

primes, even when controlling for prime visibility. In addition, on free-choice trials participants selected the primed response more than the non-primed response. If unconscious priming resulted merely from associations between physical properties of the prime stimulus and the motor response then priming should have been confined to situations where the prime and target were identical. However, since the novel primes affected RTs to target numerals and free-choice decisions in the same manner as identical primes, the data support the position that unseen numerals are processed for semantic-level content and that people's free-choice decisions are not as "free" as some might like to believe.—Dr. Todd A. Kahan

MIND TRAINING

Does exercising the mind result in general cognitive benefits?

Bilingualism and executive function: An interdisciplinary approach. (2015, May). Workshop Held at Graduate Center of the City University of New York, New York, NY.

Posner, M.I. (2015, May). Fostering ATTENTION for human needs. Fred Kavil Keynote Address and Opening Ceremony at Association for Psychological Science, New York, NY.

A considerable excitement about, and lack of consensus on, the answer to this question was apparent at two recent meetings in NYC. The specific form of this question posed at an NSF-funded, CUNY-hosted workshop on Bilingualism & Executive Processes (<https://bef2015.commons.gc.cuny.edu/program/>) was whether a lifetime of bilingualism (characterized by conflict, selection and switching among languages) might improve domain general (non-linguistic) executive processes. Drawing upon comprehensive reviews of the literature (made by his student, Matthew Hilchey) in which monolingual and bilingual participants performed

non-linguistic tasks that require conflict resolution (flanker, Simon and spatial Stroop) and a more recent examination of task switching, Raymond Klein drew a negative conclusion about such bilingual advantages in young adults. Albert Costa's talk and Ken Paap's poster at this meeting reinforced Klein's conclusion. Whereas his presentation was not about bilingualism per se, Randy Engle noted that working memory capacity predicts the learning of a second language, a finding that opens the door in this literature to "reverse causality" (people with better executive processing may be more likely to become fluently bilingual). Whereas those who believe in the non-linguistic cognitive benefits of bilingualism acknowledge this possibility, they maintain that their belief will be validated if one tests the right bilinguals, at the right age, on the right tasks using the right measures of executive processes.

At the 27th annual meeting of the Association for Psychological Science the possible benefits of mental exercise were featured in Michael Posner's conference opening lecture (<http://www.psychologicalscience.org/index.php/publications/observer/obsonline/mind-over-matter-2.html>) and in a few symposia. In contrast to the bilingualism literature (which is, for the most part, subject to the reverse causality possibility), Posner's evidence derives primarily from randomized assignment of participants to training (e.g., mindfulness) and control treatments. Whereas Posner's presentation suggested robust and long-lasting benefits, the message from Randy Engle's presentations at both meetings was considerably more pessimistic: "Claims that working memory training improve performance on tasks differing substantially from those used during training are not supported by our results." It seems likely that the answer to the question will depend on nature of the mental exercise and of the tasks and outcome variables used to measure its possible benefits.—Dr. Raymond M. Klein