



INSPIRED BY IMAGINATION: HOW IMAGERY CAN HELP YOU BE BETTER AT SPORT

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YOUNG REVIEWER:



SPANDANA

AGE: 13

Have you ever pictured yourself scoring the game-winning goal or staying calm at a crucial point in a match or performance? If you answered yes to either of these, then you have used a mental skill called imagery. Imagery is creating (or recreating) situations in your mind. Many top athletes in the world use imagery to help them perform at their best. In fact, just like any physical skill, such as running or a tennis serve, imagery improves with practice. In this article, we explain how imagery works, suggest what to image, and explain when and where you can use imagery to improve sport performance.

Imagery is more easily experienced than explained. To illustrate this point, let us go through a short exercise. Close your eyes and imagine eating a slice of watermelon. Stop reading and imagine it.

THINK ABOUT WHAT YOU SAW

Now, repeat this exercise, but this time, imagine holding the slice of watermelon in your hand. See the vibrant colors—the green rind, the

IMAGERY

Creating or recreating an experience in your mind.

FUNCTIONAL EQUIVALENCE

When the parts of the brain that are activated while *performing* a task (like a penalty shot in ice hockey) are also activated when *imagining* the same task.

pink flesh, and the brown seeds. As you take a bite, taste the sweetness of the ripe watermelon, hear yourself slurp as you sink your teeth into the fruit, and feel the juice drip down your hand. Stop reading now and imagine it.

In almost every case, the second picture will have been more vivid because of the focus and effort you needed to use to create the image. Most of us can create a vivid experience (like eating a slice of watermelon on a warm day) when the instructions are detailed. This exercise is an example of imagery. **Imagery** is defined as creating or recreating an experience in your mind. It is more than just “seeing” the watermelon—it is tasting it, hearing the sounds as you eat it, and feeling it in your hand. The imagery of eating the watermelon may make you smile and wish for summer vacation.

You may be wondering why you are reading about watermelon if this article is about sport! The watermelon exercise demonstrates your ability to create powerful images that you can not only visualize, but experience. Imagery can be used for more than just *recalling* a memory; it can be used to create *new* images, such as performing a new sport skill. In fact, researchers have found that kids as young as 7 years of age use imagery in sport to learn and develop new skills and strategies, manage their emotions, increase confidence, and improve performance [1]. When combined with physical practice, imagery improves performance more than practice alone.

HOW DOES IMAGERY WORK?

Imagery works by triggering the same parts of the brain that are activated when you actually perform the task. For example, when athletes imagine themselves taking a penalty shot in ice hockey, the areas of the brain that become active when they physically skate toward the net and release the puck will also be active when imagining the shot. This is referred to as **functional equivalence** [2] and it can lead to improved sport performance.

Following the guidelines of the PETTLEP model helps athletes achieve functional equivalence between imagery and actual performance [3]. There are seven key factors in the model: physical, environment, task, timing, learning, emotion, and perspective (Table 1). Although any imagery training is beneficial, following the key factors from PETTLEP while practicing your imagery three or more times per week is recommended.

IMAGERY HELPS WITH SKILL DEVELOPMENT

Young athletes can use imagery to help with skill development and skill execution. When a baseball player learns how to throw a baseball

Table 1

PETTLEP: 7 key factors when using imagery.

P	Physical	Imagery should be a physical experience. For example, when imaging, hold your tennis racquet, wear your goggles and swim cap, or feel your heartbeat as you near the last 100 m on the track.
E	Environment	The image should be as real or as close to the actual environment as possible. If possible, use imagery in the actual environment (for example, go to the top of the downhill ski race). If that is not possible, or you are unfamiliar with the competition venue, perhaps video footage or pictures will help.
T	Task	Depending on your skill level and your preferences, where you choose to focus your attention and therefore image may change. An Olympic sprinter may focus on staying low out of the blocks, whereas a high school sprinter may focus on a quick reaction to the starting pistol.
T	Timing	The timing of the image should be equal to that of your physical performance, if possible. For example, if a gymnastics routine takes 1 min to physically execute, so too should the imagery.
L	Learning	What you imagine may change as you continue to learn the skill. For example, the content of your image when you are first learning a penalty stroke in field hockey should be different from when you have mastered the skill.
E	Emotion	Images will be more effective if you attach meaning or emotion to them. If you imagine a personal best time, feel the excitement and the joy that is part of it.
P	Perspective	Consider using both perspectives, internal (imagining it through your own eyes) and external (seeing yourself performing as if watching on tv), when imaging.

Table 1

with correct technique, this is known as skill development. When a volleyball player does a serve as best as they can, this is referred to as skill execution. Research shows that if you imagine the proper execution of a skill, it will help with the *actual* execution of the same skill when you do it in real life. Also, athletes can perform a drill faster and with less mistakes when they use imagery compared to those who do not use imagery [4].

IMAGERY IMPROVES STRATEGY

When the coach tells the basketball team to play a full-court press, this is known as a sport strategy. Imagery can help athletes learn and perform strategies in many different sports. In fact, athletes who use imagery in sport have been found to make quicker decisions about which strategies to use and when to use them. Young athletes have indicated that using imagery helps them to anticipate what will happen next in game situations [1].

SELF-CONFIDENCE

Trusting your own skills and abilities, and believing that you can perform well in your sport.

SELF-EFFICACY

Your confidence in being successful at a specific task (such as the free throw). The confidence of an entire team in their joint success is known as collective efficacy.

IMAGERY BOOSTS CONFIDENCE

Researchers study two types of confidence in athletes: self-confidence and self-efficacy. If you believe that you are capable of performing successfully in your sport, you demonstrate **self-confidence**.

Self-efficacy is similar to self-confidence, but it is specific to a task or situation. For example, a basketball player can have a high self-efficacy in shooting a free throw but can have a low self-efficacy in dribbling. If athletes imagine being confident, focused, and mentally tough in sport situations, they can gain more self-confidence and self-efficacy in their sports.

Imagery is not only beneficial for individual athletes—it can also help build the confidence of an entire team. This is known as collective efficacy and it happens when each player on the team believes that, together, they can be successful. A youth girls' soccer team improved their collective efficacy in both training and competition by using imagery for 10 min each day over 13 weeks [5].

IMAGERY HELPS TO MANAGE NERVES

Have you ever felt nervous before a game? If so, you may have noticed your clammy hands, or felt your heart beating quickly. This is called competitive anxiety, and it can be harmful to your sport performance if it is not managed properly. Do not worry if you do not know what to do—imagery can help! If you imagine being calm and relaxed in your sport, this can help lower your anxiety and stress related to competition and performance.

WHERE AND WHEN SHOULD I USE IMAGERY?

One of the great things about imagery is that it can be used anywhere! Imagery can be used before, during, and after both practice and competition. For example, you may choose to use imagery before practice, to help yourself mentally prepare, or after a game, to help yourself reflect on areas you want to improve. You may decide that the best time to use imagery is right before going to sleep at night. Although imagery use is important during the sport season, it is equally important to use in the off-season. Think about where and when imagery may work best for you!

WHAT SHOULD I IMAGE?

When using imagery, it is important to create or recreate the content of the image as realistically as possible. Think of “content” as all the details you can include in your image to help make it more vivid—remember the watermelon exercise. For example, use as many different senses

INTERNAL VISUAL IMAGERY

Imagining through your own eyes.

EXTERNAL VISUAL IMAGERY

Seeing yourself from someone else's point of view, as if you were a spectator or watching yourself on TV.

as possible to help make your images come to life. This could include imagining the *smell* of the freshly cut grass on the soccer pitch or the *sound* of the referee's whistle. It may include the *feeling* in your leg muscles as you perform a corner kick, or the *touch* of your teammate's hand as they high-five you. Also, keep your images positive. Think of times when you have done well or create images of goals you want to achieve. Finally, your images may be from either an internal or external perspective. That is, you could be seeing your image from your own eyes (**internal visual imagery**), or watching yourself as if you were on TV (**external visual imagery**). Both perspectives are great, and you are encouraged to use the one that works best for you.

Figure 1

A summary of how imagery works and how you can use it to help yourself improve at sport.

HOW IMAGERY CAN HELP YOU BE BETTER AT SPORT

What is imagery?

Imagery is creating or recreating an experience in your mind.

Imagery helps your performance by triggering the same parts of the brain that are activated when actually doing the task.

Use all your senses!

- TOUCH
- TASTE
- SMELL
- SOUND
- SIGHT
- FEEL

Try imaging...
3-5 times per week
10-15 minutes a day

IMAGERY IMPROVES WITH PRACTICE!

Follow the 7 key factors of the PATTLEP model to better your imagery!

USE IMAGERY... (Examples)

- #1 PHYSICAL** While holding a tennis racquet.
- #2 ENVIRONMENT** On top of a downhill ski race.
- #3 TASK** To review a play in football.
- #4 TIMING** To rehearse the exact timing of your gymnastics routine.
- #5 LEARNING** To learn a penalty shot and to improve technique once you have mastered it.
- #6 EMOTION** To feel the joy of achieving a personal best time.
- #7 PERSPECTIVE** To see yourself performing as if watching on TV.

(Holmes & Collins, 2001; Jeannerod, 1994)

Figure 1

VIVIDNESS

The clarity and detail of images that you create.

CONTROLLABILITY

The ability to change or control your imagery.

HOW DO I PRACTICE MY IMAGERY?

To help you practice your imagery, you are encouraged to improve the vividness and controllability of your images. **Vividness** refers to how *clear* your image is, while **controllability** is your ability to *change or control* your images. Try this to help improve the vividness and controllability of your images: Imagine you are in your bedroom. What color is your bedding? How clearly can you see this color? Is it clear and easy to see, or cloudy and difficult to see? Now, can you imagine your bedding as a different color? How easy or hard is it to imagine this new color?

If this is challenging that is okay—keep practicing and over time you will improve! Take a look at Figure 1 for a summary of how to use imagery in sport.

CONCLUSION

Imagery is a powerful mental skill athletes use to improve performance. We are all capable of using imagery and we know that imagery improves with practice. While imagery may be easy for some athletes, others may take some time to develop their ability to image. We recommend using imagery at least 3–5 times a week for 10–15 mins a day. The more you image, the better your imagery will become! When you use imagery for sport, make it as real as possible and decide what you want the outcome to be. Imagery can be done anywhere at any time. You do not need a pitch, pool, or arena to imagine. Practicing imagery as part of your routine will help you become a better and more complete athlete.

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YOUNG REVIEWER

SPANDANA, AGE: 13

Hello, my name is Spandana! I like to read sci-fi and play volleyball. I find science
interesting and love to learn about psychology and space. Some of my hobbies are
drawing, listening to music, and playing my guitar.



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