

Study sets guideline for determining effectiveness of college football training methods

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Athletic performance varies from day to day, which can make it difficult for strength and conditioning professionals to judge whether athletes' improvements are due to effective training. Now, University of Missouri researchers have established a guideline that trainers can use to distinguish whether college football players' improvements on weightlifting tests result from increased performance capability or day-to-day variability. These findings could help coaches and other athletic department personnel determine the effectiveness of their training programs and better prepare promising football players for important tests, such as those during the NFL Combine.

"We found that the NFL-225, a bench press assessment, is reliable in that athletes consistently get within one or two reps of previous performances when tested weekly, demonstrating that such frequent testing is unnecessary," said Bryan Mann, an assistant teaching professor in the MU School of Health Professions and assistant director of strength and conditioning for Mizzou Athletics. "Previously, no one had investigated what actually constitutes a 'worthwhile difference,' which refers to a significant gain as a result of training rather than luck or a particularly good day in the weight room."

The data for Mann's study, which focused specifically on Division I athletes, was obtained through routine strength and conditioning procedures for Mizzou's football training program. Athletes were

divided into groups by size – as determined by position – and number of completed repetitions to ensure that the smallest worthwhile difference (SWD) did not differ by weight or overall strength. His results showed that for all groups, the SWD is equal to an increase of three or more repetitions.

"At Mizzou, we work to marry athletics and academics, so we try to use all available resources to base training procedures on scientific evidence," said Mann, who also is an adjunct instructor in the MU College of Human Environmental Sciences. "Ultimately, we want to be the school that changes how strength and conditioning is done. The goal is for athletic programs to have [scientific evidence](#) backing their training regimens rather than operating a certain way because that's how everyone before them had done things."

Mann said that because collegiate football programs often devote large amounts of resources to maximizing players' NFL-225 results, this research may help athletic programs better judge the effectiveness of current [training](#) procedures and determine the best use of program resources.

Provided by University of Missouri-Columbia

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