Deconvolving a Complex, Real-Life Task: Do standard lab tasks predict CPR learning and retention?

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Abstract

Cardiopulmonary resuscitation (CPR), a basic life-saving skill, requires a combination of procedural and declarative knowledge. CPR proficiency was assessed and re-trained to criterion across four sessions (spaced weeks to months apart). In addition, three laboratory tasks were administered: continuation tapping, paired-associate learning, and Raven matrices. These served as proxies for procedural learning, declarative learning, and general cognitive ability, respectively. Even though a computational model (Predictive Performance Equation, Walsh et al., 2018) predicted long-term CPR performance, none of the lab tasks correlated with any aspect of CPR performance (initial performance, (re-)learning, or retention of CPR; see https://osf.io/m8bxe/ for details). These results highlight the challenges faced when translating lab results into real-world domains and can serve as a benchmark for applying computational models to real-life learning and forgetting.