



The Effects of Imagery Training on Swimming Performance: An Applied Investigation

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Abstract: A multiple-baseline design was used to examine the influence of an imagery intervention on the performance of swimmers' times on a thousand-yard practice set. Performance times for four swimmers were collected over a 15-week period during preseason training. The intervention took place over a 3-week period and was introduced after the fourth week of the study. The results revealed that three out of four participants significantly improved their times on the one thousand-yard practice set after being introduced to the imagery intervention. The results are discussed in terms of the implications of using imagery to improve athlete's performance on continuous tasks.

Overview of Study

What was done with Swimmers

1. Their imagery ability was measured using the Movement Imagery Questionnaire (MIQ). This measures visual and kinesthetic imagery ability and is composed of eight questions that require participants to first perform a specific action (e.g., arm, leg movements, etc.) and then image the just performed movement. After imaging the movement, participants are asked to rate their ability to see or feel the action on a 7 point Likert scale, from 1 (very hard to see/feel) to 7 (very easy to see/feel).
2. Participants swam the 1000-yard timed set using their dominant stroke. Three participants (P1, P2, P4), swam using a freestyle stroke and one participant (P3) swam five 200-yard individual medleys.
3. Imagery training consisted of having participants practice basic images in a quiet and comfortable room. Participants then identified the content and aspects of their personal imagery script. Participant feedback along with the coach's input was used to develop imagery scripts specific to each swimmer. After the first three sessions, participants listened to a rough draft of their imagery script and continued to practice basic images associated with their performance (e.g., stroke and flip turns). Participants were then given an opportunity to make changes and modify their script to their individual preference. During the next five sessions the imagery training was reinforced and the script was continually customized to ensure that it met each participant's needs as well as the coach's recommendations. Participants were provided with a MP3 file on a CD containing their individualized script. Participants were instructed to listen to their imagery script twice a week (i.e., once during the week and once on the weekend) and once before their practice of the timed 1000-yard practice set.

4. Following the intervention each participant was interviewed and asked 3 questions:
 - A. How much did improving your 1000-yard practice times matter to you?
 - B. Did you enjoy using the imagery intervention?
 - C. Do you think the imagery intervention benefited your 1000-yard practice times?

Results:

1. All four swimmers scored relatively high for both visual and kinesthetic imaging ability on the MIQ.
2. Imagery logs and post-experiment interviews showed that the 3 swimmers who improved their times adhered to the study's protocol and listened to the imagery scripts twice outside of practice and once before the times 1000-yard practice set.
3. The average times that dropped during training versus baseline for three swimmers was 43.6s, 9.3s, and 14 seconds.
4. The 3 swimmers whose times dropped all believed that the imagery program was very beneficial in not only improving their times but in helping their focus.
5. Some meaningful feedback was obtained during the interviews:
 - A. "It helped me to relax and focus on the 1000-yard practice set, on...the things I needed to do to swim well".
 - B. "It helped me narrow down my focus on the practice set...on what I was supposed to be doing instead of freaking out. I wasn't freaking out as much when I started doing the imagery because I would just focus on what I was doing in my imagery, you know not getting tired, my stroke, and I think that helped me out a lot."
 - C. "The focusing part for one, it allowed me to focus on the 1000, focus on my stroke and it helped me be able to get rid of distractions before getting to practice."
 - D. "It allowed me to really break down my strokes, so I can focus on them exactly how I wanted to perform them. It also got me more motivated, I had a better attitude because I would think of the thousand and think about okay this is what I have to do."

Conclusions:

The current study suggests that imagery may be an effective skill for improving swimming performance.

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