

Superior Performance and Some Common Barriers

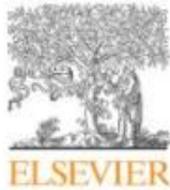
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Winter 2022



Outline:

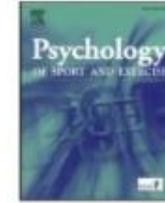
1. My background
2. My research background
3. Expert Performance: from cognitive and perceptual perspectives (cognitive skills)
4. Peak Performance: from cognitive-emotional perspective (mental skills)
5. Two barriers of peak performance:
 - a. Stress and Anxiety (what it is, how to distinguish them from each other? how to prevent/treat stress)?
 - b. Burnout (definition, how it differs from overtraining? causes of burnout, how to prevent/treat burnout)?
6. Some resources



Contents lists available at [ScienceDirect](#)

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Anticipation in Sharp Shooting: Cognitive Structures in Detecting Performance Errors



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Genivia Business
Grant



**Allocation of Attention to Visual and Non-Visual Perceptual
Channels by Marksmen during Aiming: Skill-Level
Differences**

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Equipment and Infrastructure Enhancement Grant (EIEG)
Graduate Student Professional Development Grant
Graduate Student-Dissertation Research Grant

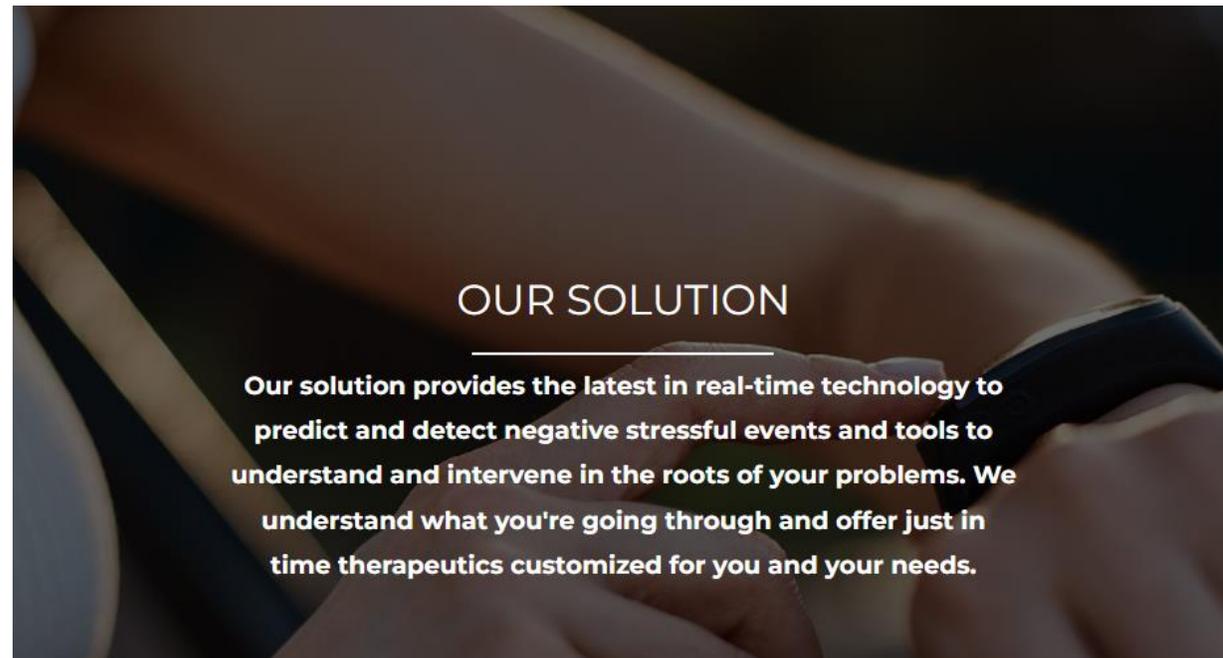


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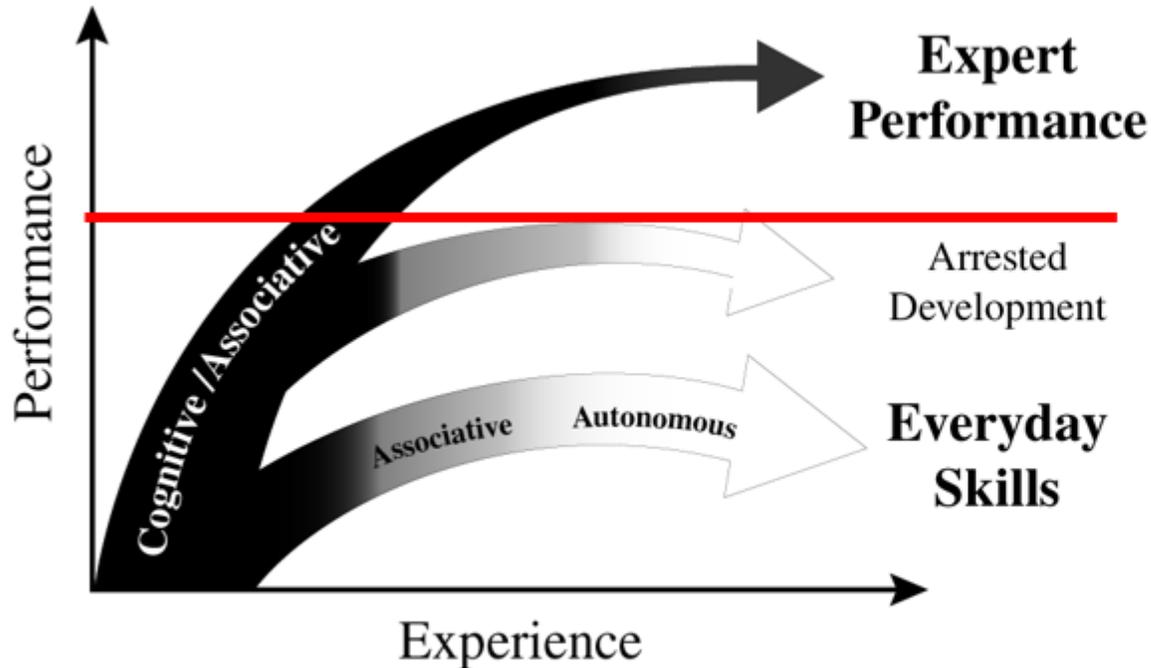
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What is Expert Performance



Hierarchical Skill Acquisition



"Automaticity is central to the development of expertise, and practice is the means to automaticity. The key challenge for aspiring expert performers is to avoid the arrested development associated with automaticity and to acquire cognitive skills to support their continued learning and improvement". ~ Anders Ericsson, p694

Adapted from: "The scientific study of expert levels of performance: General implications for optimal learning and creativity" by K. A. Ericsson in *High Ability Studies*, 9, p. 90. Copyright 1998 by European Council for High Ability.

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Expert Performance

Mental Representation: Cognitive And Perceptual Skills

<https://www.youtube.com/watch?v=yjupetclqrM>



Florian Kohler

1. Performance skills way above others
2. Over a long period
3. Only a few people
4. Consistency



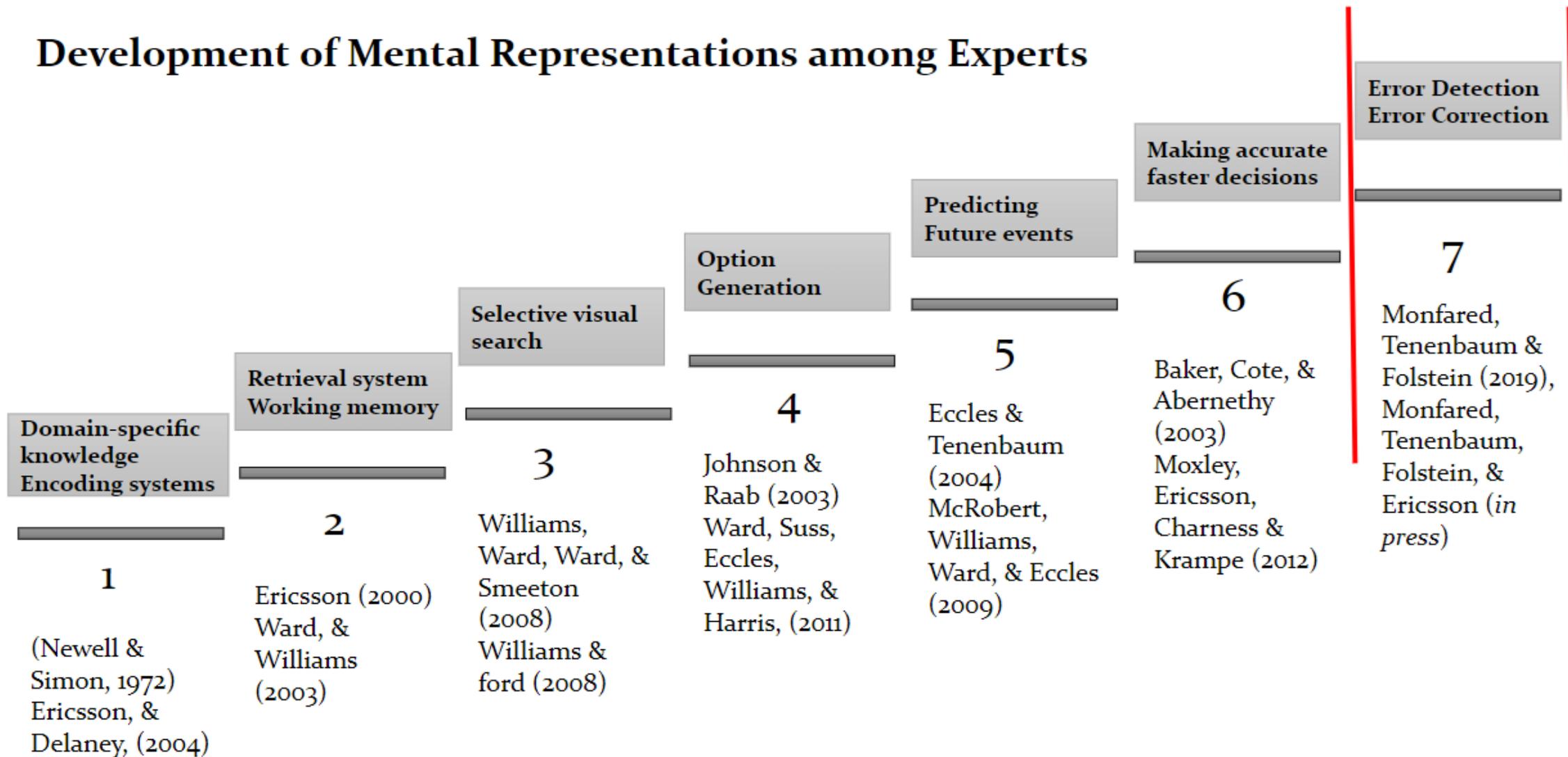
Mental Representation

Mental representations are: pre-existing patterns of information

- facts
- images
- rules relationships, and so on —

that are held in long-term memory and that can be used to respond quickly and effectively in certain types of situations.

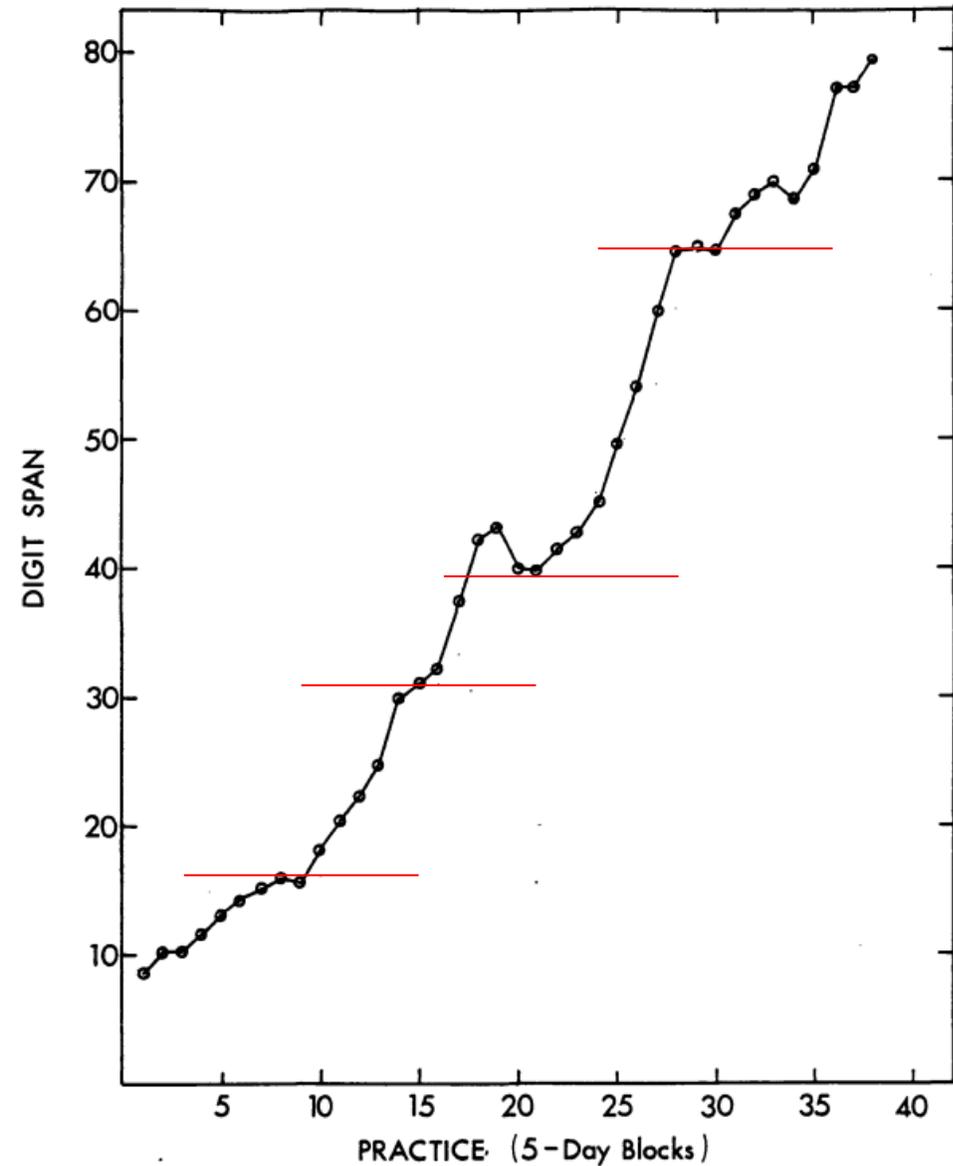
Development of Mental Representations among Experts



Expert Memories

Acquisition of a memory skill
Ericsson, Chase & Faloon (1980)

1. Grouping
2. Organization
3. Mnemonic associations



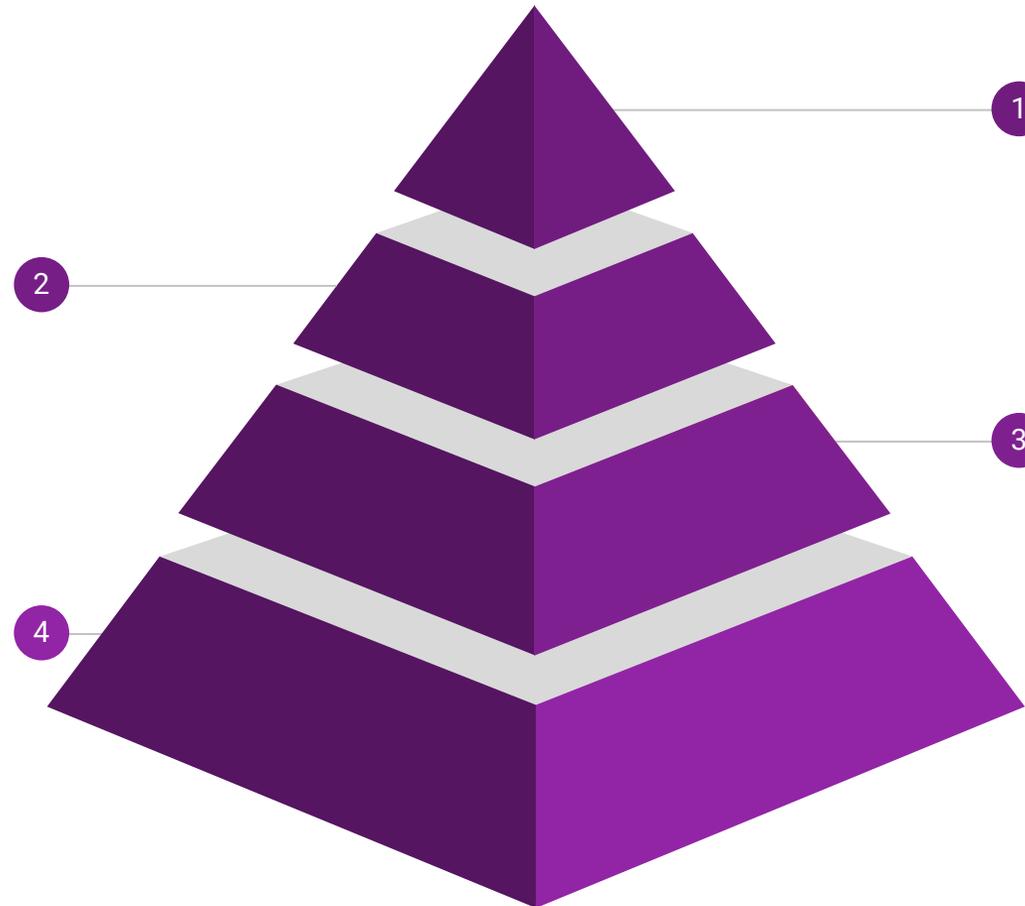
Principles of Deliberate Practice

Focused

You must be maximally focused on improvement during practice. It must be intense, uninterrupted and repetitive ('drilling'). Not particularly pleasant, but highly rewarding.

Discomfort Zone

You must get out of your comfort zone, constantly attempting things that are just out of reach.



Specific Goals

You need to establish a (reachable) specific goal. Vague overall performance targets like 'succeed' or 'get better' won't cut it.

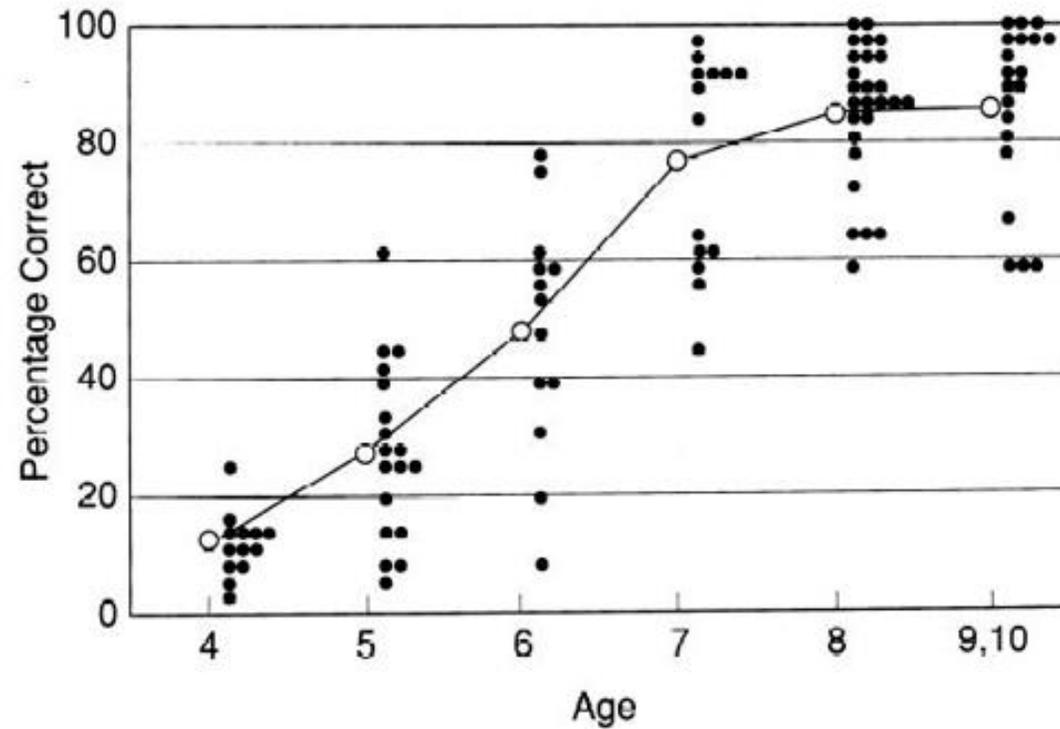
Feedback

You must receive immediate feedback on your performance. Without it, you can't figure out what you need to modify or how close you are to achieving your specific goal.

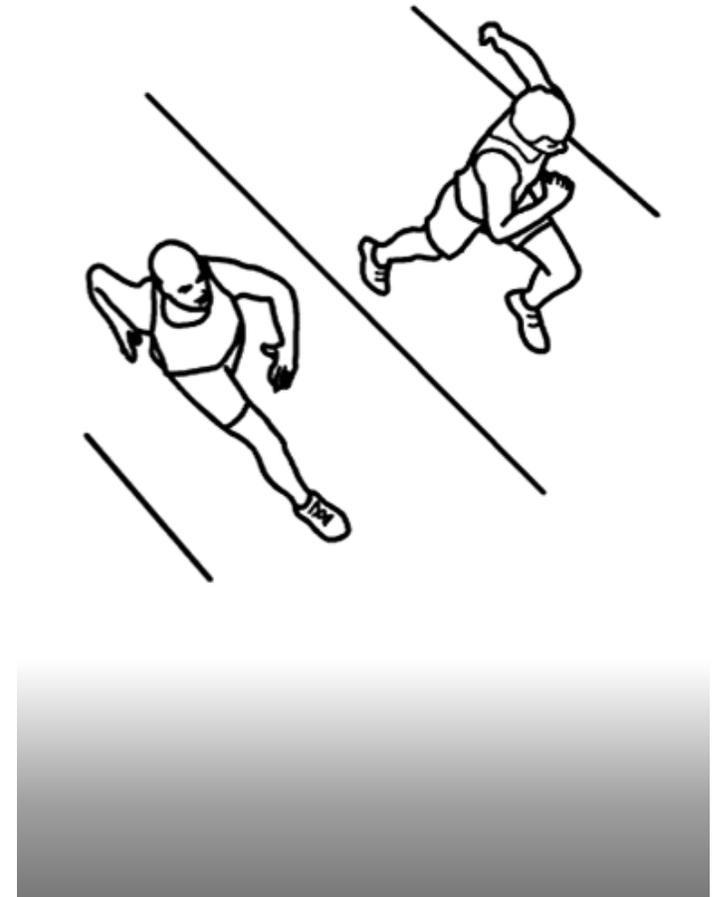
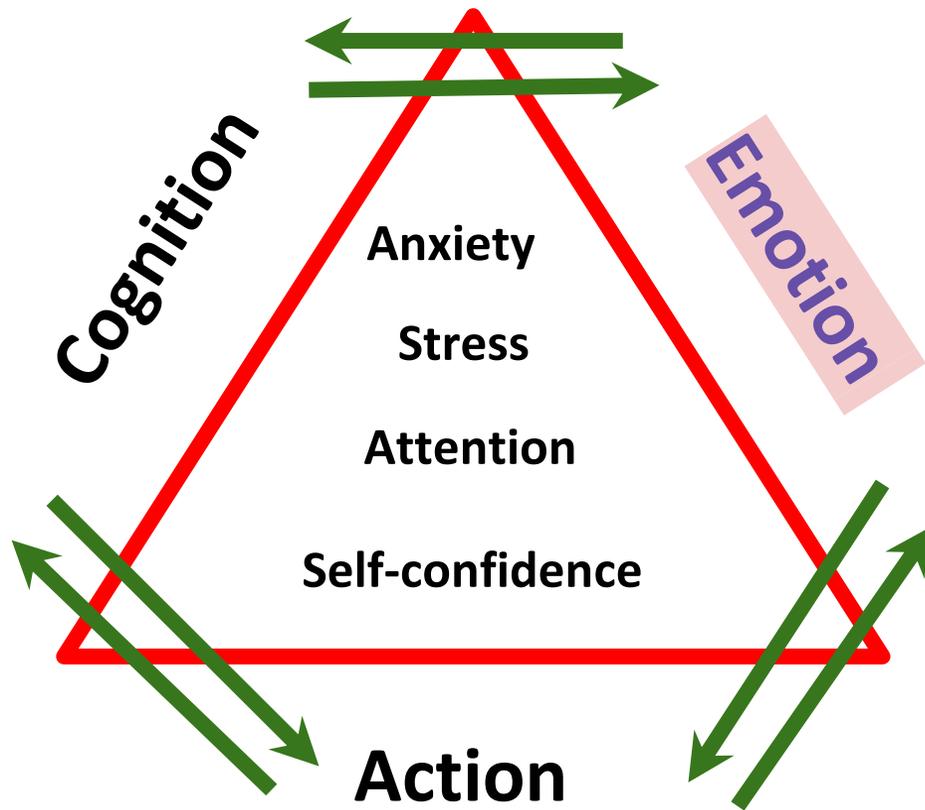
Superior performance created not born!

[Ken'ichi Miyazaki \(1989\)](#)

- Perfect Pitch



Peak Performance: Cognitive-Emotional View: Mental Skills



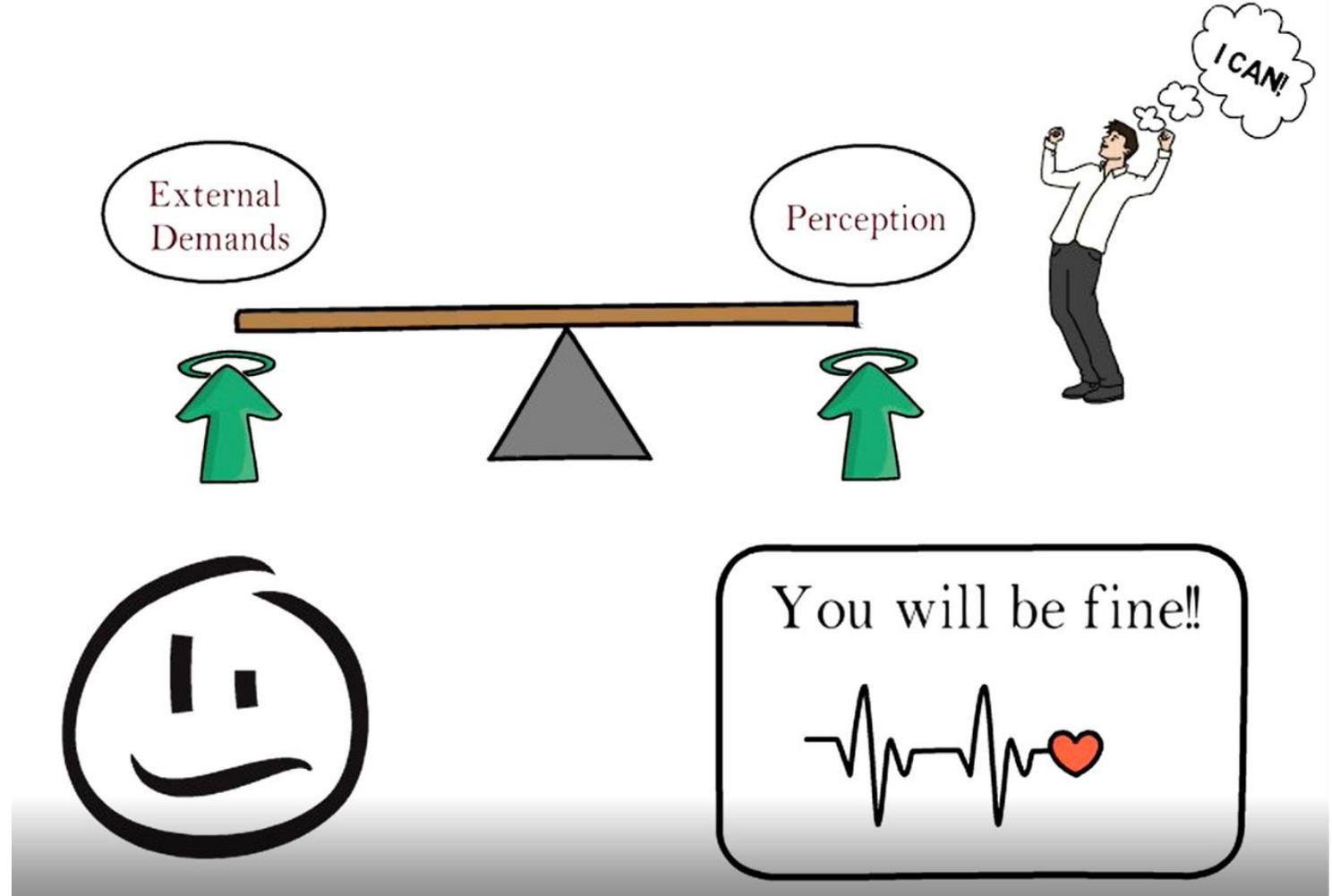
Stress/Anxiety

- **Acute (Stress, Anxiety)**
- **Chronic (Stress, Burnout)**

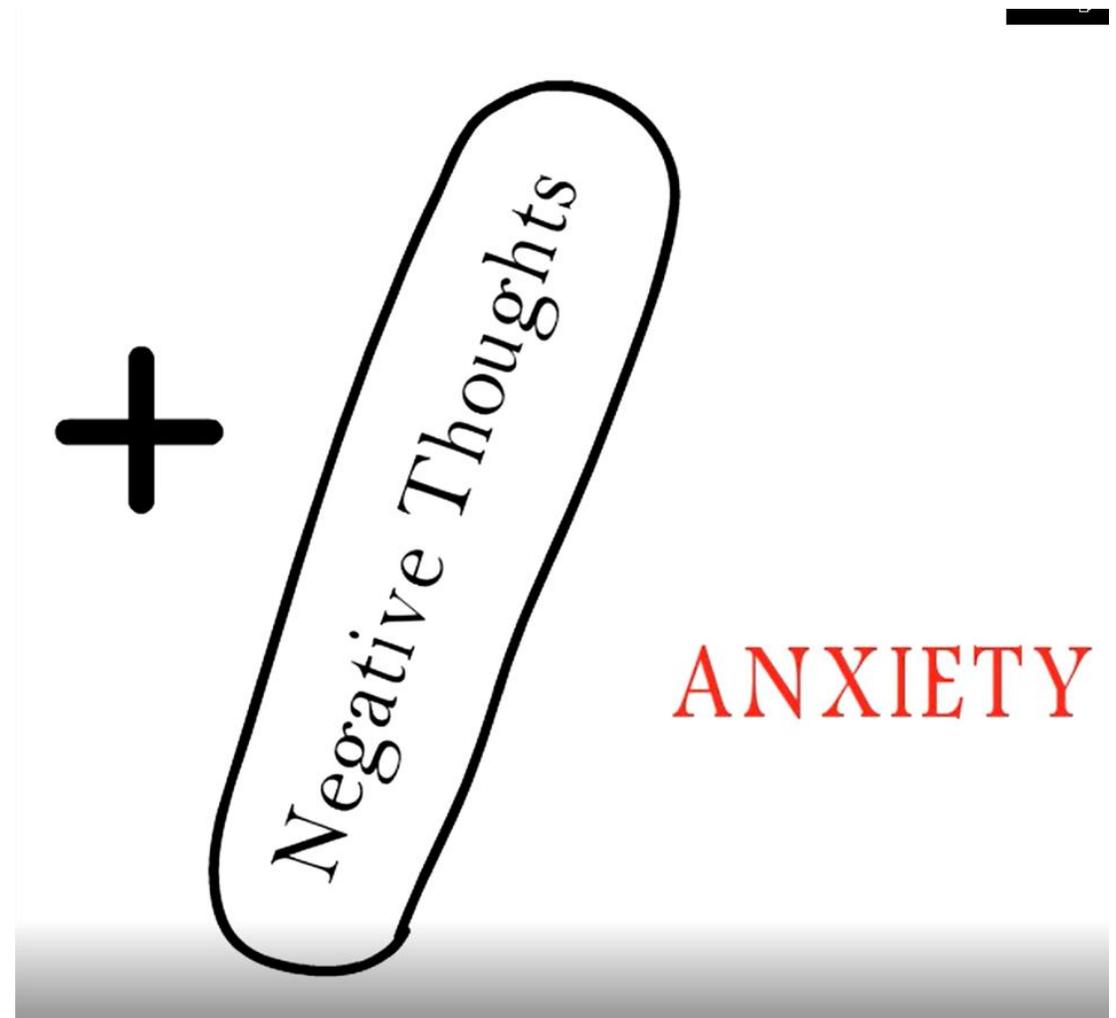
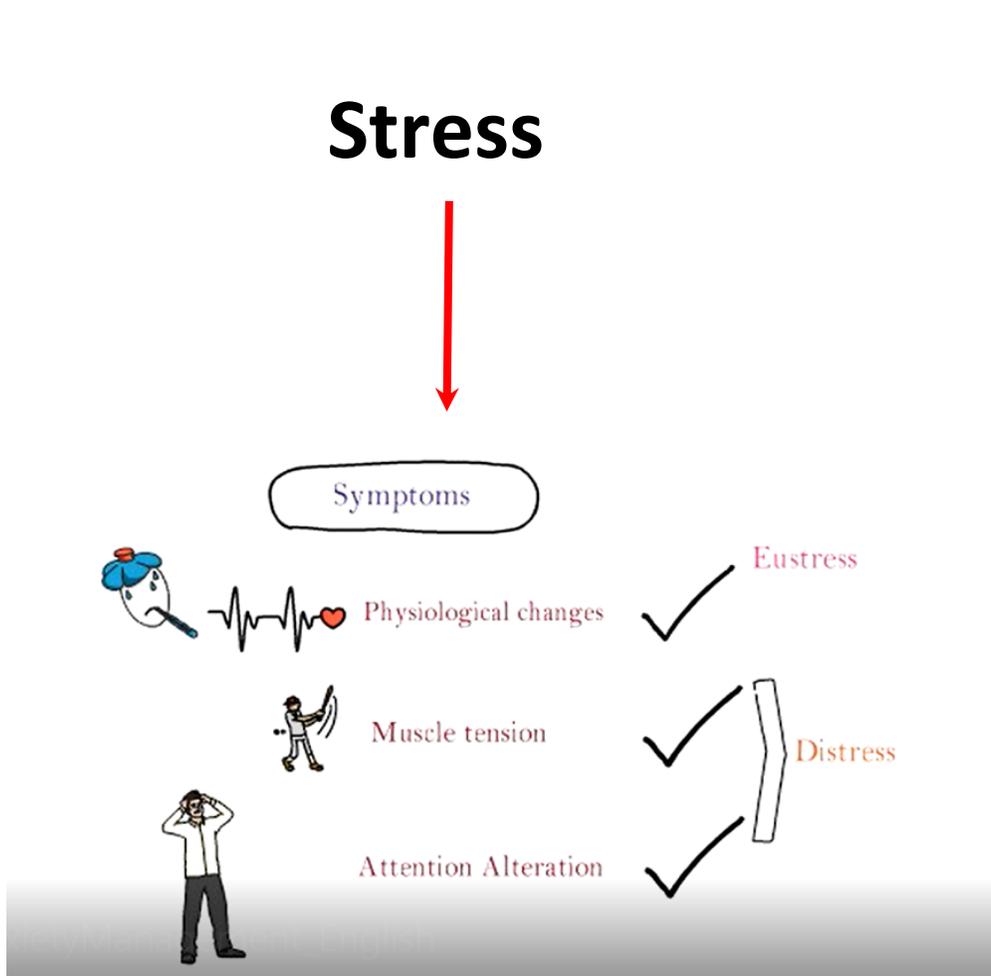


What is Stress?

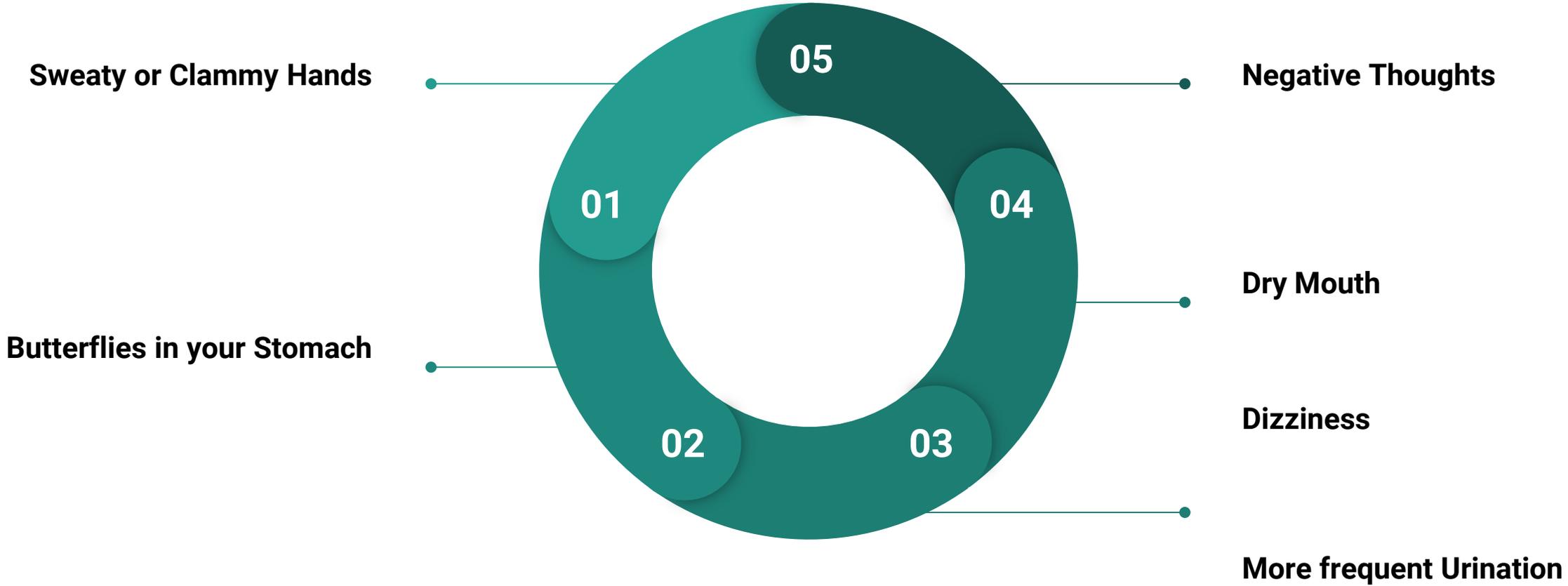
**What is Stress
(and Anxiety)?**



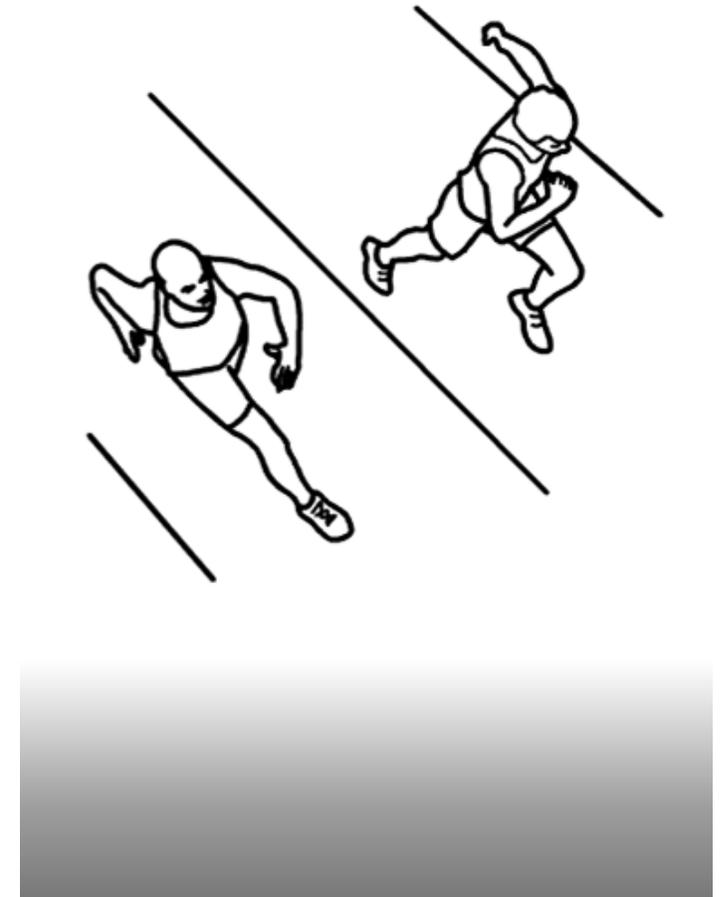
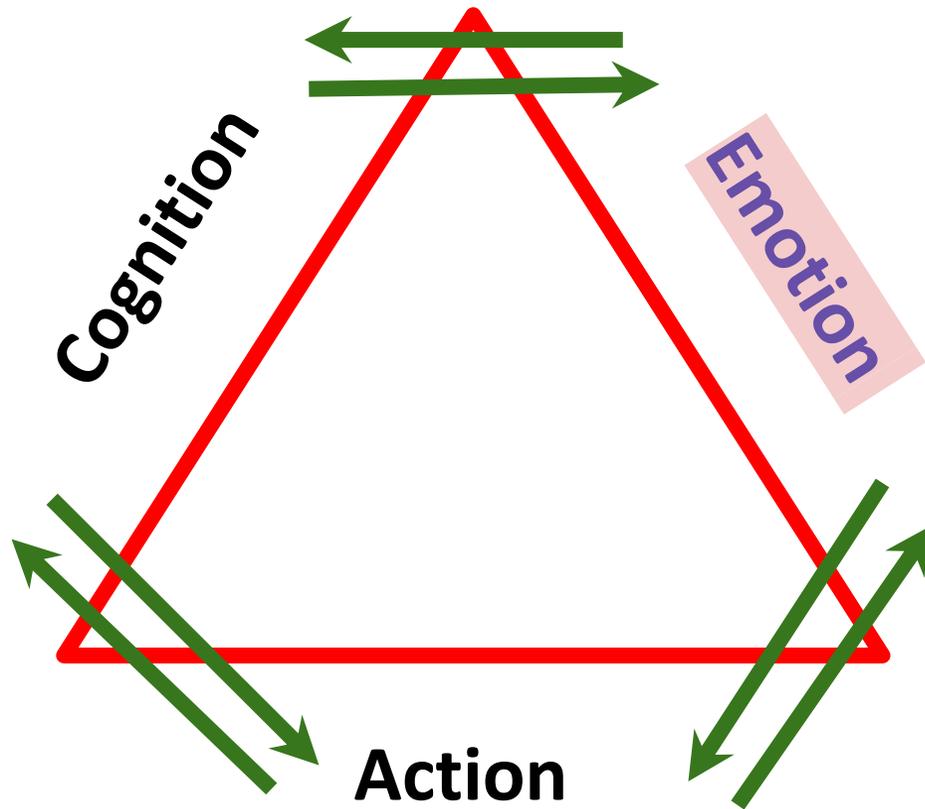
The Relationship Between Stress and Anxiety



Anxiety Symptoms



Prevention of Stress or Anxiety



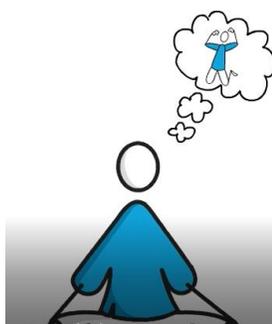
How to cope with Stress/Anxiety?

Cognition-Based Techniques

Imagery

Use all senses

SEEING
HEARING
KINESTHETICS
SMELLING
TASTING



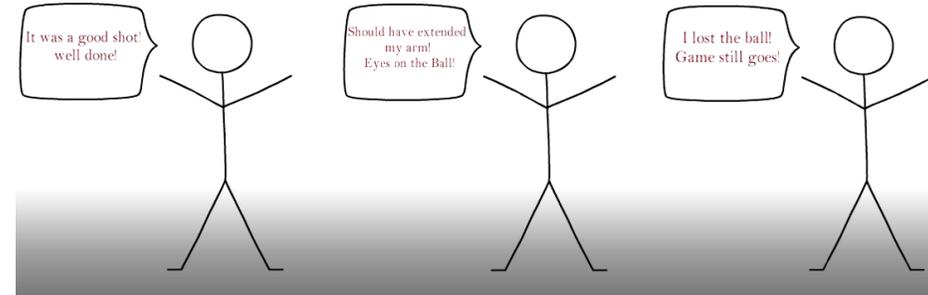
Cognition-Based Techniques

Self-Talk

It was a good shot! well done!

Should have extended my arm! Eyes on the Ball!

I lost the ball! Game still goes!

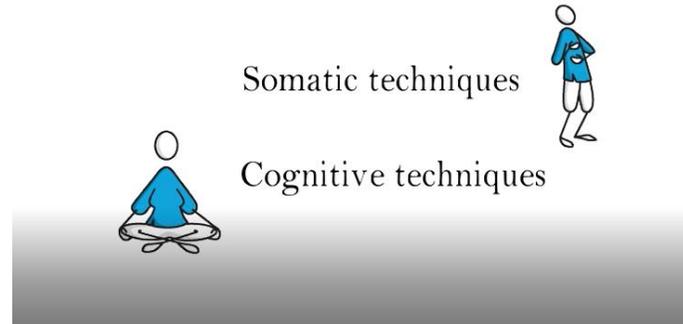


Emotional-Based Techniques

Anxiety Management

Somatic techniques

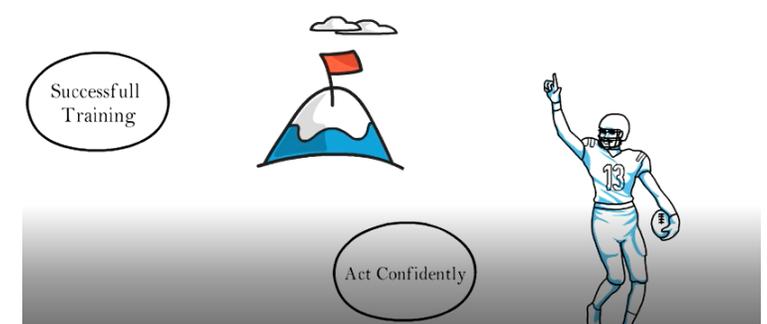
Cognitive techniques



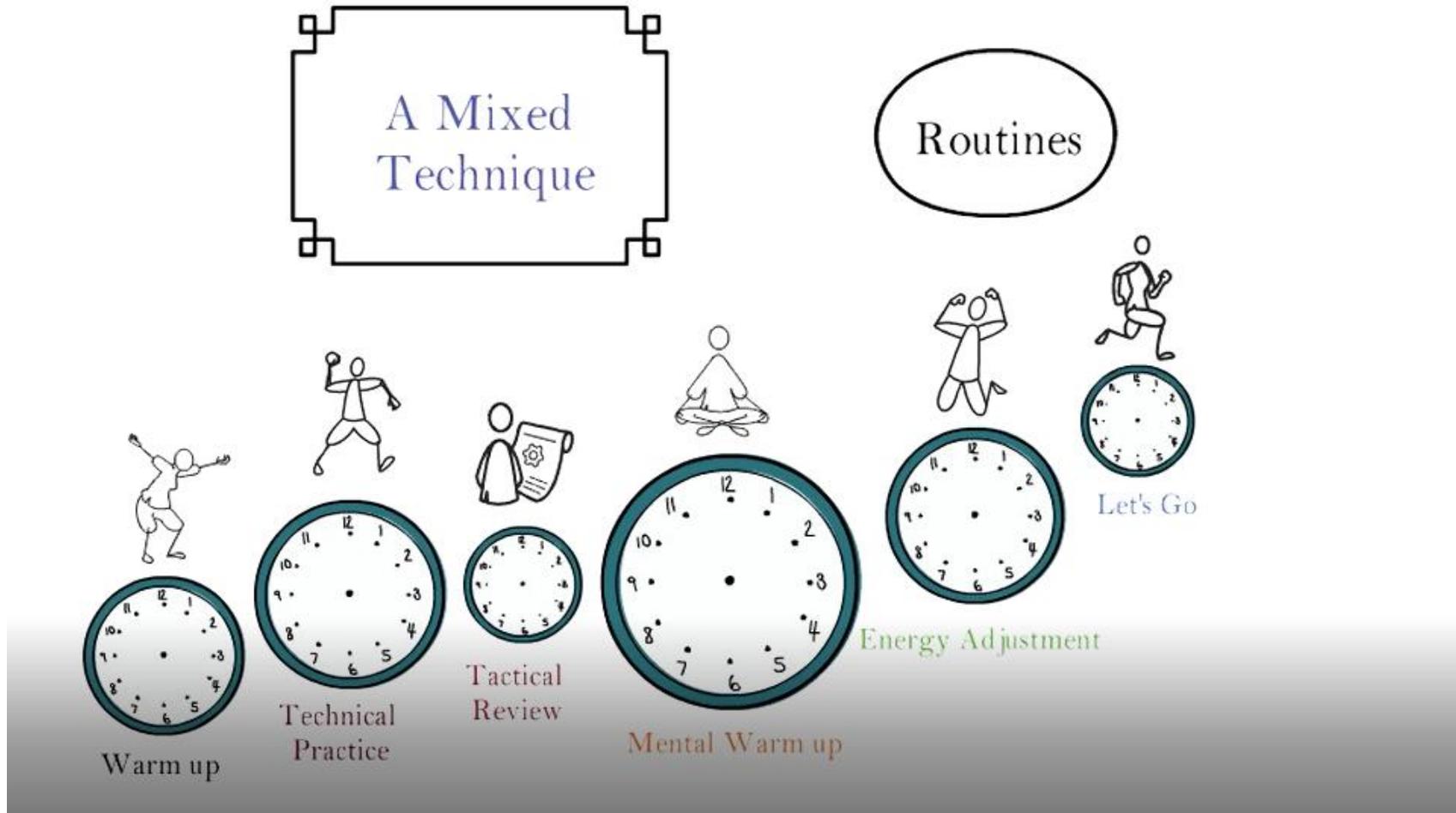
Action-Based Techniques

Successfull Training

Act Confidently

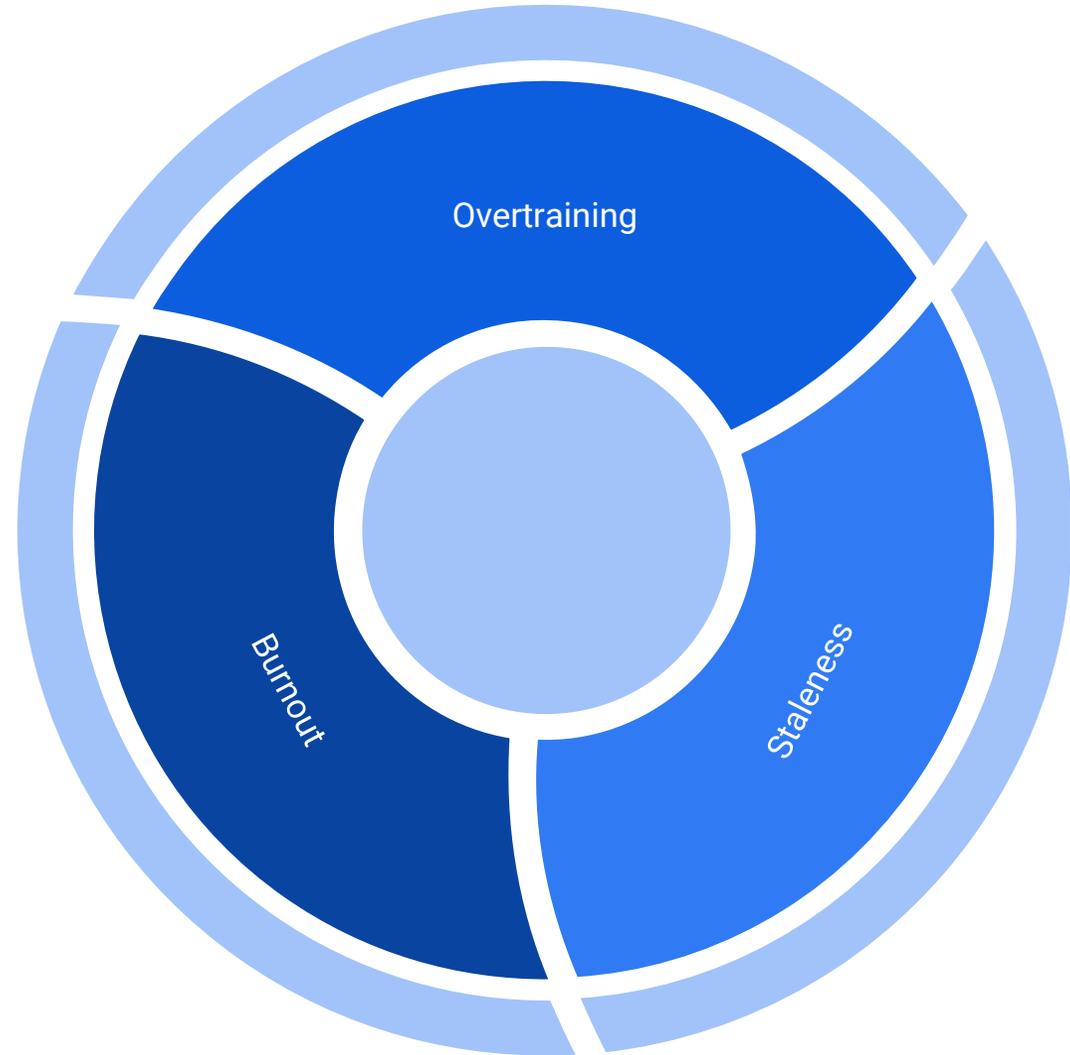


How to cope with Stress/Anxiety?

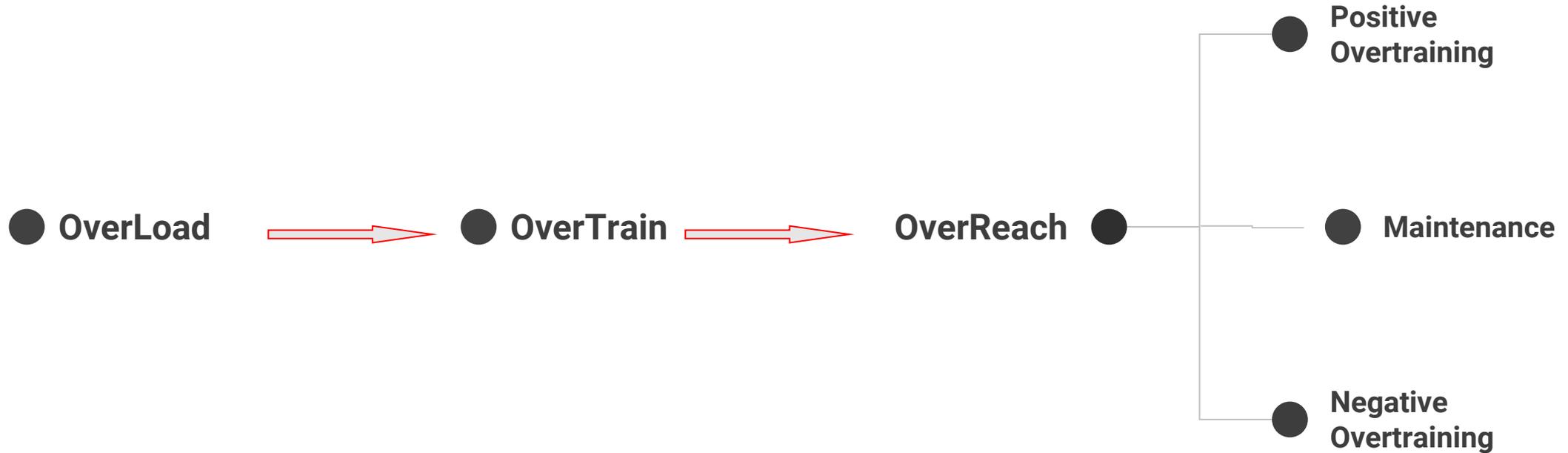


Burnout?

As the **pressure to win** increases, athletes and coaches spend **more time training and feel more stress**—which sometimes leads to **overtraining** and **burnout** or **staleness**.



Consequences of Overtraining



Three elements of burnout

1. Exhaustion, both physical and emotional, in the form of lost concern, energy, interest, and trust
1. Devaluation of activity, stop caring about their sports, drop out
2. Feeling of low personal accomplishment, low self-esteem, failure, and depression

often visible in a decreased performance level

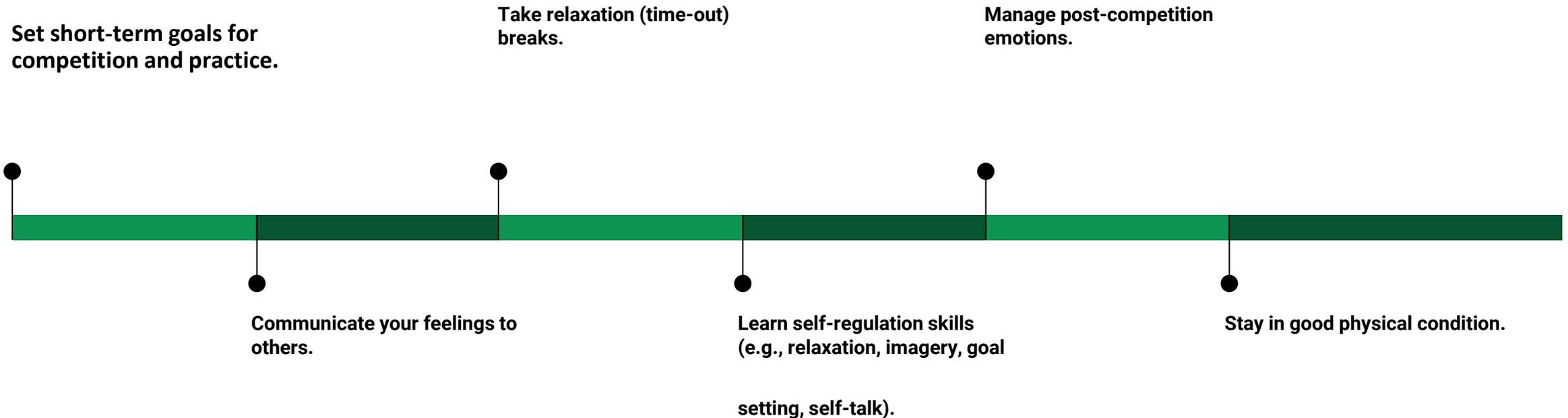
Causes of Burnout among Athletes

- **Physical concerns:** Erratic play, injury, feeling tired
- **Logistical concerns:** Travel, time demands
- **Social or interpersonal concerns:** Negative parental influence, negative team atmosphere
- **Psychological concerns:** Inappropriate expectations, feeling a lack of improvement, coach and parental pressure

What Causes Coaches to be burned out?

1. Pressure to win
2. Disciplinary problems
3. Administrative roles
4. Multiple roles
5. Extensive travels

How to Prevent Burnout?



Key: It's not how hard you train, it's how you recover.



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A Bio-Physio-Psychological Investigation of Athletes' Burnout

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Athletic Burnout



Let's remain in contact

https://www.instagram.com/unrealized_power/



<https://www.youtube.com/channel/UCzKgiPiaWUY3JB>

Thank You
