoming athletes. A common theme between the coaches came to goal setting and

understanding their “why” for both life and football assisted in maintaining commitment from athletes. This directly aligns with Kobasa (1982) as they noted commitment provided a deeper sense of purpose. Athletes who are committed are able to stay focused on the task at hand while achieving their goals.

Each coach felt strongly of the four Cs and how they played into the development of mental toughness. It is important to note that the coaches spoke the most about the “*confidence*” of each athlete and how it played into mental toughness. Coaches felt it was part of their job to build that confidence which allowed for a player to reach their maximum potential. In the eyes of the coaches, motivation was a way to accomplish this encouragement of confidence, but athlete’s felt that coach’s motivation was more to get the most out of them as players and seemed to be less about building confidence. The importance of a positive motivational climate was also cited in Driska et al. (2012) study in which athlete’s noted the importance of the motivational climate that coaches foster in an effort to develop mental toughness.

In evaluating “*challenge*,” the athletes did feel coaches incorporated competitions into practice and created adversity in drills to make them more mentally tough. Coaches felt this was an integral part of mental toughness development and purposefully put situations into practice plans to encourage athletes to get through tough situations, making game situations and life situations easier. Jones (2002), Cowden et al. (2014) and Weinberg et al (2011) noted the importance of athletes being under stressful competitions or adverse practice situations will ultimately be the ones to rise to the occasion of a challenge. This study found similar information noting the more game-like situations you can in football practice will help prepare athletes for the football game. Coaches also felt the incorporated competition in off-season drills and team building exercises that helped develop mental toughness. Incorporating specific drills to

associate a challenge in practice directly aligns with previous research done by Weinberg et al. (2011) who identified coaches that put specific challenges into practices would make athletes more resilient.

Additionally, there were several characteristics that were highlighted and found to be themes of developing mental toughness which might fall into the four Cs but could also be deemed as character traits separate from the four Cs. Traits such as consistency and goal setting are important factors to associate with developing mental toughness but were interpreted and put underneath the C of “*commitment*.” Traits including preparation, attitude, and focus could also fall into the category of “*control*.” Included in the “*confidence*” category was love and leadership. Lastly, traits such as resiliency, competitiveness, and motivation would fall under the “*challenge*” C.

Implications for Social Change

Throughout the interviews it was mentioned by several participants, that the goal in college football and in making athletes more mentally tough, is to assist them in maturing and growing up. Putting these athletes through tough situations on the field directly correlates to tough situations in life, as cited by coaches who participated in this study. More directly, HC2 noted, “You’ll [athletes] have to have to work with people; be on some type of team. We prepare young men for the rest of their life, to be the best husband, father, businessman, and community leader. Football does that [prepares athletes].”

As a former collegiate athlete, former collegiate volleyball coach, and current Division II football athletic trainer, the researcher has witnessed first-hand the importance of mental toughness in sports as well as in other aspects of life. It is not uncommon for college coaches to have been an athlete at some point in their lifetime. Because of this, it is reasonable to assume

that they may model their philosophy of mental toughness based on those past experiences. They know this training, the requirements, the grind will have a positive impact on them later in life.

HC5 noted:

When an athlete comes back and has been successful, God, that's what we all want.

That's the gravy of our jobs. It's not the paycheck. We don't get paid much. The true value of our paycheck is when you see growth in a player, and you know that you had a part in it.

While the content of mental toughness training is important, the way it is implemented is equally important. All but one participant in the focus group felt their coach did a great job of holding athletes accountable for their actions. This led to a better culture on the team and led to a more mentally tough individual. Creating an equality in discipline from coaches will also have an implication on the athlete's future. This equality will transfer over to life when dealing with people.

After graduating, an athlete's future as a professional might involve dealing directly with people, supporting their colleagues, holding professional team members accountable, having to fight through adversity of competitors, all while balancing a home and social life, and ultimately learning to be successful in everything they do. College football prepares athletes for all these things. Mental toughness training in college football can enhance the athlete's ability to perform, engage, visualize, and be successful both on the field and later in life.

Recommendations for Actions

The outcome of this study proposes that mental toughness is not a 'one size fits all' concept that can be used at all times. There are multiple methods of developing mental toughness but very few that target the development of mental toughness in college football athletes. College

football teams can be compared to a three-legged stool: athletes, support staff and/or assistant coaches, and head coaches. The stool cannot stand or hold weight if one of the legs is missing. This study suggests that all three entities should collaborate equally to develop mental toughness. Using the ideas from this study can assist in the development of mental toughness, this starts with a coaching staff who model examples of the caring, trust, and communication as important factors in building and maintaining relationships. The research also showed that coaches who implement physical conditioning, player coaching, and competitions between athletes both during the off season and regular season would assist in the development of mental toughness. The researcher assumes that each coach would modify the recommendations to fit the needs of their team. For example, if a team surpasses the physical challenges on the field but struggle showing their vulnerability in caring for each other more time should be spent doing team building activities mentioned in chapter four such as “Life 101” talks, or mental tasks that make teammates rely on each other building a culture of trust and caring both on and off of the field.

Athletes, might gain knowledge from this study, specifically college football athletes would benefit directly from this study. A concern that was noted by the researcher included a misunderstanding from the athlete point of view on how coaches aim to develop mental toughness. For situations in which coaches are not getting results, a different method of communication should be attempted. Explaining drills, situations, and “why” things are being done can have a better effect on an athlete’s efforts to get better. Athletes who apply the four Cs of Clough et al. (2002, 2012, 2018) and understand that coaches might have an underlying reason for having athletes complete an arduous task would further advance their mental toughness. As mentioned previously, the impact that college athletics and mental toughness can have on an athlete can be beneficial for the future of the athlete.

Support staff could benefit from this study. Support staff would include assistant coaches but also staff that is involved with the athletes outside of the sport. This might include athletic trainers, strength and conditioning coaches, tutors, and administration. College athletics is a wide entity in which there are many moving parts. The support staff should evaluate their daily routine with the athletes. They first need to align their mission to that of the head coach and realize which character traits of mental toughness the head coach feels are the most important and then work to implement those into their daily workload with athletes.

Coaches can see a higher percentage of growth from athletes with better communication involving the mental toughness training. It would be advantageous for college football coaches to do mental toughness training with teams and individuals. Focusing on communication efforts from the coaches to the athletes would better explain reasoning behind mental toughness training. Opening lines of communication allows individual athletes to grasp the training and apply it in their own situation, making mental toughness a more individualized experience.

The researcher understands the implications of doing individualized sessions with each athlete and the lack of time and resources for many college football programs. The recommendation would be to have a professional as a support staff, such as a sport psychologist who works directly with sports and athletes. This is a person who understands the coach's desired character traits and definition when it comes to mental toughness. Having someone who is fully immersed in the mental toughness training yet understands the athletes on an individual and personal level. Having a sport psychologist on staff would help identify specific areas that the athlete needs additional mental toughness training. Additionally, for schools without resources to fund an external position, assigning a coach to work with counseling or faculty sources to develop mental toughness techniques could be implemented.

Recommendations for Future Studies

Throughout the bulk of this study, it became apparent to the researcher that there are several additional studies that need to be completed as the next steps to this study. The researcher would recommend two different paths to further explore the phenomenon of mental toughness: A study that evaluates mental toughness in comparison to additional demographics, and a study involving the top tier of college football programs in America.

The first future study should include a comparison of mental toughness characteristics and definitions as well as techniques of building mental toughness. While it should be noted that the sample size for the current study was somewhat small, future studies should be completed with other collegiate teams and coaches, with a bigger sample size. When evaluating a bigger sample, studies should be further analyzed and conducted based on additional demographics of participants such as the age of the teams (high school, college, professional), size of the teams, athlete genders, coach genders, and type of sport (individual or team). The goal of the culmination of studies would be to analyze the comparison of mental toughness between these demographics and create a guide for developing mental toughness paying particular attention to the specifics such as the sport and gender of the athletes.

Additionally, when focusing on college football, a future study focusing solely on the teams that are part of the Football Bowl Subdivision (FBS), would continue to develop the research for college football and mental toughness. Teams in the FBS have more prestige and are often seen on a national level. Therefore, they often have more money to spend on athletic scholarships and additional resources to help mental growth in their athletes. FBS teams are eligible to play in post-season bowl games and the national championship. The conferences in the FBS include, American Conference, Atlantic Coast Conference (ACC), Big 12 Conference,

Big Ten Conference, Conference USA, FBS Independents, Mid-American Conference, Mountain West Conference, Pac-12 Conference, South Eastern Conference (SEC), and the Sun Belt Conference. It should be noted that the name of the conference does not necessarily depict the number of teams in that conference. For example, the Big 12 conference only has 10 teams currently in it, however, there is talk of adding and moving additional teams to this conference in the coming years. A study involving this division would likely have recommendation for action section since many of these conferences would have the funds to employ a sports psychologist or mental toughness professional on their staff.

Researcher Reflection

The researcher found substantial gaps in the literature regarding mental toughness in college football. While there were several studies regarding mental toughness, definitions, and character traits, the purpose of this study was to identify those gaps and address the development of mental toughness in college football. Additionally, this study aimed to understand mental toughness from multiple views including both the coach and the athlete. Using qualitative research, individual interviews and a focus group of athletes allowed the researcher to ask additional questions and get clarification on answers as suggested by Creswell and Poth (2018). Using a focus group allowed the researcher to gain insight from the lives of current college football players and how they see mental toughness being developed in their program. Member checking was used to clarify any miscommunication or misunderstanding between researcher and participant. Creswell and Poth noted the importance of triangulation, or using multiple sources, to assist in the additional development of the phenomenon.

The researcher noted a large amount of research on mental toughness based on or around Clough et al. (2002; 2012; 2018) four Cs of mental toughness: Challenge, commitment,

confidence, and control. The researcher was able to get a clear idea of how communication, practice scenarios, implementing success, and goal setting played into college football and can be directly applied through practice situations as well as off the field situations. The use of Creswell and Poth's (2018) data analysis spiral (as referenced in chapter three) allowed the researcher to analyze, interpret, and ask clarifying questions that assisted in coding and theming the research in an unbiased manner.

A surprise for the researcher came after the focus group interview with the athletes at the lack of understanding of how coaches were trying to develop mental toughness. While there were several similarities amongst stories, the theme from the focus group was that athletes controlled their development of mental toughness more than coaches. While coaches gave athletes credit for past experiences, coaches felt they incorporated mental toughness training as an addition to their mental toughness development. An additional surprise to the researcher came from the coaches speaking to the development of athletes. The researcher found that every coach noted the importance of success being measured by an athlete and their future, not wins and losses. This is not always the case in college athletics and sometimes staff can lose their "why" in the midst of trying to have success in their job. This re-iterated to the researcher why people go into college athletics, this is a service industry and not one for the weary. After the completion of the study, the researcher noted that the literature on mental toughness is vast and has come a long way. However, there are ample opportunities to expand the literature in the field of mental toughness, specifically in the realm of college athletics. The researcher realized that not only expanding the literature but impacting the lives of college athletes through the development of mental toughness should be an on-going process.

Mental toughness can be understood as finding a psychological edge “in remaining determined, focused, confident, and under control under pressure” (Jones, 2002, p. 1). The research on mental toughness should likely continue to develop and evolve. Athletes coming through college athletics will continue to need avenues such as the development of mental toughness to be successful in life during and after their athletic career is over. Athletes dedicate a great deal of time and training to building physical and mental muscles. Regardless of the sport, focusing on mental toughness, especially with regard to the four Cs, offers an opportunity for athletes to stretch and grow beyond the game and propel themselves to new heights.

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Appendix A

Interview Questions for Coaches

Begin by getting brief resume of coach's background and coaching experiences

1. Tell me a little bit about your coaching philosophy
 - a. How did your experiences shape your philosophy?
2. In terms of mental toughness and developing your players – can you expand on what that means to you?
 - a. What types of exercises do you do and how much time do you spend on this?
3. As a coach can you tell me some of your strategies, skills, and life lessons that you focus on outside of the sport?
 - a. How much time outside of coaching football do you spend enhancing your athletes' skills?
 - b. Can you expand on these life skills you aim to develop?
4. What are the top five-character traits you look for your athletes to have or that you aim to develop and briefly describe each answer?
 - a. How do you aim to specifically coach these traits?
 - b. Do you feel these traits assist athletes when facing a setback, or are there different characteristics they need to have?
5. Commitment How do you mold recruits and newcomers to buy into your culture?
 - a. When an athlete approaches you and they are not patient with the process; how would you assist them?
 - b. How do you prepare athletes for the long road ahead?
6. Control When athlete approaches you stressed with a personal matter, how do you specifically work with that student and teach composure?
 - a. Do you do anything proactively to teach to that matter

7. Confidence When an athlete approaches you struggling with playing time or in a 'slump' how would you teach them to overcome those obstacles?
 - a. Do you work on the development of overcoming these obstacles prior to the situation happening?
 8. Challenge Do you proactively present adversity in practices, can you expand on this?
 - a. How do you coach athletes through tough practices?
 9. When referring to the concept of mental toughness – how do you see it instilled in your own team and do you do anything proactively to approach that?
 10. Snowball sampling method: would you mind giving me the name and contact info for your most mentally tough athlete in your opinion. Explain the focus group.
- Additional questions or comments?

Appendix B

Questions for Athlete Focus Group

Introductions and Background Information

1. How do you feel your coaches spend time developing you as a player?
 - a. Travis:
2. What types of exercise or drills do you feel your coach uses to make you play through adversity in practice?
3. How do your coaches get newcomers and recruits to buy into their team culture?
 - a. What types of sayings, mantras, slogans, do they use to preach the process?
4. How do your coaches teach composure on and off the field?
 - a. Is this something they do proactively before a situation arises or reactively once a situation has already happened?
5. In what ways do your coaches encourage and motivate you to overcome obstacles in practice?
6. In what ways do you feel your coaches develop mental toughness in your team?
 - a. How much time do they spend on this?

Any other questions or comments you would like to add? Would you be available and willing to do a follow up interview if it were needed?

Appendix C

Consent Form for Coaches and Athletes

Consent Form

You are invited to participate in a study that explores the phenomenon of mental toughness throughout college football. The goal of this study is to evaluate how coaches and players incorporate and build mental toughness in college football. You have been identified as a possible participant in this study because you are 1) a head college football coach, 2) you are an assistant coach who was identified by your head coach, or 3) you are currently a college athlete playing football who was identified by your coaches as being mentally tough.

If you are a coach and decide to participate you will be asked to set up a time with the researcher for a one on one, online or face to face, recorded interview that will take no more than one hour of your time. If you are an athlete and decide to participate you will be asked to be involved in an online meeting with other football athletes from different schools and divisions in a focus group. This focus group will take no more than one hour of your time. No risks are expected from your participation in this study other than the inconvenience of the time spent interviewing with the researcher. The benefit of your participation is for the authors of this study to identify factors that can help further develop the mental toughness of college football athletes and how to build a culture of mental toughness in their program.

Your participation will remain anonymous. Any data collected for the purpose of research will be combined and reported while keeping your identity and information given private.

Your decision whether to participate will not affect your future relationships with Minnesota State University Moorhead. If you decide to participate, you are free to discontinue participation at any time.

Please feel free to ask questions regarding this study. You may contact me if you have any additional questions via email at tarrah.bisch@go.mnstate.edu or call me at 505-263-5217. You may also contact my direct supervisor, Dr. Andrew Burklund at andrewl.burklund@mnstate.edu. Any questions about your rights may be directed to Dr. Lisa Karch, chair of the Institutional Review Board, at 218-477-2699 or by email at irb@mnstate.edu.

You are deciding whether to participate or not. Your signature indicates that you have read the information provided above and have decided to participate. You may withdraw at any time after signing this form should you choose to discontinue participation in this study.

Participant: _____

Date: _____

Signature: _____

If you would like to be contacted at the end of the study with the results, or if you are willing to be contacted in the case of a possible follow up interview, please provide your email below.

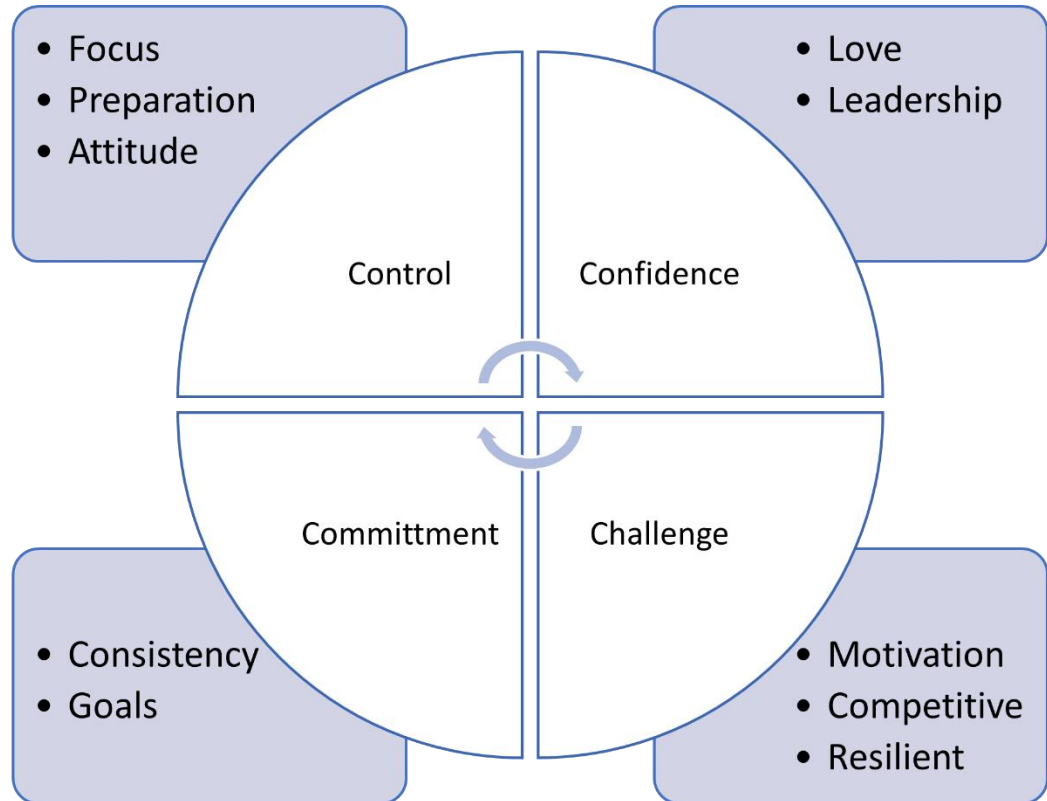
Thank you!

Email: _____

Appendix D

Findings of Coaches' Mental Toughness Characteristics and Where They Fall Under the

Four Cs.



Appendix E

Mental Toughness Questionnaire (Clough et al. 2002)

Please complete all of the following section:

Name:			Age:		
Job Title:			M/F:		
Ethnicity	Black	Bangladeshi	First Language:	Spanish	<input type="checkbox"/>
:	- African	<input type="checkbox"/>	English	German	<input type="checkbox"/>
White	<input type="checkbox"/>	Chinese	French	Other	<input type="checkbox"/>
<input type="checkbox"/>	- Caribbean	<input type="checkbox"/>	Dutch	<input type="checkbox"/>	
Irish	<input type="checkbox"/>	Other			
<input type="checkbox"/>	- Pakistan	<input type="checkbox"/>			
Indian	<input type="checkbox"/>	Refuse to say			
<input type="checkbox"/>		<input type="checkbox"/>			

Please indicate your response to the following items by **circling one** of the numbers, which have the following meaning;

1 = strongly disagree; **2** = disagree; **3** = neither agree nor disagree; **4** = agree; **5** = strongly agree

Please answer these items carefully, **thinking about how you are generally**. Do not spend too much time on any one item.

	◀ Disagree Agree ▶				
I usually find something to motivate me	1	2	3	4	5
I generally feel that I am a worthwhile person	1	2	3	4	5
Challenges usually bring out the best in me	1	2	3	4	5
I don't usually give up under pressure	1	2	3	4	5
I am generally confident in my own abilities	1	2	3	4	5
I usually find myself just going through the motions	1	2	3	4	5
At times I expect things to go wrong	1	2	3	4	5
I generally feel that I am in control of what happens in my life	1	2	3	4	5
I often wish my life was more predictable	1	2	3	4	5
Whenever I try to plan something, unforeseen factors usually seem to wreck it	1	2	3	4	5
I generally look on the bright side of life	1	2	3	4	5
I usually speak my mind when I have something to say	1	2	3	4	5

At times I feel completely useless	1	2	3	4	5
I can generally be relied upon to complete the tasks I am given	1	2	3	4	5
I usually take charge of a situation when I feel it is appropriate	1	2	3	4	5

	« Disagree Agree »				
I generally find it hard to relax	1	2	3	4	5
I am easily distracted from tasks that I am involved with	1	2	3	4	5
I generally cope well with any problems that occur	1	2	3	4	5
I do not usually criticize myself even when things go wrong	1	2	3	4	5
When faced with difficulties I usually give up	1	2	3	4	5
I am generally able to react quickly when something unexpected happens	1	2	3	4	5
Even when under considerable pressure I usually remain calm	1	2	3	4	5
If something can go wrong, it usually will	1	2	3	4	5
I generally hide my emotion from others	1	2	3	4	5

	« Disagree Agree »				
I usually find it difficult to make a mental effort when I am tired	1	2	3	4	5
When I make mistakes I usually let it worry me for days after	1	2	3	4	5
When I am feeling tired I find it difficult to get going	1	2	3	4	5
I feel that what I do tends to make no difference	1	2	3	4	5
I usually find it hard to summon enthusiasm for the tasks I have to do	1	2	3	4	5
If I feel somebody is wrong, I am not afraid to argue with them	1	2	3	4	5
I usually enjoy a challenge	1	2	3	4	5
I can usually control my nervousness	1	2	3	4	5
In discussions, I tend to back-down even when I feel strongly about something	1	2	3	4	5
I can usually adapt myself to challenges that come my way	1	2	3	4	5

Appendix F

Head Coaches Initial Contact Email

Good Morning Coach (Insert Name),

I hope this email find you and your family well. Your name has been given to me as a standout head coach who purposefully develops mental toughness in his athletes and has a reputable college football program.

I am conducting a study through Minnesota State University Moorhead in efforts to complete my Ed.D. dissertation research. The focus of my study is Developing Mental Toughness in College Football Athletes. Your experiences as a head coach put you at the top of my list for coaches that I would like to interview.

If it is possible, would you consider being interviewed and taking part in this study? I expect the interview to take 1-1.5 hours via zoom. I would be happy to send the questions to you ahead of time so you can prepare for the interview if you choose to participate. The interview will be recorded for the purpose of transcription so I can turn it into a written dissertation.

Please let me know if you would be interested in helping me with this task. If available, please send me dates and times that are conducive to your schedule. I can set up a zoom link, send interview questions, and an informed consent in an email. I would truly appreciate your time and help with this study. It is my hope that together, we can advance the phenomenon of mental toughness in college football.

Please feel free to reach out to me if you have any questions or concerns.

Respectfully,

Tarrah Bisch

Appendix G

Assistant Coaches Initial Contact Email

Good Morning Coach (Insert Name),

I hope this email find you and your family well. Your name has been given to me by your head coach, as someone who purposefully implements mental toughness techniques and training into your athletes.

I am conducting a study through Minnesota State University, Moorhead in efforts to complete my Ed.D. dissertation research. The focus of my study is Developing Mental Toughness in College Football Athletes. Your experiences as a college football coach and a recommendation from your head coach put you at the top of my list for coaches I would like to interview.

If it is possible, would you consider being interviewed and taking part in this study? I expect the interview to take 1-1.5 hours via zoom. I would be happy to send the questions to you ahead of time so you can prepare for the interview if you choose to participate. The interview will be recorded for the purpose of transcription so I can turn it into a written dissertation.

Please let me know if you would be interested in helping me with this task. If available, please send me dates and times that are conducive to your schedule. I can set up a zoom link, send interview questions, and an informed consent in an email. I would truly appreciate your time and help with this study. It is my hope that together, we can advance the phenomenon of mental toughness in college football.

Please feel free to reach out to me if you have any questions or concerns.

Respectfully,

Tarrah Bisch

Appendix H

Researcher's Email to Athletes Asking for Participation in Study

Good Afternoon,

My name is Tarrah Bisch and I am working toward a doctorate degree at Minnesota State University Moorhead. I am researching the Development of Mental Toughness in College Football. Your coach has recommended you and a few of your teammates as incredibly mentally tough players on the current roster.

I am looking to do a one-hour focus group (group interview) with you and several other collegiate football athletes from different divisions and programs. The goal is to talk mental toughness and bounce some stories and ideas off each other. I would like to get this accomplished before your report for fall camp.

The date for this focus group will be **Thursday, July 29, 2021 at 2PM CDT; 1PM MDT.**

If you are able to participate, **please let me know ASAP so I can send you a zoom link.** If you do not wish to participate, please let me know and I will be happy to remove you off of this email list so you do not receive this email again.

Feel free to reach out to me if you have any questions.

Thank you for your time.

Respectfully,

Tarrah Bisch

Appendix I

Interview Protocol

The following interview protocol was followed in agreement with Creswell, 2013.

1. Identify the participants
2. Determine the type of interview to use
3. During the interview, video or audiotape questions and responses
4. Take brief notes during the interview
5. Locate a quiet suitable place for the interview
6. Obtain consent from the participant to participate in the study
7. Have a plan, but be flexible
8. Use probes to obtain additional information
9. Be courteous and professional when the interview is over

Appendix J

Data Summary Table Research Question 1

How can coaches develop mental toughness in athletes of a college football program?

Coach/Athlete	Coaching Philosophies	Lead by Example	Practice Drills	Team Culture	Personal Motivators
HC1	X	X	X	X	X
AC1	X	X	X	X	X
ATH1			X	X	
HC2	X	X	X	X	X
AC2	X	X	X	X	X
ATH2			X	X	X
HC3		X	X	X	X
AC3	X	X	X	X	X
ATH3a			X	X	X
ATH3b			X	X	
HC4	X	X	X	X	X
AC4	X	X	X	X	X
ATH4			X	X	X
HC5	X	X	X	X	X
AC5	X	X	X	X	X

Note. The far-left column represents athletes and coaches with their respective responses. It

should be noted that coaches' responses that are classified in above themes might be a

representation of their classification of codes.

Appendix K

Data Summary Table for Research Question 2

Click or tap here to enter text.

Are there differences between athletes' perceptions of mental toughness and coaches' perceptions of mental toughness?

Coach/Athlete	Physical Conditioning	Practice Situations	Motivation from Coaches	Player Coaching
ATH1	X	X	X	X
ATH2	X	X	X	X
ATH3a	X	X	X	X
ATH3b	X	X	X	X
ATH4	X	X	X	X

Note. The far-left column represents the athlete focus group responses that were classified into four themes.

Appendix L

Data Summary Table for Research Question 3

Click or tap here to enter text.

How do coaches define mental toughness and is it similar to views of other coaches?

Coach/Athlete	Relentlessness- Cornerstone of Mental Toughness	Internal and External Relentlessness
HC1	X	X
AC1	X	X
ATH1		X
HC2	X	X
AC2	X	X
ATH2		
HC3	X	X
AC3	X	X
ATH3a		
ATH3b		
HC4	X	X
AC4	X	X
ATH4		X
HC5	X	X
AC5	X	X

Appendix M

Data Summary Table for Research Question 4

Click or tap here to enter text.

How do coaches incorporate the four Cs into their mental toughness regimen?

Coach/Athlete	Control	Commitment	Confidence	Challenge
HC1	X	X	X	X
AC1	X	X	X	X
ATH1	X	X		X
HC2	X	X	X	X
AC2	X	X	X	X
ATH2	X	X		X
HC3	X	X	X	X
AC3	X	X	X	X
ATH3a	X	X		X
ATH3b	X	X		X
HC4	X	X	X	X
AC4	X	X	X	X
ATH4	X	X		X
HC5	X	X	X	X
AC5	X	X	X	X