

An Examination of Mental Toughness.

WEEK 3

ADVANCED SPORT AND EXERCISE PSYCHOLOGY

Anxiety, Emotion, Confidence, Stress, Motivation...

Are these concepts the most important
psychological components in determining
sporting success?

Question?:

- What if competitive anxiety is not the major influence on athletic performance as sport psychologists previously thought?

AIMS OF TODAY'S LECTURE:

- **Introduction to Mental toughness**
- Critique of Mental Toughness Literature
- Qualitative approach to addressing MT

Jones et al.'s (2002) Findings

Definition

Attributes

- **Research support...**

Jones et al.'s (2007) Framework

- **Conceptual directions**

Comparison with anxiety literature

- Research regarding the relationship between anxiety and performance have consistently failed to predict a significant amount of performance variance (23%) (SWAIN & JONES, 1996).
- EXPLAINING PERFORMANCE: athletes, coaches, commentators do not always talk about anxiety

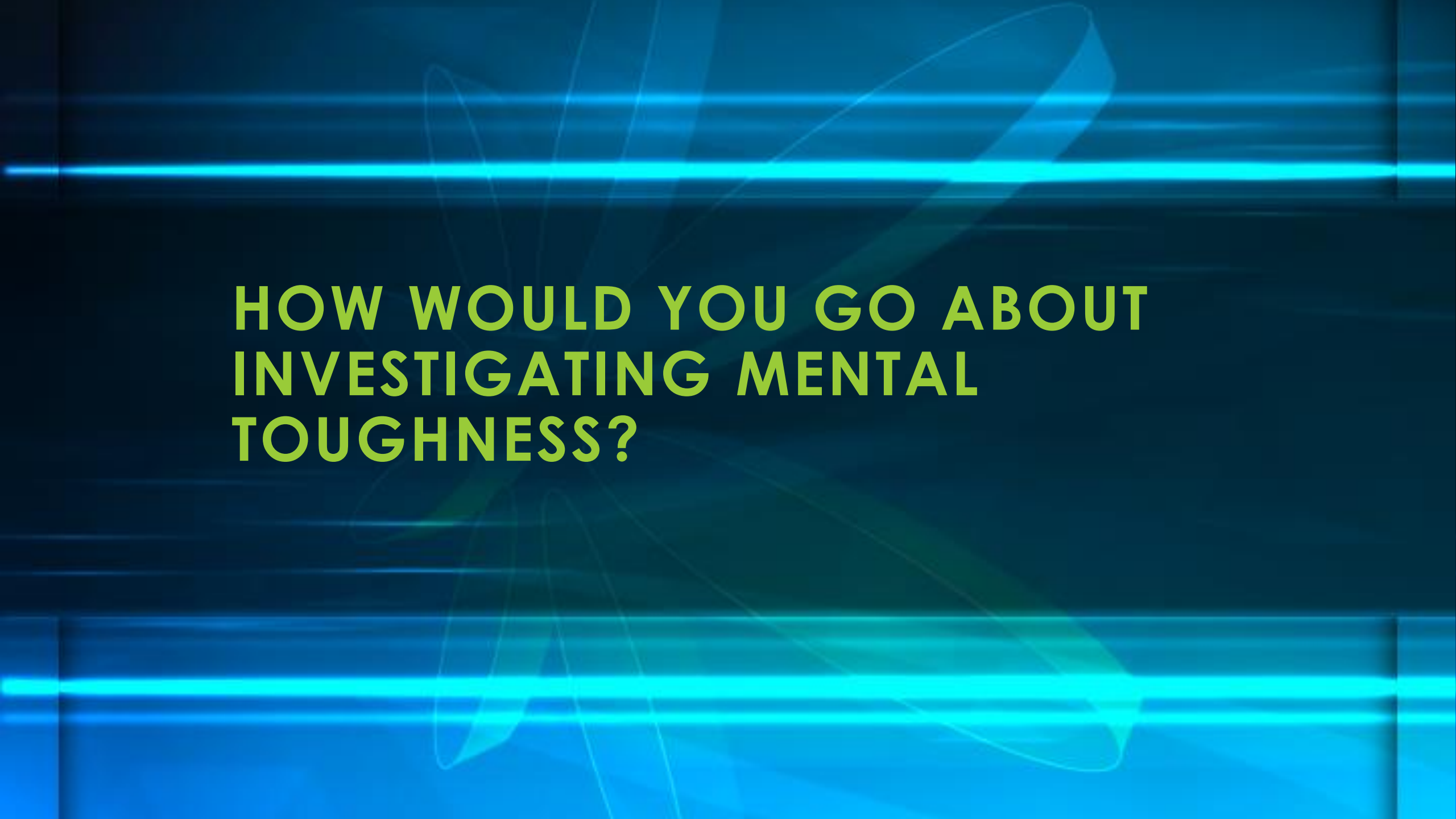
● **Mental Toughness:** frequently used to describe why certain athletes may have become, or are currently, the best in the world in their respective sports.

- Article in USA Today declared that “for all the physical skills the golf gods gave Tiger Woods, the mental toughness he brings to his sport might be just as important in setting him apart” (Blauvelt, 2004, para. 1).
- In contrast, England cricket team captain Michael Vaughan, was quoted in an article as “slamming England’s domestic structure for failing to produce players ‘mentally tough enough’ for international cricket” (“Vaughan hits out,” 2003).

●GOULD ET AL. (1987): 82% OF COACHES RATED MENTAL TOUGHNESS AS THE MOST IMPORTANT PSYCHOLOGICAL ATTRIBUTE FOR SUCCESS.

Interestingly, only 9% of coaches stated that they were successful in developing mental toughness.

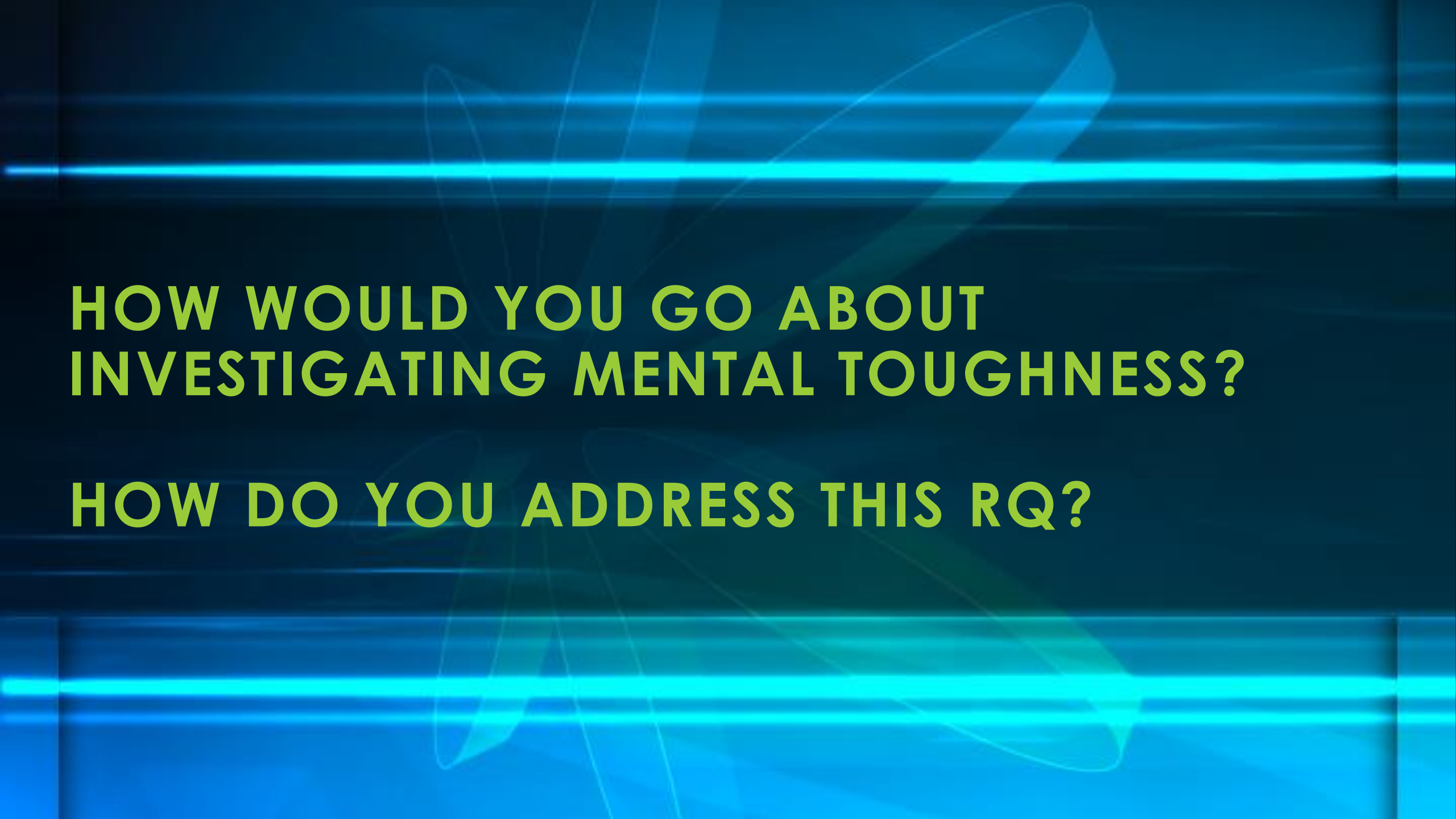
Good rationale for RQ

The background is a deep blue gradient. It features several bright, glowing horizontal lines that span the width of the image. Overlaid on these are faint, translucent, light blue shapes that resemble stylized petals or leaves, arranged in a circular pattern around the center. The overall effect is futuristic and high-tech.

**HOW WOULD YOU GO ABOUT
INVESTIGATING MENTAL
TOUGHNESS?**

● **MENTAL TOUGHNESS LITERATURE DOMINATED BY BOOKS
AND ARTICLES WITH LITTLE OR NO EMPIRICAL SUPPORT.**

**(e.g., Bull et al., 1996; Gibson, 1998; Goldberg, 1998; Loehr, 1982,
1986, 1995).**

The background is a dark blue gradient. It features several bright, glowing horizontal lines that span the width of the image. A faint, stylized, light blue figure, possibly a person in motion or a ribbon, is visible in the background, adding a sense of movement and depth.

**HOW WOULD YOU GO ABOUT
INVESTIGATING MENTAL TOUGHNESS?**

HOW DO YOU ADDRESS THIS RQ?

**SELECT A GROUP OF MENTALLY
TOUGH PERFORMERS AND ASK
THEM ABOUT MT?**

Select a group of mentally
tough performers and ask
them about MT?

**NO definition of MT, NO
measure**

QUALITATIVE INVESTIGATION

- DEVELOP A PROFILE OF THE “IDEAL MENTALLY TOUGH” PERFORMER

QUALITATIVE INVESTIGATION

- PERSONAL CONSTRUCT THEORY (1955) & PERFORMANCE PROFILING (BUTLER & HARDY, 1992)

- DEVELOP A PROFILE OF THE “IDEAL MENTALLY TOUGH” PERFORMER

- FOCUS GROUP & INDIVIDUAL INTERVIEWS

Define Mental Toughness.

Identify its components or attributes.

Methodological Issues:

- HOW DO WE PURPOSEFULLY DECIDE ON OUR SAMPLE?
- WHAT IS OUR PARTICIPANT CRITERIA?
- GENERIC VIEW OF MT

Methodological Issues:

- Purposefully decide on sample
- What are the participant criteria?
- Generic view of MT
- **ALL SKILL GROUPS NEED TO BE INCLUDED IN CRITERIA**
e.g., Male/Female; gross motor/fine motor, etc.

Sport	Male	Gross	Fine	Self	Externally	Winter	Summer	Objective	Subjective
	Female	Motor	Motor	Paced	Paced	Sports	Sports		
Swimming		X	X	X	X		X	X	
Rowing		X	X	X	X		X	X	
Running		X		X			X	X	
Shooting			X	X			X	X	
Rugby					X			X	
Diving			X	X			X		X
Trampolining		X	X	X			X		X
Boxing	X	X	X		X			X	
Snooker	X		X	X				X	
Sailing	X	X	X		X		X	X	
Ice Skating	X	X	X	X		X			X
Golf	X		X	X				X	

Sport	Team	Individual	Closed	Open	Continuous	Discrete	Serial	Contact	Non-Contact
Swimming		X	X		X				X
Rowing	X	X	X		X				X
Running		X	X		X				X
Shooting		X	X			X			X
Rugby	X			X		X		X	
Diving			X			X			X
Trampolining	X	X	X				X		X
Boxing		X		X		X		X	
Snooker		X	X			X			X
Sailing	X			X			X		X
Ice Skating	X		X		X				X
Golf		X	X			X			X

Develop a profile of the “Ideal Mentally Tough” performer

- FOCUS GROUP: TO GENERATE IDEAS AND FIND/REACH AGREEMENT.
- TALK ABOUT

Experiences as an elite performer.

Lifestyle and experiences as an elite performer outside of the performance arena.

Mental Toughness (general, initial thoughts).

- ASK PARTICIPANTS TO COME UP WITH A DEFINITION OF MENTAL TOUGHNESS.
- IDENTIFY ITS COMPONENTS OR ATTRIBUTES.

Mental Toughness Definition:

- **HAVING THE NATURAL OR DEVELOPED PSYCHOLOGICAL EDGE THAT ENABLES YOU TO:**

Generally, cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer.

Specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure.

12 Mental Toughness 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=. Remaining fully-focused on the task at hand in the face of competition-specific distractions.
- 4=. Having an insatiable desire and internalized motives to succeed.
6. Regaining psychological control following unexpected uncontrollable events (competition-specific).
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=. Thriving on the pressure of competition.
- 9=. Not being adversely affected by others' good and bad performances.
11. Remaining fully-focused in the face of personal life distractions.
12. Switching a sport focus on and off as required.

Practical Implications:

- IT IS POSSIBLE TO DEVELOP MENTAL TOUGHNESS?
- AN IMPORTANT OUTCOME DIMENSION TO MENTAL TOUGHNESS

Practical Implications:

- IT IS POSSIBLE TO DEVELOP MENTAL TOUGHNESS?

Definition

- AN IMPORTANT OUTCOME DIMENSION TO MENTAL TOUGHNESS

Definition: better than your opponents

Attributes: Knowing, remaining fully focused and not having the potential.

Future Direction Question: Therefore, Who would have the best knowledge on what MT is?

Thelwell et al., 2005

- **REPLICATED JONES ET AL. (2002) IN SOCCER.**

PART 1: 6 ELITE SOCCER PLAYERS

PART 2: 43 PROFESSIONAL PLAYERS

- **Purpose**
- **(1) to define mental toughness and identify the essential attributes required to be mentally tough with a sample of full-honor international soccer players**
- **(2) to confirm this definition with a wider soccer population (i.e., professional soccer players),**

Thelwell et al., 2005

- DEFINITION (ALWAYS)
- ATTRIBUTES SPECIFICALLY IN SOCCER
 1. Having total self-belief at all times that you will achieve success
 2. Wanting the ball/wanting to be involved at all times
 3. Having the ability to react to situations positively
 4. Having the ability to hang on and be calm under pressure
 5. Knowing what it takes to grind yourself out of trouble
 6. Having the ability to ignore distractions and remain focused
 7. Controlling emotions throughout performance
 8. Having a presence that affects opponents
 9. Having everything outside of the game in control
 10. Enjoying the pressure associated with performance

Critique:

Supported Jones et al.'s definition

Mental toughness, irrespective of sport, can be defined in similar manner.

Attributes were closely linked to Jones et al.'s

Players who demonstrate high levels of self-belief, and an ability to cope with the internal and external pressure of elite level competition, tended to be perceived as mentally tough.

Bull et al. 2005

- MENTAL TOUGHNESS IN CRICKET
- HOW MT CRICKET PLAYERS DEVELOPED THEIR MENTAL TOUGHNESS
- 12 ENGLISH PLAYERS
- FINDINGS:

Again support for Jones et al.'s (2002) findings

OVERALL:

- These 3 studies have contributed to the overall understanding of mental toughness

Empirical research that specifically addressed mental toughness

Established and supported a definition of mental toughness,
Identified its key characteristics in elite level performers.

GREAT START BUT:

Were participants mentally tough?

What about other sources of acquiring knowledge regarding mental toughness?

Research Progression:

- **Outcome component:**

Investigate those who have achieved the ultimate outcome Super-elite participants.

Olympic / World Champion

Coaches

Sport Psychologists

- **Development of framework of Mental Toughness**

- **Can be developed? (Definition)**

How is MT developed?

How can you develop the specific attributes?

Once developed, do you need to maintain MT?

- **Development of measure**

Jones et al. (2007)

Super-elite athletes, coaches, & Sport psychologists.

FINDINGS

- **SUPPORTED DEFINITION**

Both elite and super elite athletes agree on what mental toughness is.

- **SUPER ELITE IDENTIFIED 30 ATTRIBUTES**

Mental Toughness Framework

- 4 Dimensions- 13 SUBCOMPONENTS (30 ATTRIBUTES)
- DIMENSIONS:
 1. Attitude/Mindset (2 Subcomponents with 7 attributes).
 2. Training (3 Subcomponents with 6 attributes).
 3. Competition (6 Subcomponents with 13 attributes).
 4. Post-Competition (2 Subcomponents with 4 attributes).

MENTAL TOUGHNESS



ATTITUDE / MINDSET

Belief	Focus
➤ Having an unshakable self-belief as a result of total awareness of how you got to where you are now.	➤ Refusing to be swayed by short-term gains (financial, performance) that will jeopardize the achievement of long-term goals.
➤ Having an inner arrogance which makes you believe that you can achieve anything you set your mind to.	➤ Ensuring that achievement of your sport's goal is the number one priority in your life.
➤ Having the belief that you can punch through any obstacle people put in your way.	➤ Recognizing the importance of knowing when to switch on & off from your sport.
➤ Believing that your desire or hunger will ultimately result in you fulfilling your potential.	



TRAINING

Using long-Term goals as the source of Motivation	Controlling the Environment	Pushing Yourself to the Limit
➤ When training gets tough (physically & mentally) because things are not going your way, keeping yourself going by reminding yourself of your goals and aspirations and why you're putting yourself through it.	➤ Remaining in control and not controlled.	➤ Loving the bits of training that hurt.
➤ Having the patience, discipline, & self-control with the required training for each specific developmental stage to allow you to reach your full potential.	➤ Using all aspects of a very difficult training environment to your advantage.	➤ Thriving on opportunities to beat other people in training.

COMPETITION

Belief	Staying Focused	Regulating Performance	Handling Pressure	Awareness and Control of Thoughts & Feelings	Controlling the Environment
➤ Total commitment to your performance goal until every possible opportunity of success has passed.	➤ Totally focusing on the job in hand in the face of distraction.	➤ Having a killer instinct to capitalize on the moment when you know you can win.	➤ Loving the pressure of competition.	➤ Being acutely aware of any inappropriate thoughts and feelings, and changing them to help perform optimally.	➤ Using all aspects of a very difficult competition environment to your advantage.
➤ Not being fazed by making mistakes and then coming back from them.	➤ Remaining committed to a self-absorbed focus despite external distractions.	➤ Raising your performance "up a gear" when it matters most.	➤ Adapting to and coping with any change / distraction / threat under pressure.		
	➤ In certain performances, remaining focused on processes and not solely outcomes.		➤ Making the correct decisions and choosing the right options that secure optimal performance under conditions of extreme pressure and ambiguity.		
			➤ Coping with and channeling anxiety in pressure situations.		

POST COMPETITION

Handling Failure	Handling Success
➤ Recognizing and rationalizing failure, and picking out the learning points to take forward.	➤ Knowing when to celebrate success and then stop and focus on the next challenge
➤ Using failure to drive you to further success	➤ Knowing how to rationally handle success.

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FINDINGS

● OUTCOME DIMENSION TO MT

Super-elite athletes appear to have a more comprehensive insight into the make-up of mental toughness.

Inclusion of Coaches & Sport psychologists contributed to a clearer insight in the overall understanding of mental toughness

● THE DEVELOPMENT OF A FRAMEWORK

Easy to understand

Can be disseminated by coaches and performers

Jones et al.'s (2002) Thelwell et al., 2005; Bull et al., 2005

Attributes collapse into this investigation's framework.

Support for accuracy of the definition (General & specific elements).

● **The subcomponents explain what mental skills and strategies performers must master in order to achieve and maintain mental toughness levels.**

● **The findings from this study could form the basis for the development of such a measure, allowing for perceived levels of mental toughness to be assessed.**

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References:

- Bull, S. J., Albinson, J. G., & Shambrook, C. J. (1996). *The mental game plan: Getting psyched for sport*. Eastbourne, UK: Sports Dynamics.
- Bull, S. J., Shambrook, C. J., James, W., & Brooks, J.E. (2005). Towards an understanding of mental toughness in elite English cricketers. *Journal of Applied Sport Psychology*, 17, 209-227.
- Gibson, A. (1998). *Mental toughness*. New York: Vantage Press.
- Goldberg, A. S. (1998). *Sports slump busting: 10 steps to mental toughness and peak performance*. Champaign, IL: Human Kinetics.
- Gould, D., Hodge, K., Peterson, K., & Petlichkoff, L. (1987). Psychological foundations of coaching: similarities and differences among intercollegiate wrestling coaches. *The Sport Psychologist*, 1, 293-308.
- Jones, G., Hanton, S. and Connaughton, D. (2002). What is this thing called 'mental toughness'? An investigation of elite sport performers. *Journal of Applied Sports Psychology*, 14, 211-224.

References:

- Jones, G., Hanton, S. and Connaughton, D. (2007). A framework of mental toughness in the world's best performers. *The Sport Psychologist*, 21, 243-264.
- Loehr, J. E. (1982). *Athletic excellence: Mental toughness training for sports*. New York: Plume.
- Loehr, J.E. (1986). *Mental toughness training for sports: Achieving athletic excellence*. Lexington, MA: Stephen Greene.
- Loehr, J. E. (1995). *The new toughness training for sports*. New York: Plume.
- Thelwell, R., Weston, N., & Greenlees, I. (2005). Defining and understanding mental toughness in soccer. *Journal of Applied Sport Psychology*, 17, 326-332



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Mental Toughness Development

Questions still to be answered:

- Specific wording of attributes is what distinguishes the characteristics of mental toughness from other psychological constructs (Connaughton & Hanton, 2009).

- e.g., Bull et al. (2005) 'Resilient confidence': Confidence alone was not sufficient to ensure mental toughness.

•Are there different forms of mental toughness:

- Pressure mental toughness; Endurance mental toughness; and/or mental toughness in circumstances of extreme physical danger.

- Is mental toughness different in varying circumstances or sports? Or are there broadly applicable features of mental toughness in all sports?

- If so, are these broadly applicable features more or less important in specific sports?

For a review see: Connaughton, D., & Hanton, S. (2009). Mental toughness in sport: Conceptual and practical issues. 13 In S.D. Mellalieu and S. Hanton (Eds.), *Advances in applied sport psychology: A review* (pp. 14 317-346). London: Routledge.

● **INDEPENDENCE, (TOUGH CHARACTER)**

Taking responsibility for professional development as well as performances within matches.

● **NO EXPLANATION OF HOW THIS INDEPENDENCE DEVELOPED MENTAL TOUGHNESS OR WAS DEVELOPED ITSELF, APART FROM BEING SENT AWAY 'ON YOUR OWN WITH NO MUM OR DAD TO LOOK AFTER YOU'**

● **PARENTAL INFLUENCE, (ENVIRONMENTAL INFLUENCE)**

Important influence at various stages in a performer's upbringing.

● **HOWEVER, NO EXPLANATION AS TO WHAT KIND OF INFLUENCE THIS WAS**

● **HOW THIS INFLUENCE IMPACTED ON MENTAL TOUGHNESS DEVELOPMENT**

● **AT WHAT STAGES IN THE PERFORMER'S CAREER THIS INFLUENCE ACTUALLY TOOK PLACE.**

CONNAUGHTON ET AL. (2008)

Based on definition & 12 attributes of MT

Re-interviewed the sample from Jones et al. (2002).

Intimate knowledge of the specific meanings of each attribute

A semi structured interview guide developed
involvement progression questionnaire, based on Bloom's (1985)
careers phases

Questions adapted from Jones et al.'s (2002) definition and
attributes

Findings

- Mental toughness was perceived to develop over three distinct career phases

Early, middle, & later (Bloom, 1985)

- A multitude of underlying mechanisms operated in a combined, rather than independent manner, to facilitate the development of mental toughness
- Experiences of **perceived critical incidents** (e.g., disruptions at school, loss of a peer, parental divorce)

Early Years

3 of the 12 attributes

- Having an unshakable self-belief in your ability to achieve your competition goals
- Having an unshakable self-belief that you possess unique qualities and abilities that make you better than your opponents
- Having an insatiable desire and internalized motives to succeed
- **Foundations for mental toughness development**

EARLY YEARS

ADVICE FROM SIGNIFICANT OTHERS (E.G., PARENTS, COACHES),

Nurtured the correct motivational climate:

Challenging, rewarding, and enjoyable.

- OBSERVING OLDER, ELITE PERFORMERS IN A TRAINING AND COMPETITIVE ENVIRONMENT
- EFFECTIVE LEADERSHIP FROM COACHES

A source of knowledge, inspiration, and encouragement

Influence in enabling the efficient mastery of relevant skills.

Middle Years

5 additional attributes

- Bouncing back from performance set-backs as a result of increased determination to succeed
- Regaining psychological control following unexpected, uncontrollable events (competition-specific)
- Pushing back the boundaries of physical and emotional pain, while still maintaining technique and effort under distress (in training and competition)
- Accepting that competition anxiety is inevitable and knowing that you can cope with it
- Thriving on the pressure of competition

Middle Years

- More competitive
- Brought with them a host of demands

(e.g., anxiety, pressure, setbacks)

Factor influencing development

- learning from significant others (i.e., senior athletes, coaches, parents)
- Possessing a heightened determination to succeed.
- Competitive rivalry (in training & competition)
- Rationalization of successes and failures
- Understanding social support network

Later Years

Remaining 4 attributes developed

- Remaining fully-focused on the task at hand in the face of competition-specific distractions
- Not being adversely affected by others' good and bad performances
- Remaining fully-focused in the face of personal life distractions
- Switching a sport focus on and off as required

Later Years

Factor influencing development

- Experience of elite level competition
- Simulation training
- The extraction of positive experiences
- Rationalization of set backs

Via reflective practice

- The use of basic and advanced psychological skills and strategies

MAINTENANCE

- **Mental toughness needed to be maintained or it would diminish**
- **Mental skills**

Goal setting, imagery, self-talk, cognitive reconstruction, pre-performance & race routines, simulation training

- **A burning desire & intrinsic motive to succeed**
- **A strong support network**

Sporting (e.g., coaches, senior athletes, sport psychologists, team-mates)

Non-sporting (e.g., peers, parents, grandparents, siblings)

Criticisms:

- **Based on elite performers' perceptions of mental toughness development**
- **Based on Jones et al. (2002)**

Definition

12 Attributes

- **Super-elite sample and the framework**
- **Conclusion:**

Starting point to understanding the development of mental toughness

5 Studies investigated MT Development

**Bull et al. (2005); Connaughton et al. (2008, 2010);
Gucciardi et al. (2009); Thelwell et al. (2010)**

- **Based upon previous definitions & attributes of MT**
- **Single Sport perspective**
- **Multi Sport Perspective**
 - Performers, Parents, Coaches, & Sport Psychologists

AREAS THAT INFLUENCE DEVELOPMENT

- Environment
- An athlete's socialization network
- Sporting experiences and life events
- The use of psychological skills

ENVIRONMENT

• **THE ENVIRONMENT IN WHICH THE PERFORMER LIVES, TRAINS, AND COMPETES WAS FOUND TO AFFECT THE DEVELOPMENT OF MENTAL TOUGHNESS.**

- Exposure to foreign cricket provided the foundation for mental toughness to develop.
 - Bull et al. (2005)
- A disciplined and structured training environment perceived as an important means of developing specific components of mental toughness
 - Connaughton et al. (2010)
 - Gucciardi et al. (2010)

AN ATHLETE'S SOCIALIZATION NETWORK

- **Parents:** Central role in nurturing a 'generalized form' of mental toughness.
- **Coaches:** Instilling hard work, discipline, and a never give up attitude.
- **A positive and supportive coach-athlete relationship:** facilitated the development of emotional intelligence
 - Gucciardi et al. (2009)
- **Significant others (e.g., senior athletes, sporting and non-sporting peers):** Guidance and support increased performers' determination to succeed

SPORTING EXPERIENCES AND LIFE EVENTS

-
- Sporting experiences (adversity, pressure, and successes and failures): Positive impact on MT development.
- Negative incidents in Life/Sport (e.g., moving home/location, parental separation/divorce, bereavements, and school related difficulties)
- Positive incidents in Sport/Life (e.g., International selection, the recognition of talent by respected individuals, and beating respected opponents)
- Acted as catalysts in enhancing MT during all stages of a performer's developmental career

THE USE OF PSYCHOLOGICAL SKILLS

•PST PLAY A VITAL ROLE IN DEVELOPING AND MAINTAINING MENTAL TOUGHNESS

- Performers engaged with coaches and sport psychologists in learning psychological skills and strategies as a means of developing mental toughness
- Discuss implications of these findings...