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Enhancing an individual's imagery ability: Can layering images facilitate ease of imaging?

Sarah E. Williams, Sam Cooley, and Jennifer Cumming

School of Sport and Exercise Sciences
University of Birmingham

Purpose

To investigate whether a layering imagery intervention could enhance an individual's ability to generate general and golf-specific images, and whether this intervention produced greater self-efficacy and golf putting performance improvements compared to two imagery control groups.

Methods

Participants

After screening 311 potential participants, 43 met the criteria to participate in the study (i.e., scored below 5 on the Sport Imagery Ability Questionnaire skill subscale; SIAQ; Williams & Cumming, 2011). Of those 43 participants, 24 (12 female; *M*age = 20.13, *SD* = 1.65) agreed to take part in the intervention.

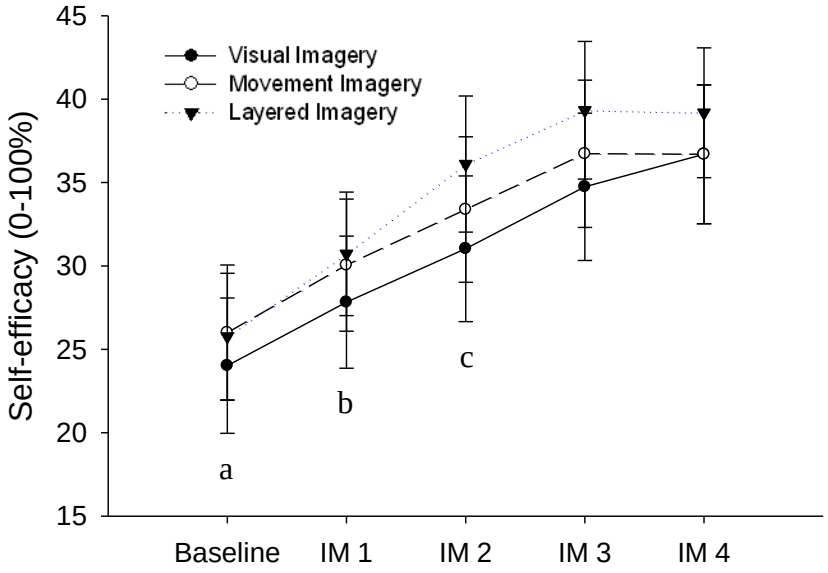
Measures and Procedure

Participants were randomly assigned to either a layered imagery group (i.e., participants built up an image of performing the putting action), movement imagery control (i.e., participants imaged the scenario without a layered approach), or visual imagery control (i.e., participants imaged the ball rolling into the hole). Sport imagery ability (i.e., SIAQ), movement imagery ability (i.e., Movement Imagery Questionnaire-3; Williams et al., 2011), self-efficacy, and golf-putting performance were assessed before and after participants completed the four day imagery intervention. Ease of imaging the golf-specific images was assessed following each imagery session.

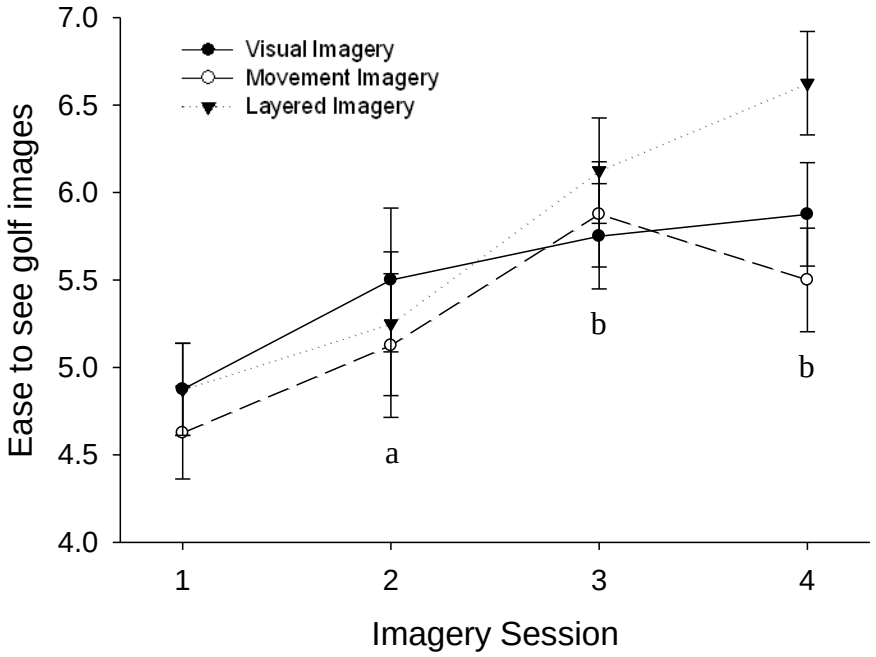
Results

Following the imagery intervention all participants experienced a significant increase in their internal visual imagery ability of general movements, as measured by the MIQ-3, compared to baseline. Moreover, the layered imagery group reported significantly greater skill (i.e., SIAQ subscale) and kinesthetic imagery ability (i.e., MIQ-3 subscale) compared to their baseline, and compared to the visual imagery group at post-intervention. The layered group also reported greater skill imagery ability than the movement group at post-intervention. There were no significant changes in external visual imagery, strategy imagery, goal imagery, affect imagery, or mastery imagery ability for any of the groups.

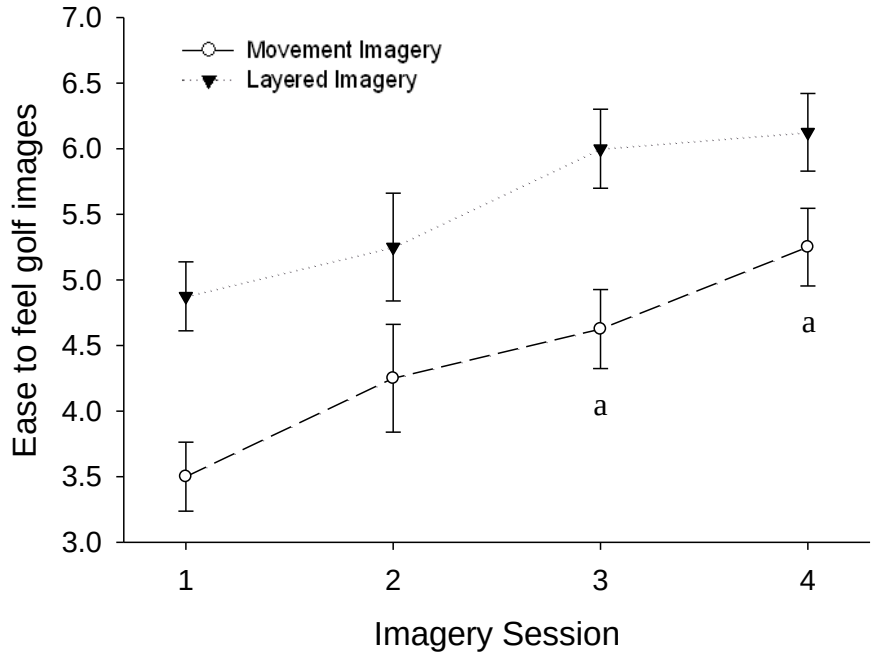
All groups reported a significant improvement in their self-efficacy and ease of imaging golf-specific images during the intervention. However, the layered group reported a greater ability to feel the putting image compared to the movement imagery group.



a = all groups significantly lower than imagery sessions 1, 2, 3, and 4. b = all groups significantly lower than imagery sessions 2, 3, and 4. c = all groups significantly lower than imagery sessions 3 and 4. ($p < .01$).

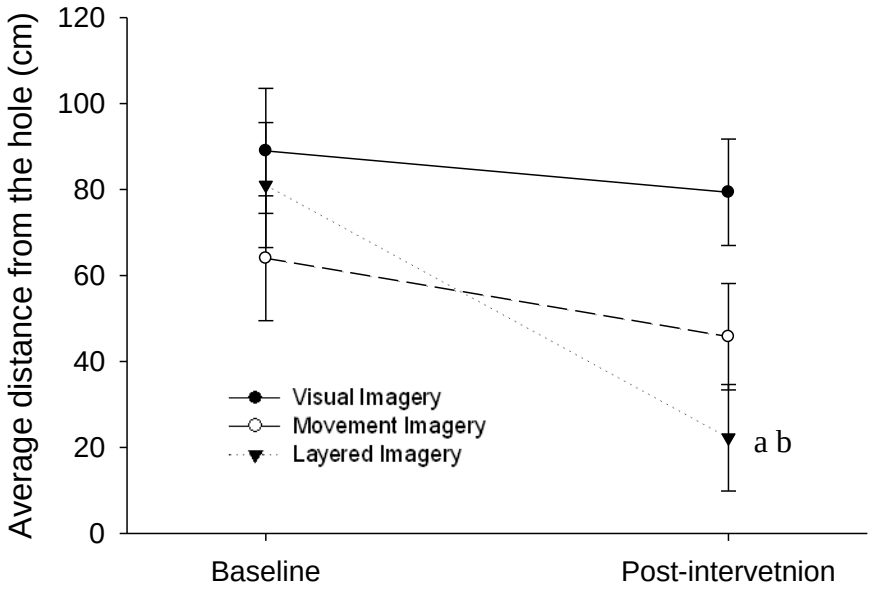


a = all groups significantly greater than session 1. b = all groups significantly greater than sessions 1 and 2. ($p < .01$).

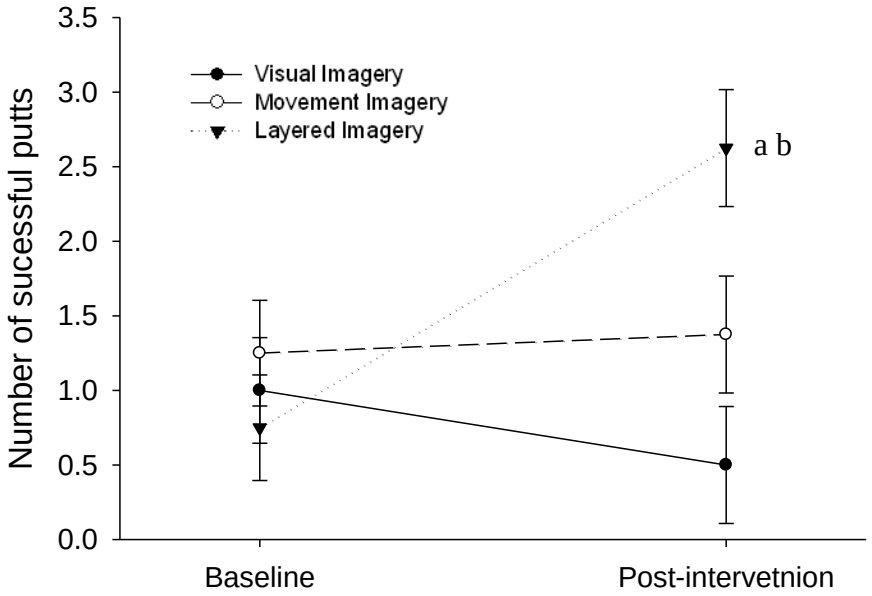


a = both groups significantly greater than sessions 1 and 2 ($p < .01$).

Following the intervention, putting attempts by the layered group were significantly closer to the hole and these participants also significantly improved the number balls successfully holed compared to their baseline performance and the performance of the other two groups at post-intervention.



a = significantly different to the visual imagery group post-intervention score (p < .01). b = significantly different to baseline (p < .001).



a = significantly different to the visual imagery group post-intervention score (p < .01). b = significantly different to baseline (p < .001).

Implications

Results suggest performing skill-based imagery is likely to improve individuals' abilities to image that content and increase their self-efficacy in successfully performing the skill. More importantly, results demonstrate building images up through a layering approach is an effective way of improving both specific and general kinesthetic and skill based imagery ability. These improvements in imagery ability can be used to facilitate performance of a golf putting task.

Planned Output

The findings from the study are currently being written up for publication and to submit an abstract to present at the AASP conference in 2012.

References

Williams, S. E. & Cumming, J. (2011). Measuring athlete imagery ability: The Sport Imagery Ability Questionnaire. *Journal of Sport & Exercise Psychology, 33,* 416-440.

Williams, S. E., Cumming, J., Ntoumanis, N., Nordin, S. M., Ramsey, R. & Hall, C. R. (2011). *Further validation and development of the Movement Imagery Questionnaire.* Manuscript submitted for publication.