Imagery in Sport

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Today's Lecture

- What is Imagery?

- Models of Imagery

- Practical 1

- Uses of Imagery & Influence Factors

- Practical 2

Imagery In Sport

Most of the greatest golfers from history have used some form of visualization and mental imagery, including golf's all time leading major champion *Jack Nicklaus.* Nicklaus has even affirmed that 50 percent of success in golf is a golfer's mental picture.

"I never hit a shot, not even in practice, without having a very sharp, in-focus picture of it in my head. First, I see the ball where I want it to finish, nice and white and sitting up high on the bright green grass. Then, the scene quickly changes, and I see the ball going there: its path, trajectory, and shape, even its behavior on landing. Then there is a sort of fade-out, and the next scene shows me making the kind of swing that will turn the previous images into reality"

Imagery In Sport

Hockey's all-time leading scorer Wayne Gretzky have admitted to using pictures as a major part of his success.

"We taped a lot of famous pictures on the locker-room doors," Gretzky says. "Bobby Orr, Felix Potvin, John Beliveau, all holding the Stanley Cup. We'd stand back and look at them and envision ourselves doing it. I really believe if you visualize yourself doing something, you can make that image come true … I must have rehearsed it 10,000 times. And when it came true it was like an eclectic jolt went up my spine.

What is imagery?

Definitions & Conceptualizations

Richardson (1969), described imagery as "**quasi-perceptual** experiences of which we are self-consciously aware and which exist for us in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts" (pp. 2–3).

What is imagery?

Definitions & Conceptualizations

Morris et al. (2005) defined imagery in sport as: the **creation or re-creation of an experience** generated from **memorial information**, involving **quasi-sensorial, quasi-perceptual, and quasi-affective** characteristics, that is under the volitional control of the imager, and which may occur in the absence of the real stimulus antecedents normally associated with the actual experience (p. 19).

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In simples words...

All senses to **create** or **recreate** an experience in the mind

•See •Hear •Touch •Smell •Feel

Create

Make up new information through imagination

Recreate

Information stored in memory

Morris et al. (2005)

Models of Imagery

- Paivio's (1985) Analytical Framework
- Applied Model of Imagery Use in Sport (Martin, Moritz & Hall, 1999)
- The 4 W's (Where, Why,What, When) conceptual framework (Munroe, Giacobbi, Hall, & Weinberg, 2000)
- PETTLEP (Holmes and Collins, 2001)
- Imagery Training Program (ITP) (Morris et al.,2005)
- Applied Model of Deliberate Imagery Use (Cumming and Williams, 2013)

Paivio's (1985) Analytical Framework
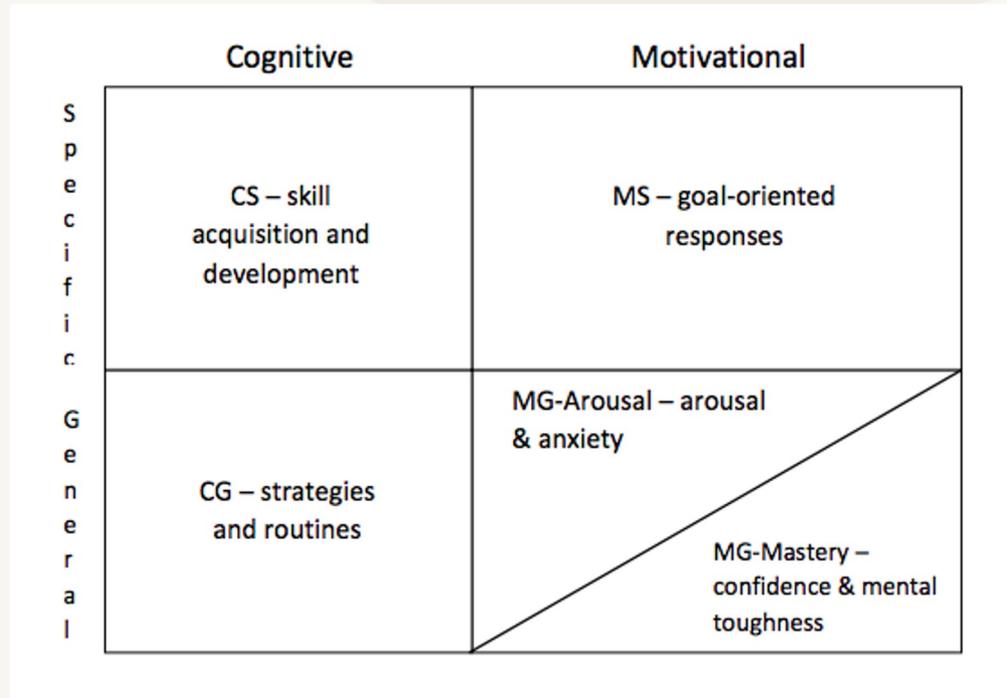
Revised Revised Paivio's (1985) 2 x 2 analytic framework of imagery effects in sport. Adapted from "Imagery use by athletes: Development of the Sport Imagery Questionnaire" by C. R. Hall, D. E. Mack, A. Paivio, & H. A. Hausenblas (1998), International Journal of Sport Psychology, 29, p. 74.

Applied Model of Imagery Use in Sport
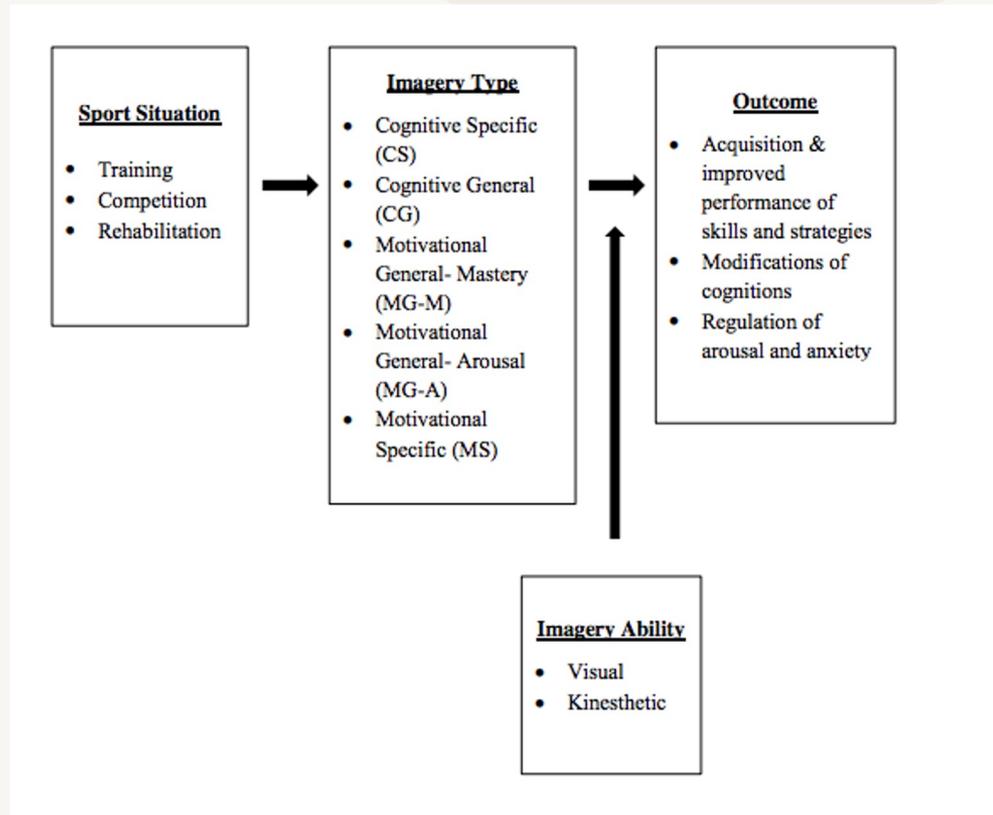
Applied Model of Imagery Use in Sport. Adapted from "Imagery Use in Sport: A Literature Review and Applied Model" by K. A. Martin, S. E. Moritz, and C. R. Hall (1999), The Sport Psychologist, 13, p. 248.

The 4 W's Conceptual Framework
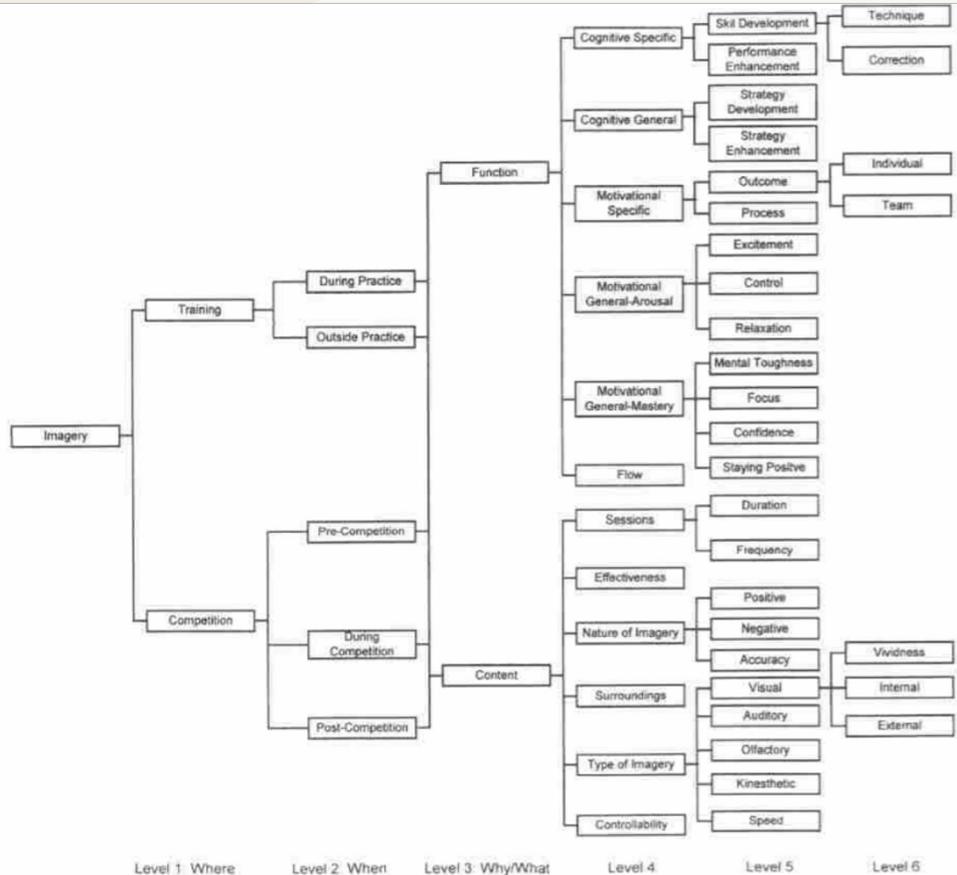
Figure 1 — A conceptual framework for athletes' use of imagery.

Munroe, Giacobbi, Hall, & Weinberg, 2000)

PETTLEP MODEL

Holmes and Collins' (2001)

There are seven key factors that need to be considered in the design of customized imagery training.

1) person (P)
2) the environment (E)
3) the task (T)
4) the timing (T)
5) learning issues (L)
6) emotion (E)
7) perspectives (P)

The PETTLEP Model of Imagery
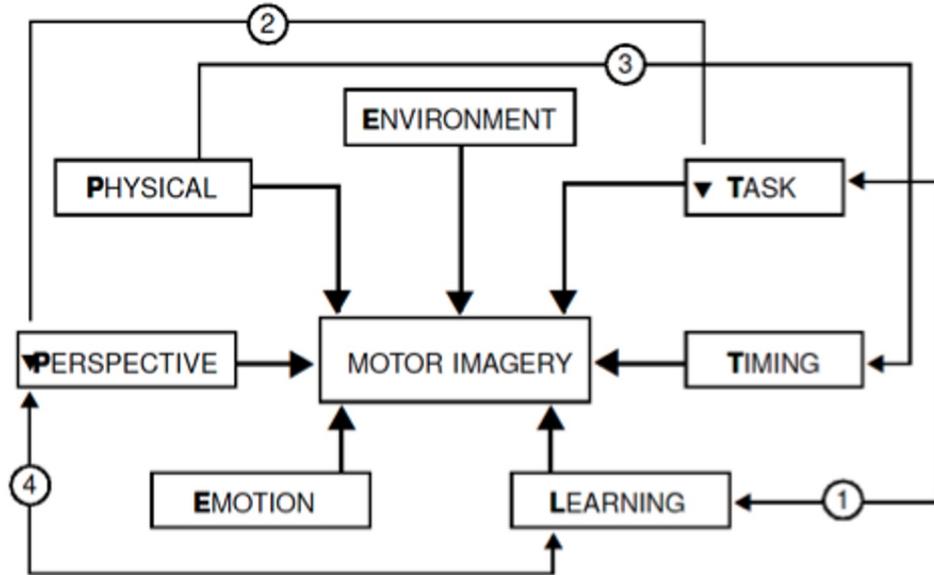
Figure 2. Diagrammatic representation of the PETTLEP model indicating modality interactions and sources. 1 Konttinen et al. (1995); 2 Callow & Hardy (1997); 3 Decety et al. (1989); 4 Collins et al. (1998).

Imagery Training Program (ITP)

Morris et al. (2005)

Six components should be considered, each covering key factors:

1. Personal Prerequisites
2. Environmental Factors
3. Content
4. Rehearsal Routines
5. Enhancement Techniques
6. Evaluation
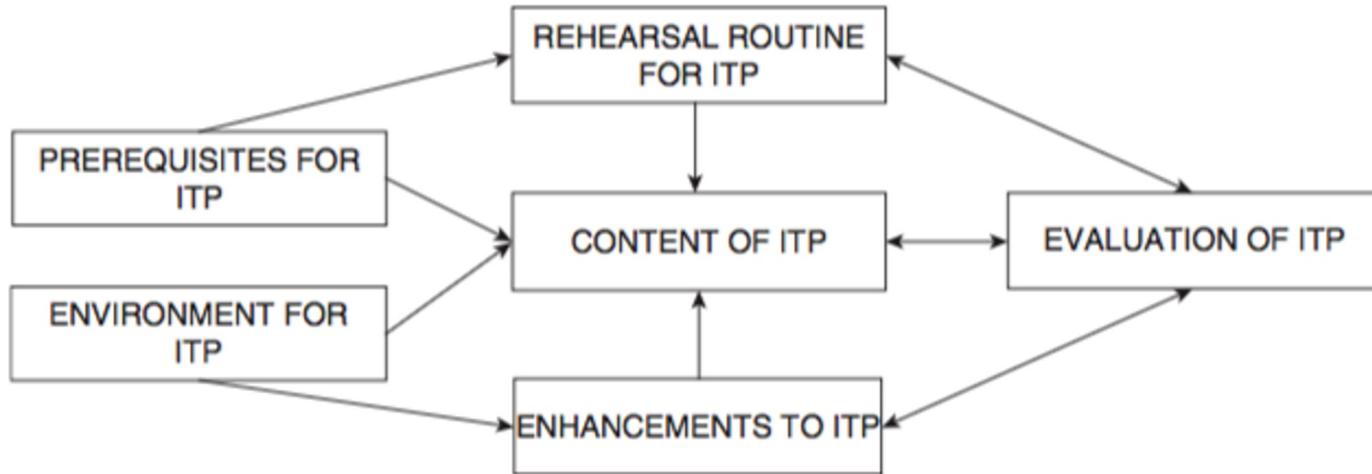
The ITP Model

Figure 50.1 The Imagery Training Program (ITP) model. Adapted from *Imagery in Sport* by T. Morris, M. Spittle, and A. P. Watt, 2005. Copyright 2005 by Human Kinetics.

Applied Model of Deliberate Imagery Use
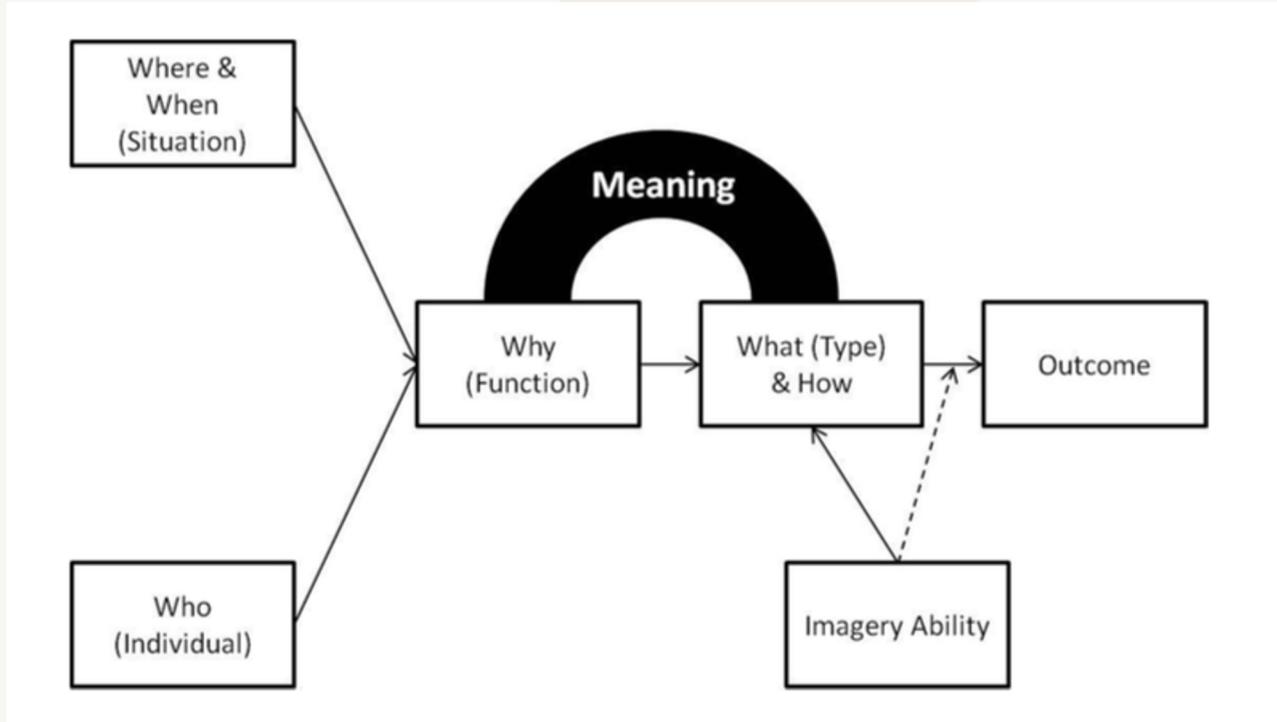
Revised applied model of deliberate imagery use. Adapted from "Revised applied model of deliberate imagery use" in Cumming, J., & Williams, S.E. (2012b). The role of imagery in performance, in S. Murphy (Ed), Handbook of Sport and Performance Psychology (p. 213–232), new York, NY: Oxford University Press
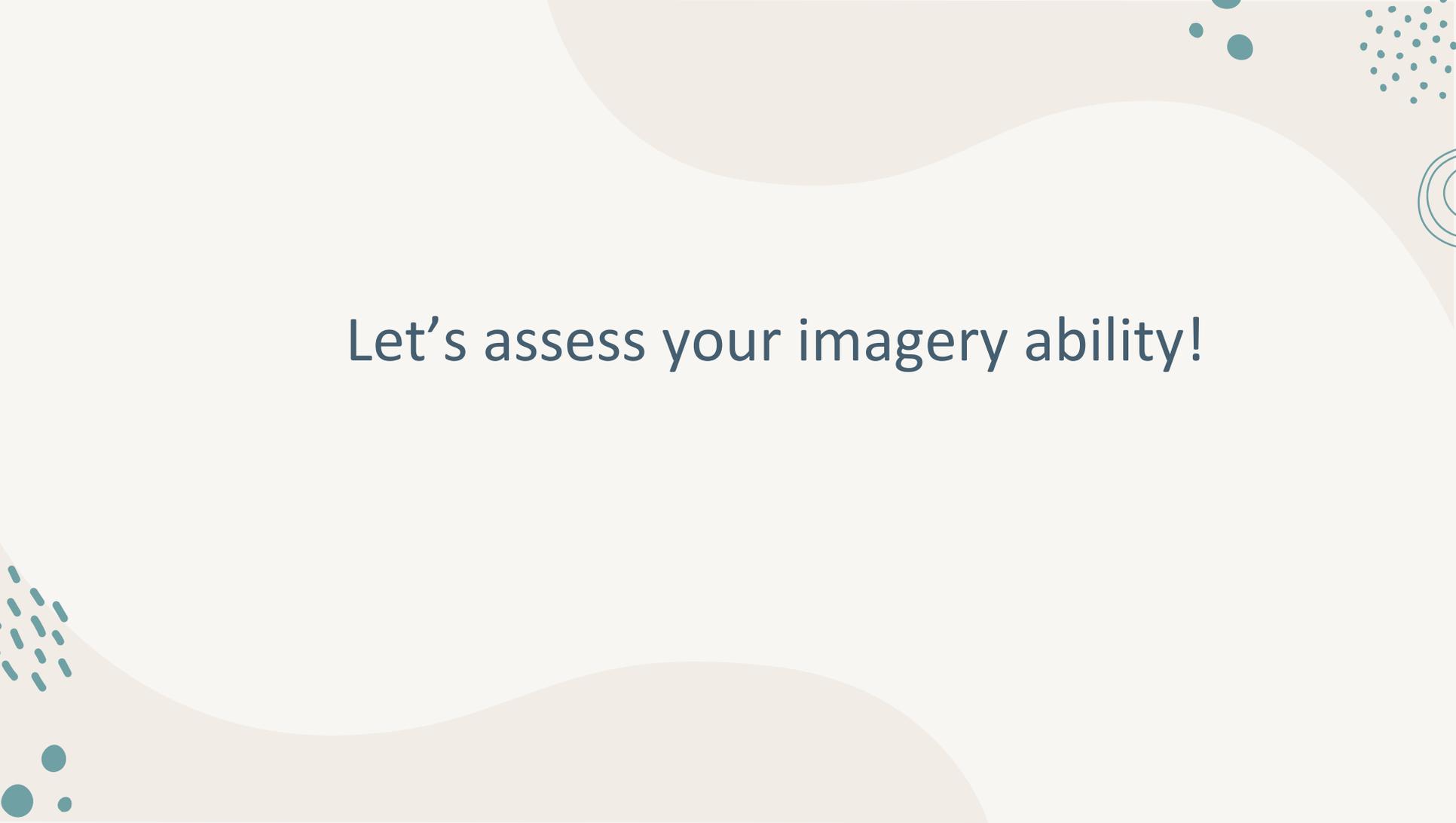
Let's assess your imagery ability!

Uses of Imagery in sport
(Morris et al. 2005)

- Learning
- Performance preparation
- Reviewing performance & correcting errors
- Modifying psychological states
- Competition management
- Attentional control
- Game planning/strategy development
- Rehabilitation from injury
- Performance accomplishments (self-efficacy)

Learning

- Self-modelling video. Athletes film themselves performing the skill as well as they can and then imagine performing it immediately after watching the video.
- Watch other athletes performing the skill. Athletes who are similar to them, but a little more skilled will usually be more appropriate models than those who are much more skilled.
- Highly-skilled athletes can use the self-modelling approach to help them maintain and reinforce the skills. This is often useful when they cannot do physical practice, such as when travelling or injured.

Performance Preparation

Physical preparation (eg. warm up) is often not possible in constrained competition environments, so imagery can be used to "run" the movement sequence in the mind in the build up to performing it (such as closed skills, gymnastics floor exercise routine).

Reviewing Performance & Correcting Errors

- When athletes perform successfully, the imagery review helps to consolidate their performance in memory, so they can run it in future not only to enhance their skills, but also to build confidence.

- When perform badly, after 24 hours…as this can negatively affect emotions.

Modifying Psychological States

Athletes can imagine feeling calm and in control of a crucial match to address issues related to anxiety or they can imagine being totally focused on their performance in contexts that often cause distraction.

Problem-solving

- In this case, review of performance using imagery can help athletes to identify where they made the mistake and act as a tool in the diagnosis of the reason for the error.

- The ability to run the imagery in "slow motion" can often help, with "fast forward" in imagery being used to skip the parts that are not problematic. As with the use of video, athletes can often use their imagery to "zoom in" on a technical aspect of their performance that might be at fault. Once a problem is identified the focus should shift to remedial action, which could involve both physical and imagery practice of the correct technique. If the problem is strategic, again imagery rehearsal of the correct strategy can increase the probability that athletes will perform as they intend in future.

Rehabilitation from Injury

- Coping with pain from the injured region of the body, managing stress associated with the pain, belief in the rehabilitation process, frustration at being unable to train and compete, and performing the behaviors required to facilitate rehabilitation.
- Imagining a large, brightly-colored ball represents the pain and then shrinking the ball and fading the color to a pale grey can help reduce the pain.
- Imagining successfully executing the rehabilitation exercises can build confidence that they can be done and motivate athletes to follow their prescribed rehabilitation.
- Imagining the area of the calf where a muscle is torn, and seeing and feeling warm, fresh blood flowing in to repair the damage.

Factors that Influence Imagery

- Type of Task
- Ability
- Image Speed
- Age
- Skill level
- Imagery perspective

Type of Task

- Imagery is more effective in cognitive tasks or tasks with large cognitive components than motor tasks. (Munroe-Chandler & Morris, 2011)

- Recent research suggests that closed-skill performers use specific imagery functions more than open-skill athletes. (Munroe-Chandler & Morris, 2011)

Ability

- Better imagery ability leads to better performance on a variety of motor tasks. (Hall, 2001)

- Novice performers may not be as skilled at imagining given their lack of ability to develop knowledge of the spatial and kinesthetic requirements of the task. (Driskell, Copper, & Moran, 1994)

- Cumming et al., 2016 developed the layered stimulus and response training (LSRT) designed to improve imagery ability)

Image Speed

- When learning or developing a skill or strategy, slow-motion images were used most often, and when imaging skills or strategies that had been mastered fast-motion images were used most often used. (Shirazipour, Munroe-Chandler, Loughead, & Vander Laan, 2016)

- Recreational and competitive athletes reported using three image speeds depending on the function of imagery being employed and the stage of learning of the athlete. (O & Hall, 2009)

Age
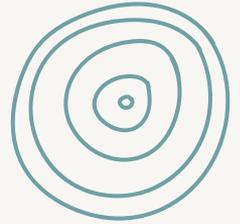
- It is not until age 14 that children are able to image similarly to their adult counterparts. (Kosslyn, Margolis, Barrett, Goldknopf, & Daly, 1990)

- An imagery intervention study did identify age-related results, such that only the younger athletes (7–10 years) performed faster on a soccer task, when compared to the older athletes (10–14 years)

 (Munroe-Chandler, Hall, Fishburne, Murphy, & Hall, 2012)
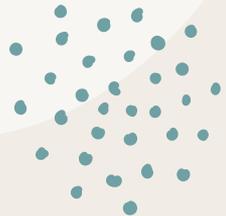
Skill Level

- Evidence suggests that highly skilled athletes use imagery more than beginners, which might relate to their greater capability to imagine skills, especially their correct execution.

- Nonetheless, it has been proposed that beginners might benefit from imagery that is designed to take into account their developmental stage.

(Cumming & Hall, 2002; Hall, Mack, Paivio, & Hausenblaus, 1998; Hausenblas, Hall, Rodgers, & Munroe, 1999).

Imagery Perspective

- Tasks relying heavily on the use of form (e.g., gymnastics) are most effective when imaged from an external perspective (White & Hardy, 1995).

- Some researchers (Munroe, Giacobbi, Hall, & Weinberg, 2000; Smith, Wright, Allsopp, & Westhead, 2007) support athletes using a combination of internal and external perspectives.
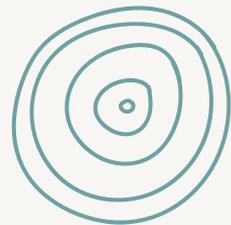
Let's Practice!

Visualization Technique #1: Handling Stressful situation

- **Step 1**: Find yourself a quiet location, get into a comfortable position with your back straight. Avoid lying on a couch, as that will make it more difficult to visualize clearly.
- **Step 2**: Breathe to get yourself relaxed and allowing your mind to become settled.
- **Step 3**: Create your image. Now you want to bring yourself into the moment in which you feel pressure. Make it as real as possible by incorporating all the sights and sounds of the environment.
- **Step 4**: Generate your optimal emotional state. If you make the situation real enough, your normal emotions will set in. Recognize them, and then replace them with how you wish to feel. Feel relaxed, calm, and confident, see yourself succeeding.

Visualization Technique #2: Relax after competition

Step 1: Find yourself a quiet location, get into a comfortable position with your back straight. Avoid lying on a couch, as that will make it more difficult to visualize clearly.

Step 2: Breathe to get yourself relaxed and allowing your mind to become settled.

Step 3: Imagine a situation in which you feel the most relaxed and at peace. The scene does not matter as much as the emotions it generates. For me, I like to visualize myself on the beach. Either sitting there, looking out at the ocean or walking along with my dog. Be sure to be vivid within your imagery and make sure the emotions are intense enough to be called upon in the future.

Visualization Technique #3: Skill Mastery
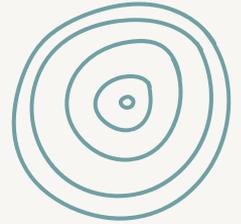
- **Step 1**: Find yourself a quiet location, get into a comfortable position with your back straight. Avoid lying on a couch, as that will make it more difficult to visualize clearly.

- **Step 2**: Breathe to get yourself relaxed and allowing your mind to become settled.

- **Step 3**: Begin to create your scene. I'll use a baseball player hitting a free throw. You can visualize yourself hitting a free throw, then progress to hitting free throw in practice. From there, see yourself hitting in a game. The key is to make it detailed and real. See and feel yourself succeed each time.
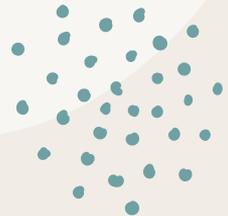
Visualization Technique #4: Injury Rehab

•**Step 1**: Find yourself a quiet location, get into a comfortable position with your back straight. Avoid lying on a couch, as that will make it more difficult to visualize clearly.

•**Step 2**: Breathe to get yourself relaxed and allowing your mind to become settled.

•**Step 3**: Create the scene of you performing. You can use the same technique as with skill mastery, going into detail, seeing yourself train. You can also visualize a whole game, or the parts of a game you're involved in. That way, you are simulating game-like situations within your mind.

•**Step 4**: Visualize yourself healed. See yourself free from injury, performing at full capacity. Feel gratitude and happiness for being able to return to the game you love.

Thank you!
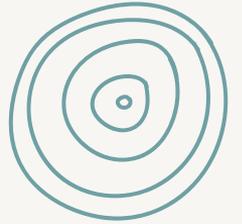
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