ecological validity. Watt, Morris, and Andersen (2004) developed the Sport Imagery Ability Measure (SIAM). Study of a Thai-language version reported in Paper 2, reflects on the robustness of the SIAM, for use with Thai athletes. Further evidence on the cultural and linguistic transferability of the SIAM is presented in Paper 3, which examines construct validity of a Hebrew-language version. The relationship between imagery ability and key sport-related variables is examined in Paper 4, signaling use of the SIAM in applied contexts. Paper 5 reviews the importance of experimental techniques to measure motor imagery ability. This symposium shows that imagery is an effective technique in sport and that imagery ability can be measured in ecologically-valid ways using the SIAM and experimental paradigms.

## What you see is what you get: A metaanalytic review of the effects of imagery in sport and exercise domains

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Imagery is often proposed to be an effective way to enhance the physical performance of athletes and exercisers. A meta-analytic evaluation of the extant literature was conducted to provide an objective assessment of the veracity of that proposal. Previous metaanalyses in the area have reported significant benefits of imagery, although the most recent of these was conducted more than 15 years ago, since when much additional research has been conducted. Search procedures, which included a systematic trawl of 14 electronic databases and manual searches of 12 relevant journals, identified a total of 205 relevant articles for detailed review. Of these, 108 studies met the inclusion and exclusion criteria and were included in the meta-analysis. Overall, 291 effects from 4,220 participants were derived from the studies. Using a random effects model, weighted mean effects and moderating variables were assessed via the Comprehensive Meta-Analysis software. The overall weighted mean effect (d = 0.53) indicated that imagery is associated with significant benefits to performance in sport and exercise. This moderate beneficial effect is

similar to those reported in previous metaanalyses. Several moderating variables were identified. Males derive greater benefits from imagery (d = 0.52) than females (d = 0.36). Experienced participants derive benefits from imagery (d = 0.52) than novices (d = 0.44).Cognitive tasks, such remembering complex routines, were enhanced more by imagery (d = 0.98) than strength tasks (d = 0.36) and motor tasks (d =0.46). Imagery research published in Tier A journals reported larger effects (d = 0.95) than in Tier B journals (d = 0.63), Tier C journals (d =0.42), and unpublished research (d = 0.19). The present findings have strengthened the evidence base for the use of imagery in sport and exercise domains. Used appropriately, imagery is typically associated with significant performance benefits. Given the larger effects reported in Tier A journals, where it may be assumed that tighter control of potential confounds has occurred, the true benefits of imagery may be greater than suggested by the overall effect found in the present metaanalysis.

Keywords: imagery, physical performance, athletes, cognitive task, sport

## Confirmatory factor analysis of the Thai language version of the sport imagery ability measure

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We report on translation of the Englishlanguage Sport Imagery Ability Measure (SIAM) Thai language (SIAM-T), internal consistency, test-retest reliability, confirmatory factor analysis, and construct validity of the SIAM-T. The SIAM was translated into Thai by two bilingual Thai sport psychologists, backtranslated to English by two bilingual Thai sport psychologists naïve to the English SIAM, checked by one of the Australian authors of the SIAM, amended by the original translators, back-translated again by the two original backtranslators, and approved by the Australian author. The SIAM involves imagination of individual-specific versions of four generic sport scenes, each for 60 seconds, followed immediately after imagery of each scene by ratings on 12 subscales, six sense modalities