

The Limits of Scaleable Interventions: A Case Study from Massive Open Online Courses

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Online education is rapidly expanding to address problems of educational access and meet rising economic demands. Yet even in online courses designed to lower barriers to entry, many students struggle to achieve their educational goals. Scalable psychological interventions have been found to aid students in the past. We conducted the largest global field experiment in higher education -- with 1/4 million students across nearly every country -- to test multiple established interventions across all massive open online courses offered by Harvard, MIT, and Stanford for two-and-a-half years. We initially hypothesized that the broad effects from previous studies would replicate, but that was not supported by our results. Instead our iterative scientific process -- cyclically pre-registering new hypotheses in between waves of data collection -- enabled us to identify the individual, contextual, and temporal conditions in which these behavioral science interventions can succeed. Our project provides guidance for policymakers looking to scale programs across contexts.