Psychosocial Considerations in Athletic Training.... We’ve Referred Now What??

EATA Symposium 2021
EBP Workshop
Jennifer Concannon DAT, LAT, ATC

EASTERN ATHLETIC TRAINERS ASSOCIATION
Conflicts of Interest and Disclosures
Learning Objectives

1. Describe the importance of psychological and sociological dynamics related to the athletes when they become injured and through the rehabilitation process.

2. Examine disablement models (ICF, Biopsychosocial) for healthcare providers to utilize when treating patients.

3. Analyze psychosocial intervention strategies using problem-focused and emotion-focused coping strategies that healthcare providers can incorporate when treating patients.

4. Review motivational theories (self-determination theory) as it relates to competence, relatedness and autonomy during the rehabilitation process.

5. Compare patient-oriented outcome measures related to mental health considerations.

6. Provide a fictional case to allow audience members to design a multimodal intervention strategy for healthcare providers treating patients with who may be experiencing psychosocial considerations.
Case Presentation

- 20 year old female
- Sophomore in college
- Cross country student athlete
- Major: Athletic Training
- Reports to preseason with recurring symptoms of: SOB, difficulty breathing, fatigue when running during team workouts

LOADED QUESTION OF THE DAY:
WHAT DO YOU WANT TO KNOW???
What We Now Know
What Would/Should We Initially Do

- Educate patients on the “Stress-Injury Relationship” and cognitive appraisal
- Identify “problem list” with individual and need for guidance
  - Biomedical
  - Psychological
  - Social
- Refer to mental health professional
  - On campus resources
  - Off campus resources
- Refer to sport psychologist/mental game coach
- Refer nutritionist/RD/on campus dietetic intern

Is there more we can be doing????
Patient Education
Stress-Injury Relationship

Multidimensional Effects of Stress

- **Physiologic Responses:**
  - Heart rate, respiration rate, blood pressure, decreased healing rates, impaired sleep cycles

- **Cognitive Responses:**
  - Increased worries, intrusive thoughts, attention and focus difficulties

- **Emotional Responses:**
  - Frustration, depressed mood, anxiousness, pain catastrophizing

- **Behavioral Responses:**
  - Poor choices, sleep difficulties, rehabilitation non-adherence

*The multifaceted effects of injury, affects behavioral outcomes and internalization of the stressors throughout the injury rehabilitation process.*
Stress–Injury Relationship/Cognitive Appraisal

- Personal factors
  - Individual differences
    - Psychological
      - Personality
      - Self-perceptions
      - Self-motivation
      - Motivational orientation
      - Pain tolerance
      - Athletic identity
      - Coping skills
      - Psychological skills
      - History of stressors
      - Mood states
    - Demographic
      - Gender
      - Age
      - Ethnicity
      - Socioeconomic status
      - Prior sport experience
  - Physical
    - Use of ergogenic aids
    - Physical health status
    - Disordered eating

- Injury
  - History
  - Severity
  - Type
  - Perceived cause
  - Recovery status

- Cognitive appraisal
  - Goal adjustment
  - Rate of perceived recovery
  - Self-perceptions
  - Belief and attributions
  - Sense of loss or relief
  - Cognitive coping

- Behavioral response
  - Adherence to rehabilitation
  - Use of PST strategies
  - Use or disuse of social support
  - Risk-taking behaviors
  - Effort and intensity
  - Malingering
  - Behavioral coping

- Recovery outcomes
  - Psychosocial
  - Physical

- Emotional response
  - Fear of unknown
  - Tension, anger, depression
  - Frustration, boredom
  - Positive attitude or outlook
  - Grief
  - Emotional coping

- Situational factors
  - Sport
    - Type
    - Level of competition
    - Time in season
    - Playing status
    - Practice vs. game
    - Scholarship status
  - Social
    - Teammate influences
    - Coach influences
    - Family dynamics
    - Sports medicine team influences
    - Social support provision
    - Social support provision
    - Social support provision
    - Sport ethic or philosophy
  - Environmental
    - Rehabilitation environment
    - Accessibility to rehabilitation

- Response to sport injury and rehabilitation process
  - Factors
    - Coping resources
  - Interventions
Cognitive Appraisal Consequences Case Presentation

- Athletes who have negative cognitive appraisals of an injury tend to have negative thoughts that can lead to emotional disturbance and subsequently possible non-compliance to rehabilitation programmes\textsuperscript{2-4}
- The athlete may feel that she has not recovered from a previous injury, is thinking negatively considering social support, is concerned about the challenges for upcoming year, etc.
  - These negative thoughts may lead to anger, frustration, depression and disbelief
  - Positive Qualities: Self-motivation, healthy level of athletic identity

*Together these may directly impact her willingness to explore psychosocial intervention strategies*
Mental Toughness

“Mental Toughness”: the ability to cope, to remain determined, focused, confident, and in control under pressure

4 C’s: Control, Commitment, Challenge, Confidence

Positively related to coping with stress and maintaining high levels of competitive performance

Resilience, positive self-perceptions, optimism, and confidence

Problem or approach coping strategies and inversely associated with avoidance coping strategies

18 THINGS MENTALLY STRONG PEOPLE DO

- They reflect on their progress
- They tolerate discomfort
- They move on
- They keep control
- They embrace change
- They stay happy
- They are kind
- They are willing to take calculated risks
- They harness their energy in the present
- They accept full responsibility for their own behavior
- They embrace other people’s success
- They think productively
- They expand their mental energy
- They embrace their core beliefs
- They have willpower
- They are prepared to work and succeed at their own merits
- They enjoy their close circle
- They are willing to fail
- They pursue their goals
Disablement Models and Biopsychosocial Evaluation
Disablement models, like the International Classification of Functioning, Disability and Health (ICF) describe the interaction between a health condition and the patient's environment.\(^5\)

- They are dynamic models designed to represent a health condition across multiple domains of function and contexts.
- Provide a framework to guide conversation between athletic trainers and their patients, allowing for evaluation of the patient as a whole, versus as an 'injury'.\(^6\)
Biopsychosocial Model

- Disablement model that is designed for whole person care, that includes not only biological factors that impact the injury process but also personal and environmental factors.  
  - Describe interactions between the health condition and person’s environment
  - Dynamic models that represent a health condition across multiple domains of function and context
  - Provide a framework to guide conversations between athletic trainers and patients
  - Allow for a whole person evaluation versus “an injury/illness”
    - What else may be contributing to complexity of presentations
Biopsychosocial Model

- Biological/Biomedical
  - Gender
  - Physical Illness
  - Disability
  - Genetic Vulnerability
  - Immune Function
  - Neurochemistry
  - Stress Reactivity
  - Medication Effects

- Psychological
  - Learning/Memory
  - Attitudes/Beliefs
  - Personality
  - Behaviors
  - Emotions
  - Coping Skills
  - Past Trauma

- Social
  - Social Support
  - Family Background
  - Cultural Traditions
  - Socioeconomic Status
  - Education Level

- Overall Health
<table>
<thead>
<tr>
<th><strong>Biological/Biomedical</strong></th>
<th><strong>Psychological</strong></th>
<th><strong>Social</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>20 y/o female</td>
<td>XC team</td>
<td>Culture of sport- push through pain</td>
</tr>
<tr>
<td>Difficulty breathing*</td>
<td>Previous history of stress fx</td>
<td>Coach dynamic of high expectations with summer training</td>
</tr>
<tr>
<td>Shortness of breath*</td>
<td>Lack of knowledge regarding onset and recovery timeline</td>
<td>Individualized nature of team sport</td>
</tr>
<tr>
<td>Dizziness</td>
<td>Limited self-care</td>
<td>Mixed teammate support</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Difficult academic major/ potential considerations of changing majors/school</td>
<td>Not communicating with parents</td>
</tr>
<tr>
<td>Apparently healthy with no health concerns</td>
<td>Hx of seasonal depression</td>
<td>Demanding schedule ATS, RD, XC</td>
</tr>
<tr>
<td>Vegetarian</td>
<td>Lack of mental toughness</td>
<td>Religious upbringing</td>
</tr>
<tr>
<td>*Vitals normal</td>
<td></td>
<td>Upper socioeconomic class</td>
</tr>
</tbody>
</table>
Treatment Considerations
Treatment Considerations: Step 1

- Determine Need/Desire For Mental Health Referrals
  - On campus resources
    - Counseling Center
    - Mental Game Coach/Sport Psychology
    - RD with Food Services
    - Athletics Department Dietetic Intern
  - Off campus resources
    - Psychologist
    - Psychiatrist
    - Sport Psychology
    - Nutritionist/GOALS Program
A holistic rehabilitation program should focus on both physical and psychosocial factors to optimize patient outcomes.

- **Coping Strategies**
  - Developed to manage individual’s response to stress of injury

- **Patient rated outcome measures PROs**
  - Developed for overall quality of life and specific injury/illness
  - Used throughout rehabilitation to continue monitoring patient’s stress and mood and progressions/regressions
But First... What is Coping???

- “A process of constantly changing cognitive and behavioral efforts to manage specific internal and/or external demands or conflicts appraised as taking or exceeding one’s resources”
  - Dynamic process that often incorporates more than one strategy with a single stressor

- **Coping Strategies:**
  - Cognitive or behavioral tactics, whether they are problem or emotion-focused, and whether they are directed toward (approach) or away from (avoidance) the demand or conflict
Problem-Focused Coping Strategies

Address the source of the stress: cognitive and behavioral efforts aimed at identifying, solving and minimizing the effects of a stressful relationship between the individual and environment.

Seek out specific information and actively incorporate solutions to a stressful problem

- Coping Strategies may include:
  - Patient Education
    - Self-Help Resources on MH Consideration
  - Goal Setting
    - SMART Goals
  - Challenging Therapeutic Sessions
  - Peer Modeling
# Problem-Focused Coping Strategies: Self Help Resources Case Presentation

## Websites:
- Anxiety and Depression Association of America
- Anxiety Panic Attack Resource Site
- Benson-Henry Institute for Mind Body Medicine
- E-Couch
- Freedom from Fear
- Mental Health America
- National Council for Behavioral Health
- National Institute of Mental Health

## Books:
- The anxiety and phobia workbook
- Living with Fear
- 10 Simple Solutions to Panic: how to overcome panic attacks, calm physical symptoms, and reclaim your life
- An end to panic: breakthrough techniques for overcoming panic disorder

## Help Lines:
- American Psychiatric Association Answer Center
- American Psychological Association Public Education Line

## Support Groups:
- American Self-Help Group Clearinghouse
- National Alliance on Mental Illness
- Recovery International
Problem Based Coping Strategy: SMART Goals Case Presentation

**Specific:** “I want to feel like I have the energy to run for 45 minutes at least 5 day/wk with team

**Measurable, Attainable and Realistic:**

- Run 20-30 min independently or with 1 teammate each training day and track RPE and likert scale recordings post run for 2 weeks
  - Log food intake/nutrient breakdown during each day prior and post run: Kcals, CHO, Protein, Fats
- Run 30-45 min independently or with 1-2 teammates each training day and track RPE and likert scale recordings post run for 2 weeks
  - Log food intake/nutrient breakdown during each day prior and post run: Kcals, CHO, Protein, Fats
- Run ~45 min independently 3 days/wk and with teammates 2 days/wk for 2 weeks track RPE and likert scale recordings post run
  - Log food intake/nutrient breakdown during each day prior and post run: Kcals, CHO, Protein, Fats
- Run ~45 min with teammates 5 days/wk for 2 weeks track RPE and likert scale recordings post run
  - Log food intake/nutrient breakdown during each day prior and post run: Kcals, CHO, Protein, Fats

**Time:** By October 20th run 5 days/wk with team
Emotion-Focused Coping Strategies

Not intended to directly change the current environment/situation but to relate the emotional response to a problem or distress.

- Diaphragmatic Breathing
- Muscle Relaxation Techniques
- Facilitating Social Support
- Mental/Performance Imagery
- Cognitive Restructuring / Cognitive Behavioral Therapy
  - Reframing and Countering
We can appreciate that breathing is necessary for us to survive, but it also optimizes many bodily functions:\textsuperscript{12,13}

- Appropriate movement of blood and lymph throughout the circulatory system
- Physiologic regulation in maintenance of oxygen, carbon dioxide and pH levels
- Cellular metabolism regulation
- Heart rate regulation
- Blood pressure regulation
- Digestive system regulation
- Brain wave function
- Autonomic Nervous System (ANS)

Let's focus on the ANS just a bit more because this can be extremely beneficial for our patients in more progressive pain patterns or those with psychosocial considerations.
Chronic emotional stress and increased mental load can alter respiratory regulation. **Stress breathing** tells the brain that we are in a continued state of high alert, affecting the heart rate, cortisol and stress hormones, sleep, and recovery.  

12,13

**The Benefits of the Breath**

- **Hyperarousal State**
- Increase in respiratory drive
- Increase in respiration rate, reduced timing of exhalation
- Breathe responds to emotions rather than metabolic demand
- Homeostatic needs of repair and renewal impaired
The Benefits of the Breathe

- Homeostasis is best served through the functions of the parasympathetic nervous system. Controlled, relaxed, and abdominal breathing respirations can help to restore the body to a physiological rest state.
- Appropriate breathing can synchronize neural elements in the brain and ANS and create a state of "psycho-physiological coherence". It can reset the nervous system, enhance mood and energy levels, reduce anxiety, lower blood pressure, improve immune system function and so much more.\(^{12}\)

TAKEAWAYS:

- Therapeutic breathing can be utilized to:
  - Correct dysfunctional breathing patterns and kinetic chain movements
  - Support the functions of breathing and stimulate a healing environment
  - Provide an environment for regulation of mental and emotional states
Diaphragmatic Breathing (DB)

- Aka "Belly Breathing" involves intentionally breathing into the stomach to avoid inflating the chest. DB allows an individual to focus on the breath quality, the physical sensations of the breath, and current emotional state.
- Breathing retraining can take several weeks and continued practice throughout the day. Retraining can be incorporated to other practices/interventions in short segments (~10 minutes), several times per day to adapt dysfunctional patterns.
Diaphragmatic Breathing

Here are some suggestions/tips to include into your training with your patients

- Continuous breath through nose over a 2-5 second span starting off and progress to longer intervals
- Pursed Lip Breathing: breathing through narrow, pursed lips can be used to slow the exhalation. Instruct the patient to breath out for 4-8 second. Utilize a straw to help encourage this.
- Guiding the Breath: By providing tactile pressure onto the client’s upper chest and a slight downward pressure to the sternum during their exhalation, the patient’s breath will be guided into the lower ribs and abdominal region instead of their upper thoracic region.
- Reduce Shoulder Movement: The patient should be seated in a chair with their forearms and elbows supported by the arms of the chair. During inhalation, have the patient push down on the arms of the chair. During the exhalation, the patient should ease the pressure on the arms of the chair.
- Breathing and Bracing: Bracing is a voluntary mild isometric contraction of the core musculature, with the goal of "stiffening" the spine against external forces. The patient can be instructed to wrap their hands around their waist line and push their hands away during the bracing technique.
- Blowing Up a Balloon: This technique will help to develop co-contraction of the diaphragm and abdominal wall. The patient will be lying supine with the knees bent and feet flat on the ground (or wall). The patient should be instructed to breath in via the nose and exhale through the mouth into the balloon.
Progressions of DB

Diaphragmatic (Belly) Breathing
Progressive Muscle Relaxation (PMR)

- PMR is characterized by alternatively tensing and relaxing muscles
  - Concept: muscle tension accompanies anxiety and anxiety can be reduced by “learning to relax”
  - How it works:
    - Sequential tension of specific muscles for 10 seconds and the releasing it for 10-20 seconds before continuing to next muscle groups
      - I.e. face→ shoulders→ arms→ hands→ hips→ thighs→ feet
    - It is important that they should feel the muscles become loose and limp as the tension flows out.
    - ONLY tense the targeted muscles
    - Heavy focus on difference between tension and relaxation
    - 15-20 minutes 2-3 times per day
  - Benefits:
    - Decreases salivary cortisol levels, generalized anxiety, BP, HR, headaches, improved QOL
Progressive Muscle Relaxation Script
Guided Imagery/Visualization

Guided imagery method is typically delivered via an audio or written script.

How It Works:

- Encourages individuals to use all their senses to create or recreate a past, present or future experience
- The script will include visual, auditory, olfactory, tactile, and kinesthetic sensory experiences
- Effective relaxation imagery uses personalized images that are meaningful to the individual
- The goal is to enable the subject to engage his/her own images that are symbolic of his/her specific health or life issues, in order to develop health-directed insights, health-promoting behavior changes, or direct physiologic changes.
- More effective when it is combined with breathing or muscle relaxation.

Benefits:

- Effective at reducing stress, anxiety and depression, improving confidence
Guided Imagery/Visualization

Guided Imagery Case Presentation:
https://spark.adobe.com/video/6lcp3GWKURsT5

RTP Performance Imagery:
https://spark.adobe.com/video/UkJLfT5tOipqd
Cognitive Behavioral Therapy (CBT)

- Positive self-talk has been shown to affect injured patients’ overall mood and emotions, influence self-confidence related to rehabilitation success, improve rehabilitation motivation and adherence, and reduce the perception of pain.11,14
  - **Thought Stopping:** Patients become actively aware of negative self talk. By understanding this they can stop it on-command, either with the use of a cue word or with a physical reminder (such as snapping a rubber band)
  - **Reframing:** Method of challenging negative thinking about an injury or situation. While the situation itself cannot be changed, our thoughts and perceptions of the situation can. For example, we might reframe "time wasted away from sport" to “opportunity to build core strength and stamina.”
  - **Countering:** Method of refuting negative beliefs and statements with facts or reason. For example, when a patient makes a comment like “I’m never going to get back on the field,” you may counter that statement with "It will take hard work, but you will get better.”
Example: Teammate Concerns

Negative Thought: I am concerned that I may let my teammates down if my fitness is not what it used to be.

Positive Reframe: Stop, I’ve worked hard in rehabilitation to get my fitness to where it is and it will only continue to improve with time. Ultimately, what counts is that I get to do something that I love and I am excited to participate again.

Example: Coaching Concerns

Negative Thought: I am worried about what my coach will think if my skills aren’t as good as what they thought.

Positive Reframe: Enough, what the coach thinks of my skill level isn’t under my control. I know I have been practicing my skills while injured and my technique has only gotten better. It is great that I have the opportunity to compete again.
Psychological Readiness
Confidence!!!!

The cultivation of self-efficacy and the utilization of psychological skills (e.g., imagery, relaxation) are key to a complete recovery.
Building Confidence

- The achievement of physical standards/clinical outcomes can be enhanced through goal-setting techniques.¹⁵
- Trust in rehabilitation providers and social support may be addressed through education, effective communication strategies, and rapport building.
- Strong emphasis on the need for support, in particular from sport medicine practitioners and coaches in increasing confidence in the injured body part and in relieving injury concerns.
- Psychological interventions such as imagery and relaxation may be valuable in enhancing various confidence facets before the resumption of competitive activities.
Realistic Expectations Regarding One’s Performance Capabilities!!

- Instilling a sense of patience, helping athletes to set challenging but flexible goals, and encouraging acceptance of one’s recovery status may be influential in the creation of realistic expectations regarding the upcoming return to competition.
Motivation to Regain Previous Performance Standards!

- Important to assess motivation continuously throughout rehabilitation
  - Patient motivated by intrinsic factors appeared to have a greater likelihood of experiencing a renewed sport perspective, while those extrinsically motivated were more likely to experience return concerns.
- Many patients can become bored with the rehabilitation process:
  - USE THIS BOREDOM as a positive motivational tool
Self Determination Theory

- Motivational theory that examines the socio-environmental factors influencing an individual’s tendency towards self-motivated behavior, psychological health and well-being and task related performance.\(^{15}\)

- 3 basic psychological needs:
  - Competence
    - Re-injury anxieties, concerns about performing to pre-injury standards
  - Relatedness
    - Feelings of social isolation and lack of social identity
  - Autonomy
    - External and self-induced pressures to return to sport

*If these need are not met, the patient may experience apathy, alienation, heightened stress and anxiety*
Self Determination Theory Strategies

Reinjury Concerns:
1. Peer modeling
2. Guided imagery

Confidence Concerns:
1. SMART goals
2. Functional and fitness tests

Self-Presentational Concerns:
1. CBT: reframing and restructuring
2. Technical task goals

Social Isolation and Alienation
1. Provide various social support
   a. Listening
   b. Emotional
   c. Informational
   d. Emotional challenge
   e. Task challenge
   f. Reality challenge
2. Keep Team Involvement
   a. Team training exercises
   b. Identity check-ins

Pressure to RTS
1. Reduce Pressures
   a. Patient education on premature return
2. Foster Autonomy
   a. Meaningful rationale for exercises
   b. Feelings check in
   c. Provide options for rehabilitation
Measuring Our Progress: PROs
Patient Oriented Outcome Measures

- Perceived Stress Scale
- Sport Anxiety Scale
- Life Events Survey for Collegiate Athletes
- Social Support Survey
- Inventory of Injured Athletes
- Brief COPE
- Athletic Coping Skills Inventory-28
- Mental Toughness Scale
- Tampa Scale for Kinesiophobia
- Fear Avoidance Belief Questionnaire
The Perceived Stress Scale is used to evaluate an individual’s chronic stress level, including thoughts and feelings over the past month. Participants are instructed to answer 10 questions using a scale from 0 (never) to 4 (very often). The scale ranges from 0–13 (low stress), 14–26 (moderate stress), and 27–40 (high stress). PSS has strong validity and reliability in both athletes and non-athletes.

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the past month, how often have you been upset because of something that happened unexpectedly?</td>
<td>0</td>
</tr>
<tr>
<td>In the past month, how often have you felt that you were unable to control important things in your life?</td>
<td>0</td>
</tr>
<tr>
<td>In the past month, how often have you felt nervous and “stressed”?</td>
<td>0</td>
</tr>
<tr>
<td>In the past month, how often have you felt confident about your ability to handle your personal problems?</td>
<td>0</td>
</tr>
<tr>
<td>In the past month, how often have you felt that things were going your way?</td>
<td>0</td>
</tr>
<tr>
<td>In the past month, how often have you found that you could not cope with all the things that you had to do?</td>
<td>0</td>
</tr>
<tr>
<td>In the past month, how often have you been able to control irritations in your life?</td>
<td>0</td>
</tr>
<tr>
<td>In the past month, how often have you felt that you were on top of things?</td>
<td>0</td>
</tr>
<tr>
<td>In the past month, how often have you been angered because of things that were outside of your control?</td>
<td>0</td>
</tr>
<tr>
<td>In the past month, how often have you felt difficulties were piling up so high that you could not overcome them?</td>
<td>0</td>
</tr>
</tbody>
</table>
Sport Anxiety Scale-2

- 21-item measure of multidimensional trait anxiety that assesses:
  - Somatic anxiety (9 items)
  - Worry (7 items)
  - Concentration disruption (5 items).
- A 4-point Likert scale measures reactions to competition or RTP
- Variety of populations across several sports and skill levels, showing adequate internal consistency and convergent and divergent validity

**REATIONS TO PLAYING SPORTS**

Many athletes get tense or nervous before or during games, meets or matches. This happens even to pro athletes. Please read each question. Then, circle the number that says how you USUALLY feel before or while you compete in sports. There are no right or wrong answers. Please be as truthful as you can.

<table>
<thead>
<tr>
<th>Before or while I compete in sports:</th>
<th>Not At All</th>
<th>A Little Bit</th>
<th>Pretty Much</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is hard to concentrate on the game.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. My body feels tense.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I worry that I will not play well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. It is hard for me to focus on what I am supposed to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I worry that I will let others down.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I feel tense in my stomach.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I lose focus on the game.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I worry that I will not play my best.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I worry that I will play badly.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. My muscles feel shaky.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I worry that I will mess up during the game.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. My stomach feels upset.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. I cannot think clearly during the game.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. My muscles feel tight because I am nervous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. I have a hard time focusing on what my coach tells me to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
The BCope is a 28-item survey that assesses 14 coping strategies. Participants rate the frequency of using particular coping methods for the stressful situation (i.e., injury). Coping strategies were grouped into 3 domains:

- Problem-focused (active coping, planning, restraint coping, seeking of instrumental social support)
- Emotion-focused (seeking of emotional social support, positive reinterpretation, acceptance, denial, turning to religion)
- Avoidant-focused (venting, humor, behavioral disengagement, substance abuse, self-distraction)
28-item instrument designed to measure seven factors:
- Peaking under pressure (PEAK)
- Freedom from worry (FREE)
- Coping with adversity (COPE)
- Concentration (CONC)
- Goal setting and mental preparation (GOAL)
- Confidence
- Achievement motivation (CONF)
- Coachability (COACH).

Valid and reliable instrument to assess psychological skills in a number of athletic populations.  

<table>
<thead>
<tr>
<th>Statements</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>On a daily or weekly basis I set very specific goals to guide what I do.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get the most out of my talent and skill.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When a coach or manager tells me how to correct a mistake I’ve made, I tend to take it personally and feel upset.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I’m playing sports I can focus my attention and block out distractions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I remain positive and enthusiastic during competition, no matter how badly things are going.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I tend to play better under pressure because I think more clearly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I worry quite a bit about what others think of my performance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I tend to do lots of planning about how to reach my goals.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel confident that I will play well.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When a coach or a manager criticises me I become upset rather than feel helped.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is easy for me to keep distracting thoughts from interfering with something I am watching or listening to.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I put a lot of pressure on myself by worrying about how I will perform.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I set my own performance goals for each practice.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t have to be pushed to practice or play hard, I give 100%.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Mental Toughness Questionnaire (MTQ-10)**

- 10-item scale used to measure mental toughness
- Participants use a 5-point Likert scale to rate their agreement with each statement. Items are summed and higher scores indicate a greater degree of mental toughness.
- Demonstrates good reliability and validity

<table>
<thead>
<tr>
<th>Item</th>
<th>1 (Strongly Disagree)</th>
<th>2 (Disagree)</th>
<th>3 (Neither)</th>
<th>4 (Agree)</th>
<th>5 (Strongly Agree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Even when under considerable pressure, I usually remain calm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I tend to worry about things well before they actually happen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I usually find it hard to summon enthusiasm for the tasks I have to do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I generally cope well with any problems that occur</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I generally feel that I am a worthwhile person</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;I just don't know where to begin&quot; is a feeling I usually have when presented with several things to do at once.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I make mistakes, I usually let it worry me for days after.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I generally feel in control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am generally able to react quickly when something unexpected happens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I generally look on the bright side of life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tampa Scale Kinesiophobia

- Assess fear of movement/reinjury
  - Beliefs that painful activity will result in damage and/or increased suffering and/or functional loss
- Good Reliability and validity measures in individuals with chronic pain patterns. Good reliability has been demonstrated in patients following ACL-R. ²¹
Athlete Fear Avoidance Belief Questionnaire

- The AFAQ is a scale that measures injury-related fear avoidance in athletes
  - Derived from the FABQ
- Uses a 5 point Likert-Scale
- Moderate internal and external validity has been established 22
Injury-Psychological Readiness to Return To Sport Scale (I-PRRS)

- **10-Item Scale**
  - Focus exclusively on confidence, thereby failing to take into account other factors (e.g., emotions or mood states)
- **Good reliability as well as, content, concurrent, and external validity**

<table>
<thead>
<tr>
<th>Item</th>
<th>Scoring: Rate your current level of confidence 0= no confidence, 100= complete confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall confidence to play</td>
<td></td>
</tr>
<tr>
<td>Confidence to play without pain</td>
<td></td>
</tr>
<tr>
<td>Confidence to give 100% effort</td>
<td></td>
</tr>
<tr>
<td>Confidence in injured body part to handle the demands of the situation</td>
<td></td>
</tr>
<tr>
<td>Confidence to play against the level of competition</td>
<td></td>
</tr>
<tr>
<td>Confidence in skill level ability</td>
<td></td>
</tr>
<tr>
<td>Confidence in desire to participate</td>
<td></td>
</tr>
<tr>
<td>Confidence to be successful</td>
<td></td>
</tr>
<tr>
<td>Confidence to play on playing conditions</td>
<td></td>
</tr>
<tr>
<td>Confidence to not concentrate on the injury</td>
<td></td>
</tr>
</tbody>
</table>
References


