

Running head: ATHLETES' AND COACHES' VIEWS ON MENTAL TOUGHNESS

Keys to Athletic Success:

A Study of Student-athletes' and Coaches' Views on Mental Toughness

A Thesis

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By

Andrea J. Hoover

Marietta College

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Masters Examination Committee:

Dr. William Bauer, Advisor

Approved by

Advisor

Department of Education

ABSTRACT

Athletes and coaches around the world strive daily for success in sport. There is a never-ending search for knowledge about what gives athletes and teams that certain edge to overcome the competition and reach their full potential. Mental toughness is often included in discussions related to traits of a successful performer. Some sport professionals believe that the mental part of athletics is the hardest to train. The purpose of this study was to explore athletes' and coaches' views and attitudes about mental toughness. The researcher conducted interviews with coaches and student-athletes from a variety of athletic programs at Marietta College, a NCAA Division III Institution in Southeastern Ohio.

DEDICATION

To my family:

Mom, Dad, Betsy, Katy, Brad, Josh, Emma

and my Grandmothers

Thank you all for your continuous support in everything I do.

To Tom Symons

Thank you for giving me this opportunity and helping me through it.

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CHAPTER 1

INTRODUCTION

The game clock ticks to five seconds. The game-winning play, set up by the coach during the team's final time-out, is in motion. The gymnasium is packed with fans and the echoes of their countdown ring in the players' ears. The shooting guard's feet are set, the ball is passed and the shot goes up. What does that player possess that gives the coach and the team confidence to put the game in that person's hands? What makes that player successful under pressure? Coaches and athletes of all ages and skill levels face situations similar to this one daily. What are the keys to success in sport?

Athletes and coaches continuously search for knowledge that is going to give them a competitive edge and make them successful. Frequently, leaders in their field are studied. Who is the best of the best and what are their secrets? Basketball coaches may study Duke University's head coach Mike Krzyzewski to find his keys to success. Young athletes may look to Michael Jordan to seek out what made him reach his potential and climb to the top of the basketball world. Researchers usually find that many factors contribute to athletic success. Of course, physical fitness and athletic ability are obvious parts of that list, but another characteristic that frequently surfaces when these top notch athletes and programs are studied is mental toughness (Ness, 1997). Presently, researchers in the sports' field are looking into this concept of mental toughness and various ways it can be taught.

Sports psychologists, along with coaches and athletes, continue to search for answers to these questions. The mental part of sport is investigated by participants and coaches much more than in the past, and sports psychology is becoming more prevalent in today's society (Plessinger, 2005). Many articles have been written and theories created about the attributes that go into mental toughness; however, most of these are based on personal experience. Quality research on this critical key to success is lacking and a true definition is hard to find.

This study explored the central phenomena – what is mental toughness and can it be developed? The researcher interviewed coaches and student-athletes from Marietta College, a NCAA Division III Institution in Southeastern Ohio. The Marietta athletic teams participate in the Ohio Athletic Conference (OAC). The OAC is a strong Division III conference with teams representing a variety of sports frequently ranked among the nation's top 25. Marietta's athletic programs have experienced varied levels of success in the OAC ranging from winning conference titles to finishing last place. Through the research process of interviewing subjects and coding the data, the researcher distinguished themes in four different topics concerning mental toughness. The topics included:

1. The definition of mental toughness,
2. Characteristics of a mentally tough performer,
3. The ability to develop mental toughness, and
4. Factors in and strategies for the development of mental toughness.

The premise of this study was to provide insight into the views of athletes and coaches on mental toughness as a key to athletic success.

Statement of the Problem

The absence of mental toughness is often highlighted as a top reason why athletes and teams do not reach their full potential and the highest possible level of success. Athletes frequently struggle with the mental aspect of sport and many coaches question how to teach and enhance this skill. This researcher is intrigued by this mental factor in athletic success and discovered little quality research completed in the United States on the views of athletes and coaches regarding this characteristic.

Purpose and Research Questions

Mental toughness is considered by many professionals in the sports' field a critical element to athletic success. The purpose of this study was to explore the views of athletes and coaches regarding mental toughness. By interviewing both male and female athletes and coaches from a variety of sports at Marietta College, the researcher examined how mental toughness is defined by athletes and coaches, what characteristics are associated with being a mentally tough performer, if mental toughness can be taught or enhanced in athletes, and how mental toughness is developed in athletes. The researcher believed a study would be helpful to coaches and athletes striving to reach their potential and be competitive in their sports.

Central Phenomena

What is mental toughness and can it be developed?

Limitations of the Study

This study was strictly a qualitative study. This researcher explored the views of athletes and coaches regarding mental toughness. This study's sample was limited to NCAA Division III athletes and coaches from one institution in Southeastern Ohio,

which will not allow the researcher to make generalizations about the views and attitudes of the entire population of collegiate athletes and coaches across the United States.

Another limitation of this study was the time commitment needed to collect data. The researcher scheduled interviews around class, practice and competition schedules, and the selection of subjects was limited to those athletes and coaches who were willing to volunteer their time. Also, the Marietta College athletic programs are not highly diverse. Researchers may find different results in a more diverse population of athletes and coaches.

CHAPTER 2

REVIEW OF LITERATURE

In the world of soccer, the name Mia Hamm needs no introduction. The list of this elite performer's accomplishments includes: four-time member of the NCAA champion University of North Carolina soccer team, youngest woman ever to play with the United States National Team at the age of 15, member of the gold medal winning United States National Team at the 1996 Olympic Games, first-ever three-time United States Soccer Athlete-of-the-Year, and generally considered the best all-around woman soccer player in the world (Womens Soccer World Online). As with many athletes, Hamm has had a career full of positive moments, disappointing mistakes and nagging injuries. At the 1995 World Cup in Sweden, when starting goalkeeper Briana Scurry was ejected from the game, Hamm had to step out of her comfort zone and normal position on the field and into her teammate's key position. During the 1996 Olympic Games, Mia Hamm sprained her ankle against Sweden in the opening round of the games. She fought through the injury and led her team to victories over Norway and China to claim the Gold. What helped this elite performer reach her peak potential? What gave her the edge to overcome adversity and the stress of competing to rise above the rest of her opponents? Mia Hamm possesses many valuable characteristics that led to her athletic success, but she states, "The most important attribute a player must have is mental toughness" (Mack and Casstevens, 2001, p. 24).

Mental toughness - athletes, coaches and sport psychologists all use this term to identify a concept that will definitively lead to success in sport. Time and time again, it is said that mental toughness will give competitors “the edge” to overcome their opponents. However, with deeper investigation into this concept a sense of confusion is revealed. Graham Jones (2002), a researcher in the sport psychology field states, “Mental toughness is probably one of the most used but least understood terms used in applied sport psychology” (p. 205).

Then, how exactly is mental toughness defined? What are the characteristics that define a mentally tough athlete? Finally, can this concept be developed in athletes and how does that development happen? Unfortunately, few quality scientific studies have been conducted in this area of sport; therefore, the literature on this topic lacks clear and consistent answers to these questions.

Many different people have defined mental toughness in numerous ways. Thomas Kurz (2004), a writer for Stadion News, a training newsletter for elite athletes, defines it as, “Control of emotions and behavior, quality of concentration, and endurance to stress” (p. 3). Jenny Brenden, a member of Penn State University’s Women’s Basketball team, states “Mental toughness is not being affected by anything but what’s going on in the game or competition no matter what coaches, other players, or referees are doing. It’s being able to block out what’s not important” (in Yukelson, 2005, p. 1).

Although this list of printed definitions from people involved in sport continues to grow and encompass more and more, the most accepted definition, to date, comes from one of the few quality scientific studies conducted regarding mental toughness. The ideas of some of the world’s top performers were combined in a study by Graham Jones and

his partners, Sheldon Hanton and Declan Connaughton (2002), to create this definition, “Mental toughness is having the natural or developed psychological edge that enables you to:

- i). generally cope better than your opponents with the many demands that sport places on the performer, and
- ii). specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure,” (p. 209).

Minimal additional studies have been completed to support the above definition which creates a deficiency in current quality research. This adds to the difficulty in constructing a consistent definition of mental toughness, which makes it challenging for sport practitioners to fully grasp this important concept of success in sport.

The second question that surfaces in the enigma of mental toughness is what are the characteristics of a mentally tough performer? The literature discussing this question includes a wide range of answers from numerous sources. Some attributes of a mentally tough athlete listed in the existing literature include: total self-belief, confidence, focus, control, self-imaging, discipline, motivation and composure (Arnold, 2004; Clough and Earle, 2002; Poczwadowski, 1998). The Jones (2002) study resulted in a list of 12 attributes.

1. Having an unshakable self-belief in your ability to achieve your competition goals.
2. Bouncing back from performance set-backs as a result of increased determination to succeed.

3. Having an unshakable self-belief that you possess unique qualities and abilities that make you better than your opponents.
4. Having an insatiable desire and internalized motives to succeed.
5. Remaining fully focused on the task at hand in the face of competition-specific distractions.
6. Regaining psychological control following unexpected, uncontrollable events.
7. Pushing back the boundaries of physical and emotional pain, while still maintaining technique and effort under distress in training and competition.
8. Accepting that competition anxiety is inevitable and knowing that you can cope with it.
9. Not being adversely affected by others' good and bad performances.
10. Thriving on the pressure of competition.
11. Remaining fully-focused in the face of personal life distractions.
12. Switching a sport focus on and off as required.

Many other positive psychological qualities have been linked in literature to mental toughness again making it difficult to concretely define this concept and the attributes that accompany it.

Two more questions arise when this concept is further investigated. Can mental toughness be developed, and if so, how is mental toughness developed? There is limited literature addressing this challenge, and what is available is not backed with scientific support. The few theories on developing this ill-defined concept, once again, are not

consistent or concrete. Despite the many inconsistencies and lack of research, there does appear to be some agreement by sport professionals on the development of mental toughness. Most simply, it seems accepted that this concept can be developed in athletes and is not solely an innate attribute. Also, three practices remain consistent in the existing development theories. These practices include the use of visualization, the use of positive self-talk, and the creation of pressure situations in practice (Gamarra and Matheny, 2003; Pfitzinger, 2002). These methods appear in most of the literature regarding the development of mental toughness.

The absence of clarity and definitiveness surrounding mental toughness is unfortunate since it is continuously recognized by athletes, coaches and sport psychologists as one of the most important characteristics in achieving athletic excellence. An overall lack of quality scientific research may be a large contributor to this problem.

The purpose of this study was to explore athletes' and coaches' views on the concept of mental toughness. Using a qualitative research design, the researcher attempted to expand the current scientific-based literature available and address the gap in knowledge of the development of mental toughness. Both athletes and coaches were interviewed, and their contributions were analyzed and presented in order to further enhance the understanding of mental toughness.

CHAPTER 3

METHOD

This qualitative study used a grounded theory research design. According to Creswell (2005), grounded theory designs are systematic, qualitative procedures that researchers use to generate a theory that explains, at a broad conceptual level, a process, action, or interaction about a substantive topic. Mental toughness is a concept that often lacks clarity and consensus in definition and understanding among participants in the world of sport. This researcher explored the views of student-athletes and coaches regarding mental toughness and used the data collected in order to generate a clear picture of:

5. The definition of mental toughness,
6. Characteristics of a mentally tough performer,
7. The ability to develop mental toughness, and
8. Factors in and strategies for the development of mental toughness.

Participants

In this qualitative study, purposeful sampling was used to select participants in order to guarantee a quality sample. Purposeful sampling was used additionally because the researcher had access to the population studied. More specifically by selecting student-athletes and coaches, theory or concept sampling was used. These subjects were chosen to help the researcher generate specific themes relating to the four topics regarding mental toughness listed above. Maximal variation sampling was also used in

order to present multiple perspectives on the topic from both student-athletes and coaches.

The sample was selected from the athletics department at Marietta College, a NCAA Division III Institution in Southeastern Ohio. Marietta College is one of ten teams which compete in the Ohio Athletic Conference. The participants included six male athletes, seven female student-athletes and eight coaches from a variety of sports. The sports represented were men's and women's soccer, volleyball, football, cross country, men's and women's basketball, track and field, baseball, and softball.

Access to this site and sample was convenient because the researcher is an employee of this institution. Permission to use Marietta College for sample selection was requested from the Marietta College Human Subjects Review Board and Deborah Lazorik, the Director of Athletics, Recreation, and Physical Education.

Procedure

The researcher used one-on-one interviews for data collection. Prior to the start of each interview, the researcher and participants discussed the purpose of the study, the process of analyzing the data and how the findings would be reported. Each subject was also given a number in order to protect anonymity throughout the research process.

During the interview, participants were asked questions regarding the definition of mental toughness, characteristics of a mentally tough performer, the ability to develop mental toughness and factors in and strategies for the development of mental toughness (see Appendix A for a complete list of questions). Each one-on-one interview session was audio-taped and the researcher took notes.

After the interview, the researcher transcribed the notes and saved them in a computer data file to prepare for data analysis. The data was then printed, and the researcher did the data analysis manually. The researcher coded the data and searched for emerging themes relating to the central phenomena; what is mental toughness and can it be developed?

CHAPTER 4

RESULTS

The results of the study attempt to provide clarity on the central phenomena what is mental toughness and can it be developed? The subjects were asked questions which elicited the athletes' and coaches' views on four topics concerning mental toughness; the topics included:

- 1. The definition of mental toughness,**
- 2. Characteristics of a mentally tough performer,**
- 3. The ability to develop mental toughness, and**
- 4. Factors in and strategies for the development of mental toughness.**

From the interviews, several themes emerged for each topic.

1. The definition of mental toughness

The definitions that emerged from the research were:

Mental toughness is the ability to:

- *Focus on a goal,*
- *Perform at a consistent, highly competitive level,*
- *React and make the play in a pressure situation, and*
- *Maintain composure through adversity.*

Comments from the subjects supporting each area of this definition appear below:

Focus on a goal:

- “[Mental toughness is] the ability to set your mind to a certain goal and being able to do whatever it takes to reach that goal, surpassing mental and physical challenges just by deciding in your head that you are going to do it.”
- “[Mental toughness is] being able to focus on your goal and weed that other stuff out.”
- “To me mental toughness means that there are no mental lapses, no blocks in the head to where you are not focused on what your goals are. No matter what happens, you know what your goal is, and you are going to get there no matter what.”
- “It [mental toughness] is this single-minded focus on doing what you want to do. Overall, it is maintaining that level of focus and not allowing the distractions.”
- “Mental toughness is just being focused on your goal.”
- “Mental toughness is the ability to get a common goal done on a daily basis and being able to do it the right way.”
- “Everybody wants to win, but very few people want to have a will to prepare to win. To me, that’s what mental toughness is, focusing on a goal and preparing to meet that goal.”

Perform at a consistent, highly competitive level:

- “[Mental toughness is] how well you can sustain a high level of competition.”
- “Mental toughness, to me, is the ability to sustain a high level of athleticism, a high level of capability, no matter what the situation is. All you want out of your athletes is consistency, to perform consistently near or at their best.”
- “[Mental toughness is] the ability to be consistent in how you respond all the time. It is how you are in practice; it’s how you are on game day; it’s a place that allows you to perform consistently well.”
- “I think the underlying important variable [in mental toughness] is the individual’s ability to be in that place mentally where they are able to consistently perform at or very near their optimal state.”
- “I would say mental toughness is having a consistent, persistent approach.”
- “[Mental toughness is] having a consistent level of play. Just being consistent most of all.”

- “It [mental toughness] is the ability to sustain a high level of performance.”

React and make the play in a pressure situation:

- “I think it [mental toughness] has a lot to do with how well you react under pressure. It is someone who can handle the pressure of the game without lashing out or choking under pressure. They make the right decisions in high pressure situations.”
- “A mentally tough performer comes through in the clutch. There are some players that you just know at the end of the game, they are going to come through.”
- “The ability to make a play in a pressure situation.”
- “It is how you react to different situations during athletic competition.”
- “Mental toughness is obviously wanting the ball in a critical situation or wanting the at bat. It is the desire to be the guy or the girl to come through for your team.”
- “It is when you are down a touchdown and you need to get a drive, you need to be mentally tough to sit in there when the count is on two, those types of things.”
- “In basketball, it’s always the guy who wants to be on the floor at crunch time in a game.”
- “I’d say, on a baseball field, if you are mentally tough you are able to treat every play exactly the same. So, no matter what the situation, if it’s a pressure situation, down a run, runners in scoring position, last inning, two outs, you are at the plate, just the ability to think – I want to get this runner in. I think that’s the biggest part of it, no matter what pressure situation you are in, everything is treated the same.”

Maintain composure through adversity:

- “I think mental toughness is the ability to rise above the rest when things are going bad.”
- “One of my role models would actually be my dad. He always played sports but he’s so mentally tough because he tore his ACL and he also had an Achilles tendon tear and he still, at the age of 45, is running 3 or 4 miles every day just to stay in shape and keep in good health. He is in so much pain while he is running. In sports, everybody is going to be in pain. If you look at it that way, if you base it off of pain, everybody feels pain, so the people who can hide it or play through an injury are mentally tough.”

- “I define mental toughness as being able to bring yourself out of a bad game or a bad practice and being able to actually step up and say to yourself, ‘I’m going to do well this game and I have confidence. I’m going to have a good game.’”
- “Even if something wrong happens during a game, in the end mentally tough performers are focused and know exactly what they want to do.”
- “It [mental toughness] is taking all the negatives and all the positives and making them fuel your physical ability. It is no matter what the score is, what inning it is, how long you have been working, weather conditions, it doesn’t matter what, you are out there doing exactly what you know how to do because by the time you have gotten to the point where you are competing, it’s muscle memory and it’s just working through all the other factors.”
- “It [mental toughness] is just working through all the hard stuff. Working through it and knowing that you can do it. Bases loaded, no outs – knowing that you are going to get that next batter.”
- “[Mental toughness is] the ability to handle problems and pressures without panic or surrendering to negative emotions. The ability to rebound from disappointments or disruptions or things that typically don’t go your way. The ability to handle all of those situations without acting or becoming dysfunctional.”
- “Largely, I think it [mental toughness] has to do with being able to recover from mistakes and to maintain your composure regardless of what is going on around you.”
- “Mental toughness is being able to get over messing up on a court or on a field. Getting over making mistakes, being able to move past that and keep playing.”
- “Mental toughness for me personally is being able to keep a pretty even temperament and keel through tough situations. You are playing a little hurt sometimes – you have a bad toe or a bad elbow. It is to be able to struggle through some of that and still perform at a high level. Being able to battle through some adversity at certain points.”
- “[Mental toughness is] when everything is not going your way, you keep your head up.”
- “I define it [mental toughness] as something that you possess when it comes down to when you don’t want to do something anymore, you keep doing it anyway. Facing adversity and responding to that.”
- “[Mental toughness is] being able to perform at your best when your body is not at its best. Being able to find that extra level whenever you are tired or sick.”

- “Mental toughness starts with an understanding of the adversities that you may encounter and the ability to work through any adversity. It is the ability to maintain clarity on the responsibilities or the tasks that are at hand during adverse times.”

2. Characteristics of a mentally tough performer

When asked the question about the characteristics of a mentally tough performer, athletes and coaches identified seven dominant characteristics. The findings are presented below with supporting quotes from the participants.

Confidence:

- “Confident.”
- “Confidence.”
- “I think mental toughness is a lot about confidence.”
- “A certain level of confidence and being confident in your abilities. If you think that there is no way that this person is going to hit my fastball or I’m going to dig this ball out of the ground even if she hits it a thousand miles an hour, that’s what separates a mentally tough person from a person who has a sense of doubt. That’s the biggest thing I think – the moment you think that you are going to be defeated – you will be.”
- “Confidence is definitely one of the biggest ones.”
- “Lack of fear of failure.”

Emotional consistency:

- “You just look in their [mentally tough performers’] eyes and they are fine, nothing bothers them.”
- “If it is someone who is capable of being on base 3 out of 4 times, they [mentally tough performers] are still in that same mental frame if they have gone 0 for 3. They are not caving in to that disappointment of that lack of success. They are not deviating vastly from what they are normally as a result of that frustration or success – either way. If they are 4 for 4 and they are usually 2 for 4, they are not going to such a peak emotionally that they lose their focus.”
- “They [mentally tough performers] never show their frustrations or their emotions. They just kind of play. If they make a shot or miss a shot, they react the same way.”

- “Keeping a pretty even temperament through tough situations.”
- “Body language, [mentally tough performers] don’t slump over, don’t hang their heads. They act like they are having the greatest game no matter what.”
- “I think just physically if you look at someone who is mentally tough during competition, they don’t show any emotion for the most part. If I make an error on the field, I hope that the next play you look out at me and can’t tell that I just made an error. I want to just keep a constant emotional state. You don’t want highs and lows and ups and downs like a roller coaster. You just have to stay calm and keep that intensity through the whole game.”

Discipline:

- “Discipline. [A mentally tough performer] has to have discipline.”
- “The aspect that in college you are busy with classes and other things going on, the people who go over and study game film, put in the extra time, they are mentally tough because their priorities are in line. They divide their time so they do not let down their team.”
- “The [mentally tough] people go over and study game film, put in the extra time.”
- “When you want to do the little detail things every single day to be good. That is a characteristic of a mentally tough performer.”
- “I think kids who can get it done academically and still find time to work two to three hours on their game [are mentally tough]. It’s getting everything done on time, on a timely basis.”
- “Number one, I think the most common characteristic of a mentally tough performer is someone who is disciplined.”

Hard work:

- “Someone who [is mentally tough] works hard and prepares and does the conditioning that they need to do.”
- “I think that someone who has mental toughness works hard on and off the court in everything they do.”
- “[A person who is mentally tough is a] hard worker.”

- “[A person who is mentally tough has] a good work ethic.”
- “Mentally tough performers are the athletes that show up every day, put their butt in a seat and do everything they can to be just a little better than they were yesterday across the board.”
- “They [mentally tough performers] are always working hard.”

Ability to lead:

- “A mentally tough person is someone who has the ability to lead me to the next level.”
- “That’s what basically makes them a leader, just by being mentally tough.”
- “I think that leadership can kind of be tied in with mental toughness because it shows other people on the court your toughness and then confidence.”
- “A person who demonstrates leadership. Somebody who is able to direct others. That is a characteristic of a mentally tough performer.”
- “The mentally tough are usually the leaders on the team. Whether it is a quiet leader or a vocal leader, they are normally the people that the underclassmen or less experienced people will look up to or talk to if they have got any kind of problem.”
- “There are leaders and there are followers and generally the leaders are more mentally tough.”
- “[A mentally tough performer is] someone who takes on the leadership role.”

Focus:

- “They [mentally tough performers] are focused; it [mental toughness] is focus no matter what happens.”
- “[A characteristic of a mentally tough performer is] focus.”
- “They [mentally tough performers] are locked in and focused on their task. They are not concerned with what is going on around them.”
- “You [a mentally tough performer] can’t be all over the map with 25 things that you are working on all at one time. You have to have two or three set goals that you are moving forward toward all the time.”

- “[A mentally tough performer is] someone who is focused. Someone who has an understanding of the stimuli they are going to attend to and is able to attend to those stimuli without being distracted.”

Strength/Toughness:

- “[One characteristic of a mentally tough performer has] something to do with strength.”
- “Strength – not only mentally do you have to be strong, but physically. I think there is a certain level of strength that you need to acquire to be able to control your mind, because if you feel you are inferior to your opponent, then mentally you are not going to be as strong.”
- “Strength.”
- “I think physically you have to be kind of tough. I think you need to be able to put up with some pain and some ribbing from other people and still stay focused on what you want to do. I think that you have to be strong enough to stand up when you think something is right.”
- “[A mentally tough performer is] someone that isn’t going to use little bumps and bruises or sickness as an excuse to not practice or play. They’ll keep going until something real serious is wrong with them. An example would be the famous game where Michael Jordan played with the flu and Scottie Pippen had to carry him off the floor for timeouts, but he still went out and played.”

3. The ability to develop mental toughness

The question about whether or not mental toughness can be developed was the topic that included the most disparity among participants’ answers during the research process; however, two primary themes did emerge from the research. Eleven of the 21 subjects believed emphatically that mental toughness can be developed. The majority of those 11 athletes and coaches responded to the question with decisive statements like, “Yes, absolutely.” The remaining participants were hesitant to give such a definite answer. Some of those participants’ responses included:

- “I don’t know if I think it [mental toughness] can be developed, but I know it can be practiced.”

- “I think it [mental toughness] can be elevated, but not by much.”
- “I think it [mental toughness] has got to preexist and it just needs to be tapped.”
- “Up to a certain point it [mental toughness] can be [developed].”
- “Yes and no, the majority of it [mental toughness] is just the type of personality you are, the type of person you are.”

4. Factors in and strategies for the development of mental toughness

Even though there were mixed responses concerning the definitiveness of the ability to develop mental toughness, all participants contributed thoughts and ideas regarding the question of how mental toughness is developed. Two themes emerged from the research on this topic. First, the participants felt that there are certain factors that contribute to an athlete’s mental toughness, and second, there are strategies that can be implemented in athletic settings that can help to develop or enhance mental toughness. The findings are presented below with supporting quotes from the participants.

Factors that contribute to the development of mental toughness:

Experience in athletics:

- “I think that is what has developed me [and my mental toughness] the most over time is just going through all the practice and all the training. I feel like I am so much more confident now in myself. The more and more I work out and do skills and play this sport, every time I think to myself – I feel good today.”
- “I think it [mental toughness] comes with time to where experience plays a role. Starting out, I played as a freshman. I probably wasn’t the most mentally tough person out on the field, but I think now during my junior season that not very many things rattle me as much. I think mental toughness can be developed through experience.”
- “Experience; that is the biggest one [way of developing mental toughness]”
- “It [the development of mental toughness] is nothing that will happen overnight but maybe if you have a freshman who is not incredibly mentally tough, by junior

or senior year, hopefully he or she will have at least progressed and are a little stronger now mentally than when they first came in.”

- “[Mental toughness is developed] through experience – that’s a big part. Through playing and realizing that you are going to make mistakes and you just have to get over it. Off the court too, you are going to go through hard times, but what doesn’t kill you makes you stronger.”
- “[Mental toughness is developed] definitely through experience, especially in certain situations.”
- “I think some of it [mental toughness] is just being put into a situation over and over and over again. You have a freshman out there, he may have as much talent as a junior or senior but they’ve been put in that situation over and over again. They are going to have more confidence and be able to take that pressure away.”
- “[Mental toughness is developed] mostly by experience. I think just by going out and joining a sports team and practicing with them. That’s what it was for me.”

Interacting with experienced teammates/role models:

- “I also think that a team can help you have mental toughness. I think a team can help out if you can’t develop it yourself.”
- “I think mental toughness can be developed through being around experienced players.”
- “One of my former teammates, Matt DeSalvo – he’s been my mentor for my career here. We talk constantly about the level of play and where I need to be mentally and physically.”
- “I think that there are a lot of variables that help support that [the development of mental toughness], the coach, the other athletes that they are around. There are a lot of things that play into it.”
- “We really encourage our more experienced athletes to mentor the younger kids and share their experiences and share those moments where you kind of come to a decision in every practice to keep pushing or to stop.”
- “I think first of all it helps if you have an example. If somebody else on the team is mentally tough and they show that all the time, it is easier to become mentally tough.”

- “I know my freshman year I got thrown right into the Varsity lineup from the beginning and we were a pretty good group. We meshed pretty well so I had a lot of upperclassmen helping me out. I made a mistake and they picked me up.”

Home environment/upbringing:

- “The way you are brought up also has a reflection on how mentally tough you are. I was brought up in a situation with my father who excelled in athletics. He had a certain level of ability where he thought that I should be at all times, so if I wasn’t there, then he would get on me either by yelling at me or making me run or hitting me millions of ground balls.”
- “My dad was a college athlete. He was throwing balls to me in the back yard when I was seven years old. He could see me playing on a college field. He had that hope for me. We had our tough times in the backyard where I didn’t want to practice and he would make me do it right before we went inside. I had to work through that and work to be mentally tough even at 10, 11, and 12 years old.”
- “I think it comes down to the modeling of certain behaviors and setting certain standards and establishing an attitude toward life and toward the world. That is one of those things that happen in the early years. I think parents can teach mental toughness or they can strip away any opportunity the kid has of developing it on their own.”
- “I think without a doubt, as they get older, a lot of the things that have happened throughout their lives have definitely shaped an athlete’s mental toughness.”
- “Also, it depends on the way that you are raised. If you are used to having everything done for you and you don’t have to work hard and you don’t have to do things for yourself, then you just expect things to come to you. But, if you are used to having to do chores, then you are going to be willing to work hard and hard work will make you mentally tough.”
- “In my case, as far as my parents, they always said, ‘Don’t always take the easy way out.’ I think that is part of being mentally tough.”
- “I think [mental toughness can be developed] just by your upbringing. If you stub your toe, how do your parents react? My dad would always say, ‘Get up, you are fine.’”
- “Pampered kids may not be as mentally tough as kids who have been pushed or kids who are from the street.”
- “I think that kids that are made to do chores and work when they are younger generally will be more mentally tough than kids that aren’t.”

Strategies that can develop or enhance mental toughness:***Pushing athletes to their physical limits:***

- “I would say doing drills that push people to their limits and you have to go that one step further [helps to develop mental toughness]. Sometimes we run in between things and we have to come back and do one step further than we did before. We still have to reach that goal every time. You know you are tired but mentally you have to decide that this is a job you have to get done. Some sort of exercise that forces you to do that and lets you know, once you do it a couple of times, you realize it doesn’t matter how tired I am, I can do this if I put my mind to it.”
- “Sometimes, especially with girls, you take them out running and they are just going to cry about it anyway because it is running. But, if you really take them over that next edge, where you think you are just going to puke, and then they do it and they think – dang, I can handle it; give me more. Give me more!”
- “Push them [athletes] to a point where they are going to break and either they overcome it or it beats them.”
- “I think pushing kids to the limit sometimes is important to develop mental toughness. You push them to their physical limits and find out where they are at. Sooner or later, physically they are shot, but mentally, can they overcome what is happening to their bodies and what is going on?”
- “[Mental toughness is developed] through a disciplined regimen, through a well thought out workout program that develops the characteristics required to be able to sustain concentration and pushes athletes to their limits.”

Pressure situations in practice:

- “You can train someone to be even more mentally tough just by the situations you put in practice. For example, if you are on a volleyball court, you are down by one point, if you don’t react in this situation, you guys are running. Putting all that pressure on the athletes, if they don’t make that one play, they are done.”
- “I think one thing that is key is we do drills in front of the whole team, so it is almost like a game situation. You have your fans. You have your sidelines. It just raises the intensity of the drill. Everybody is watching so you have your pride on the line.”
- “I think it is tough to simulate a game-like stressful situation, but it can be done to an extent. For example, in football, doing a two minute drill at the end of practice when you are tired, you are physically exhausted, and you might not be there mentally the whole time. That two minute drill for conditioning, having that

punishment at the end, makes you think – I have to step it up for the next two minutes of practice to make sure the defense doesn't have to run. I think those kinds of situations help."

- "Put athletes in pressure situations. Put them in the situations where they need to be a play-maker, where you need that person to make the play."
- "I think you can drill situations in practice, get them in some adverse situations in practice where it is fourth and one on the two-yard line and you need a first down on the one-yard line. You are going to go on two here. They have to just sit in there. You can give them situations where they are down six points and they need a touchdown in a two-minute drive. Same with your defense, you are in a two-minute drive, you are only up two points, and you need a stop here. Now, they have a two-minute drive and they have three full time outs and they only have sixty yards to go. Are you going to stand up and stop them when you're tired in the fourth quarter?"
- "[It helped to develop my mental toughness when] coaches put me in certain situations where I had to face adversity and deal with it in order to succeed."

Conditioning:

- "I think a lot of mental toughness, at least this is how I have gotten mentally tough, is conditioning. When they run my butt into the ground and I think I'm going to die and if you push me that one step further it helps me become even more mentally tough."
- "I think the number one [way of developing mental toughness] would be conditioning."
- "I think tough physical conditioning [develops mental toughness]."
- "I think general physical conditioning can do some mental toughness preparation too. We do it in the weight room. They are doing sit ups and they're tired. They're doing push ups and they have lifted all day and you say it is only as tough as you are making it right now. Get through it."
- "I think working in the weight room without a doubt is the best way to develop mental toughness."

Coaches talk about it and expect it from athletes:

- “I think a lot of it now is that people expect me to be able to do my job and be able to put the ball down. Then I just assume that role and feel like that is my role and that is what I need to do.”
- “I think it is when the coaches really go out of the way to say, ‘You need to perform; you have to do this.’ It’s not like if you don’t do that, that’s okay. When they really pull it out of you; they are trying to pull that last bit out of any athlete.”
- “I think something that helps me personally [develop mental toughness] is when my coaches pull me aside and we have a little talk and they say, ‘You know what, you may not be having the best practice but you need to pick yourself up not only for you but for your teammates.’ I think little things like that, when coaches notice that you might not be having the best day and they pull us off and tell us to let it go and move on. It helps me personally when coaches talk about mental toughness.”
- “Instead of just the trials during the season, I talk with my athletes every once in a while – you need to be stronger, you need to focus more mentally on what you are going to be doing.”
- “We [coaches] talked to our kids this year a lot about their posture, their body language, and always presenting a composed look because that will go a long way in helping an individual overcome adversity. I think the more the coaching staff can put it [mental toughness] out there and reinforce it, the better. You can do it in practice every day. First of all, you’ve got to talk about it and explain to them what it is, what the desirable behaviors are and then when the undesirable ones present themselves, you just coach through them in practice.”
- “Some of it is just straight up talking. We talk about mental toughness. We talk about how you should want to make it hurt. It’s good that it hurts.”
- “I think it [mental toughness] can be emphasized through the coaching staff.”
- “Coaches can get on their athletes’ cases a little bit about not performing well when adversity happens. Let them know they need to work on their mental toughness.”

Reading literature/gaining awareness:

- “I have read this book, *The Mental Game of Baseball*, probably 16 or 17 times, but there is one chapter in there called the winning attitude and it gives you 12 steps to become a winner. In athletics, what everyone wants to do is win, so the only part of that book I think is important is that chapter.”

- “Players themselves can really do a lot just by reading the available material that is out there and applying it.”
- “Largely it is creating awareness and an understanding that in fact you can control your mental state and then taking the responsibility to do that.”
- “I read a book on mental toughness and took a step back and evaluated myself. I’ve seen a huge difference between last year and this year with my attitude. My level of play has gone up immensely.”
- “I read the book, *Mind Gym*, by Gary Mack and that piece deals a lot with visualization and working your mind in sport, not just your body.”

Repetition of skills in practice:

- “I think the more I practice it and the more I know I can do my job, it’s easier at the time [in competition] to do it; I don’t have to think about it as hard.”
- “I think it [mental toughness] is just kind of taught through practice. If you have good coaches growing up, they are going to teach you that working hard and perfect practice makes perfect. It’s not just practice, not just going through the motions. It is making sure that you get every play right, every time, and if you don’t, knowing why you messed up.”
- “[Mental toughness is developed] in practice and repetitions – the more you do something, the more you believe in it. If you practice diligently, then when the situation occurs, that’s what you have practiced all of your life for and now it is time to go.”
- “I think it [mental toughness] comes from being put in a situation over and over and over; it just becomes second nature. If you take 300 ground balls a day, every one in games is treated exactly the same as every one in practice.”
- “I think some of it [mental toughness] is just being put into a situation over and over and over again.”

CHAPTER 5

DISCUSSION

Mental toughness is a term frequently used in discussions regarding keys to athletic success. Unfortunately, the whole concept of mental toughness is at times viewed as an enigma. This study attempted to bring some clarity to this concept which seems to be so important in giving athletes the competitive edge. The research questions addressed in this study included:

- 1. What is the definition of mental toughness,**
- 2. What are the characteristics of a mentally tough performer,**
- 3. Can mental toughness be developed in athletes, and**
- 4. How is mental toughness developed in athletes?**

The discussion of this study's findings is presented in sections addressing each one of the research questions stated above, along with suggestions for future research.

1. The definition of mental toughness

The definitions that emerged from the research was:

Mental toughness is the ability to:

- *Focus on a goal,*
- *Perform at a consistent, highly competitive level,*
- *React and make the play in a pressure situation, and*
- *Maintain composure through adversity.*

The subjects felt it was important that the four aspects of this definition encompass being mentally tough in both competition and everyday training environments. The continuous focus on the goals of an individual athlete and a team is something that must be present during both training and competition, along with performing at a consistent, highly competitive level and maintaining composure through adversity. Adversarial conditions were defined by the coaches and athletes as pain or injury, poor playing conditions and poor performance. The remaining part of the definition, reacting and making the play in a pressure situation, in most cases lends itself to the competition environment.

This definition is comparable to the definition that emerged from the Jones (2002) study using some of the world's most elite athletes. That study elicited this definition from participants, "Mental toughness is having the natural or developed psychological edge that enables you to:

- i). generally cope better than your opponents with the many demands that sport places on the performer, and
- ii). specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure" (p. 209).

Although stated differently, the similarity in the definitions conveys the idea that those involved in athletics, regardless of the level, seem to have similar views on the definition of mental toughness. With more research it appears that a concrete definition of this concept could be agreed upon.

2. Characteristics of a mentally tough performer

Seven characteristics of a mentally tough performer emerged from the subjects' interviews with the researcher. The characteristics included confidence, emotional consistency, discipline, hard work, focus, strength/toughness and the ability to lead.

Confidence was the characteristic cited most by subjects when asked to identify the characteristics of a mentally tough performer. Many of the athletes pointed out that having that certainty in their ability to compete and make the big play is probably the most important part of being mentally tough. Some athletes also said that it helps when they know that their coach has confidence in them and their ability. Coaches cited that their most mentally tough athletes are those who exude confidence and do not fear failure in all parts of their lives, not just athletics.

Emotional consistency was another characteristic of a mentally tough performer that emerged from the research. Most subjects linked this characteristic with the overall appearance of a performer during training and competition and their reactions to different outcomes in these settings. Both coaches and athletes pointed out the fact that individuals' personalities differ and athletes may act differently on the field; however, their typical actions remain consistent throughout training and competition regardless of their performance or other conditions that may occur.

Discipline and hard work were two more characteristics cited in reaction to this research question. Athletes at all levels try to find a balance among their many responsibilities and at times feel overwhelmed. Subjects felt that those athletes who maintain that balance and find ways of putting in extra time to work on their game and their athletic goals are disciplined, and discipline is an important characteristic of

mentally tough performers. Hard work seemed to go hand in hand with discipline.

Participants believed that those who are disciplined also tend to work hard in all they do.

Another characteristic that emerged from the research was focus. Subjects agreed that the ability to concentrate on a task or a goal and block out other factors is an important part of being a mentally tough performer. There are many distractions that can occur in the athletic environment and those athletes who can block them out and focus on the task at hand are going to have a better opportunity to experience success.

Strength or toughness was another characteristic of a mentally tough performer that appeared in the results of this study. The ability to work through pain and other adversity and exhibit a tough exterior seemed to play an important part in the participants' views of the ideal mentally tough performer. Some subjects expressed the belief that being strong physically is going to help an athlete feel more confident in their ability to beat their opponent.

The last characteristic cited in the findings was the ability to lead. Participants pointed out that the mentally tough performers seem to emerge as the leaders of the team. The athletes that possess the above characteristics and the athletic ability to make an impact in the competitive environment seem to stand out. They have the ability to set the example and lead their teammates to that next level.

One point that is important to make concerning this part of the research is that these characteristics are not independent of each other. A mentally tough performer will not possess only a few of these characteristics; the more of these characteristics possessed by an athlete, the more mentally tough that person is likely to be.

These characteristics are similar to those cited in previous literature on this topic. The Jones (2002) study identified more specific attributes; however, then broke them into more general categories with which the findings of this study fall in line. Once again, there are parallel findings in these two studies even though the level of athletic competition is significantly different, showing a consistency in the views of athletes and coaches.

3. The ability to develop mental toughness

Two themes emerged from this research question. The first was the emphatic response that yes, mental toughness can be developed. These subjects believed strongly that there are strategies which athletes and coaches can use to develop this concept at any time in an athlete's career.

The second theme that appeared in the findings was that mental toughness must preexist, and only if it does, then can it be enhanced. These participants were hesitant to state that mental toughness can be built from nothing; they believed that there had to be some sort of foundation already in place. One possible explanation for this response is the age of the subjects interviewed in this study. The subjects are all above the age of 18 and have already invested many years into their athletic experiences.

Existing literature has supported the first theme discussed above, that mental toughness can be developed; however, there is little research-based evidence supporting this topic. In the Jones (2002) study definition, the words, "Mental toughness is having the natural or developed psychological edge..." support both of the above themes (p. 209). Mental toughness is a concept that may naturally occur in athletes or can also be developed.

4. Factors in and strategies for the development of mental toughness

The research question about how mental toughness is developed in athletes generated responses that can be divided into two categories: 1). Factors that contribute to the development of mental toughness and 2). Strategies that can develop or enhance mental toughness.

The first category, factors that contribute to the development of mental toughness, includes factors that simply occur without the actual intention of developing mental toughness. Responses that fell under this category included experience in athletics, interaction with experienced teammates and role models and a person's home environment or upbringing. Participants felt that these elements in an athlete's life create the foundation for mental toughness.

The second category, strategies that can develop or enhance mental toughness includes actual ways coaches can develop this concept in athletes. Pushing athletes to their physical limits, including pressure situations in practice, conditioning, talking about mental toughness and making it an expectation, having athletes read literature and gain awareness about this concept, and repetition of skills in practice are all responses that emerged from the research. Both athletes and coaches feel that these are important strategies that should be implemented in order to develop or enhance mental toughness.

This study expanded on previous research regarding the development of mental toughness. Previous literature sites three practices that remain consistent in existing development theories. These practices are the use of visualization, the use of positive self-talk and the creation of pressure situations in practice (Gamarra and Matheny, 2003; Pfitzinger, 2002). The strategy of the creation of pressure situations in practice was

supported by this study. The use of visualization and the use of positive self-talk were mentioned by some subjects throughout the research process; however, those strategies were not supported enough by the subjects to emerge as valid findings in this study.

Suggestions for future research

The purpose of this study was to explore the views of athletes and coaches regarding mental toughness and add to existing research on this topic. The findings of this study are similar to existing research on the definition of mental toughness and essential characteristics of mentally tough performers. This research also addressed the gap in knowledge about the development of mental toughness and added to existing literature in this area. Progress has been made in bringing clarity to the concept of mental toughness.

Because of the lack of research on mental toughness and the growing popularity of the overall sport psychology field, more research needs to be done on this topic. Mental toughness is frequently cited as an essential key to athletic success and more scientific research needs to be completed to bring clarity to this important concept. Research that includes athletes, coaches and sport psychologists working at all athletic levels need to be included in future studies, and more focus needs to be put on researching the development of mental toughness in elite athletes. Sport psychologists, coaches and especially athletes will all benefit from future research on this topic.

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INTERVIEW QUESTIONS

1. How do you define mental toughness?
2. What are the characteristics of a mentally tough performer?
3. Can mental toughness be developed in athletes?
4. How is mental toughness developed in athletes?
5. How have you developed or improved your mental toughness?
6. Do you think parents have anything to do with an athlete's mental toughness?

This reviewed application has been: ☐ Approved ☐ Denied Date 1/30/06

HSR member name Gray-Starnes Signature _____

Reason(s) for denial:

Marietta College
Human Subjects Review

Short Review Form

This form must be completed for any research activity that involves human subject participation. Please submit the completed, typed application to the Chair of the Human Subjects Committee.

1. Name of researcher(s): Andrea Hoover
2. Principle investigator's phone number: 376-4410 E-mail: andrea.hoover@marietta.edu
3. Course name and number (if applicable): EDUC 690
4. Instructor's name (if applicable): Dr. William Bauer
5. Title of Project: Keys to Athletic Success: A Study of Student-Athletes' and Coaches' Views on Mental Toughness
6. Semester: Spring 2006 Proposed start date: Feb. 1, 2006 Projected end date: May 5, 2006
7. Does the research involve:

A. Person(s) under 18 years of age?	_____ Yes	__X__ No
B. Prisoner(s) or person(s) awaiting trial?	_____ Yes	__X__ No
C. Institutionalized individual(s)?	_____ Yes	__X__ No
D. Known pregnant woman/women?	_____ Yes	__X__ No
E. Any other person(s) who are vulnerable to risks or are possibly not capable of giving informed consent? (i.e. elderly, individuals with disabilities, etc.)		
	_____ Yes	__X__ No

If you answered 'YES' to any of the above questions, you **MUST** fill out the **Marietta College Human Subjects Review Long Form**.

If you answered 'NO' to all of the above questions, continue with this form.

8. Who will be your subjects? (please, be specific)
Marietta College student-athletes and coaches

9. How will your subjects be recruited?
I will ask certain student-athletes and coaches to participate in my study.
10. Does your study involve any deception (i.e. misleading or false information) of subjects?
_____ Yes X No
If 'YES', describe the nature of this deception and include debriefing procedure(s).
11. Check any of the following that are true. The proposed research involves:
 X Voluntary participation of subjects.
_____ Random selection of subjects.
 X Survey(s) or interview data.
_____ Identification of the subject(s) by name or number codes.
 X The participants be fully informed of the nature of the research project.
_____ Collection or study of existing data, public documents, records, archives or specimens.
_____ Observation and or recording of public behavior.
_____ Educational or scientific tests (i.e. cognitive, diagnostic, aptitude or achievement).
_____ Information that could put the subjects at risk of criminal liability or social prejudice stigma if the information became known.
_____ Information that could affect the subject's financial standing or employability.
_____ Interviews or surveys of only elected or appointed officials or candidates.
12. Briefly describe your project, making sure to include objectives and design, what will be required of subjects, any possible risk(s) to participants and procedure(s) to reduce these risks.
I will be completing a qualitative study on student-athletes' and coaches' views on mental toughness. I will be interviewing participants in one-on-one interviews. My objectives are to find how the participants define mental toughness, what attributes the participants believe mentally tough performers possess and how participants think mental toughness is developed.
13. Additional comments.
14. Attach the following: (if applicable)
A. Informed consent form (in duplicate).
B. Letters of permissions.
C. Tests/surveys/ questionnaires.
D. Additional items relevant to the study.



December 15, 2005

Debbie Lazorik
215 Fifth Street
Marietta, OH 45750

Dear Ms. Lazorik:

I am writing to request permission to use your site, the Marietta College Athletics Department, to select a sample for my upcoming thesis project. I am planning to conduct a qualitative study in which I will explore the views of student-athletes and coaches on the concept of mental toughness. I would like to administer one-on-one interviews with selected student-athletes and coaches from your department. My objectives in this study are to collect data on how the participants define mental toughness, what attributes the participants believe mentally tough performers possess, and how participants think mental toughness is developed.

If you have any additional questions about my study design and the objectives please contact me at 376-4410 or email me at andrea.hoover@marietta.edu. Thank you for your consideration.

Sincerely,

Andrea J. Hoover

Andrea J. Hoover



December 15, 2005

Andrea J. Hoover has my permission to use the Marietta College Athletics Department to select a sample of student-athletes and coaches for her Master's Thesis research. She will be exploring Marietta College student-athletes' and coaches' views on the concept of mental toughness.

Signature

A handwritten signature in black ink that reads "Debbie Lagritz".