

Background

- Computerized cognitive training and skills training have been found to lead to improvements in cognition and skills performance.
- Improvements are seen in healthy older people as well as in Mild Cognitive Impairment (MCI).
- The latest generation of these training efforts are delivered fully remotely.

The Challenge

- Previous studies have found that computerized cognitive training augments skills training benefits, on both trained skills and cognitive performance.
- However, drop out rates were higher for MCI participants asked to do Concurrent Training.
- Can we bypass the dropouts with burst cognitive training?

Boost CCT As an Intervention Strategy

- In this study, we delivered CCT for a 3-week period in the combined training group.
- Participants trained 2 hours per week on Brain HQ “Double-Decision” speed training.
- They were allowed to swift to “Hawkeye” if they were getting bored or frustrated.

Remote Training Strategy

All training in this study was done fully remotely With cloud-connected devices. Participants with MCI and Combined training. trained for 3 weeks with Brain HQ and then 9 Weeks with FUNSAT Skills training.

Current Study

- Healthy Controls over age 60: n=71.
- MCI participants over age 60:n=88.
 - JAK Bondi Criteria
- Skills training FUNSAT: 6 functional tasks, 3 hours per week, up to 12 weeks or graduation.
- Combined training: 3 weeks Brain HQ training, followed by 9 weeks of skills training.

Design

- All HC, skills only, MCI 50% to each intervention.
- MCI Skills only: n=40.
- MCI Combined: n=44.
- Training is 100% remote and home based.
- Outcomes are training gains in time to completion from Baseline Fixed Difficulty Assessment to Final training Session.
- Follow-up analysis of gains per training session across condition.

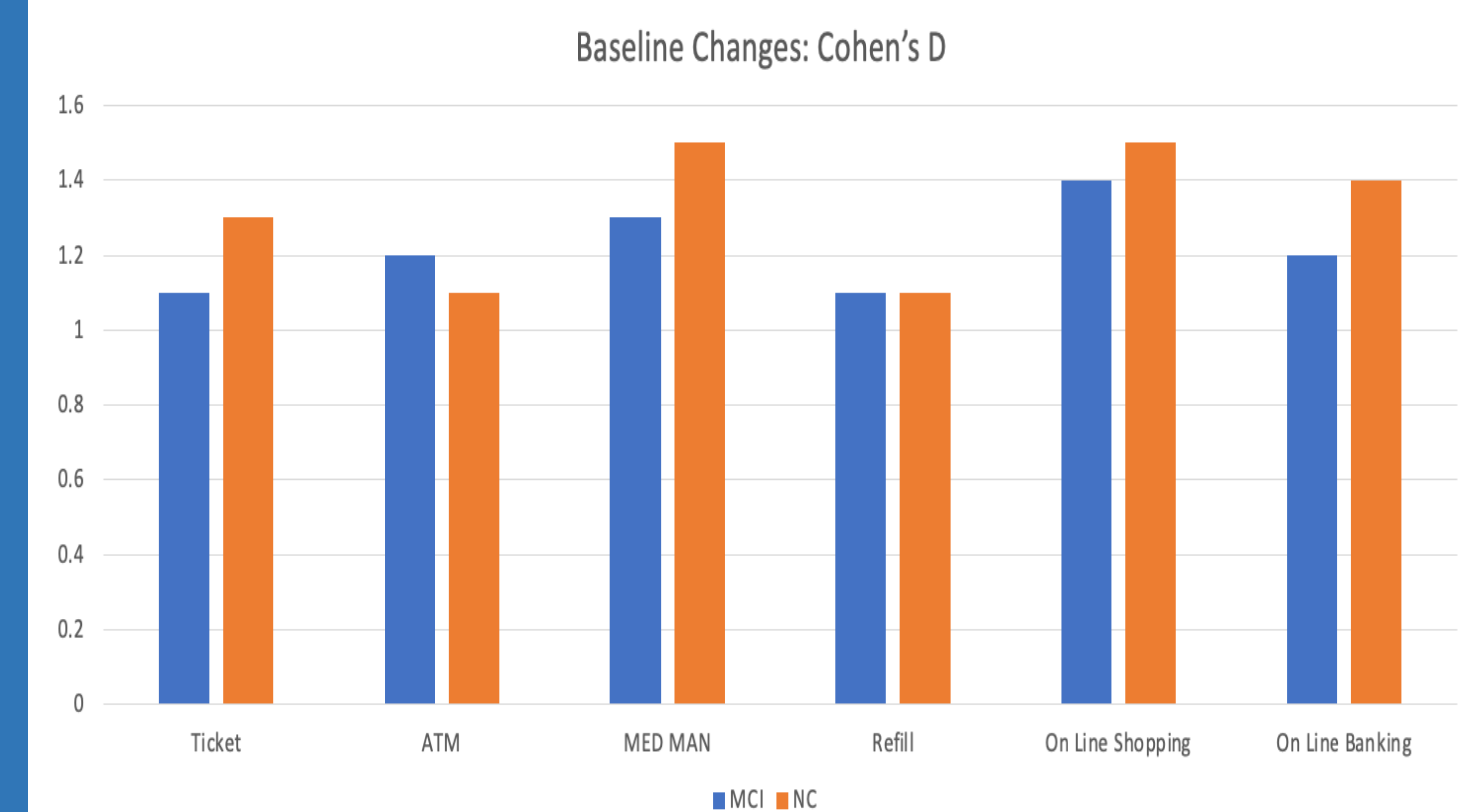
FUNSAT Tasks

Ticket Purchase, ATM and Internet Banking, Medication Label Comprehension and management, Telephone Voice Menu, Drug Store Website. 3 different fixed difficulty forms and training version.

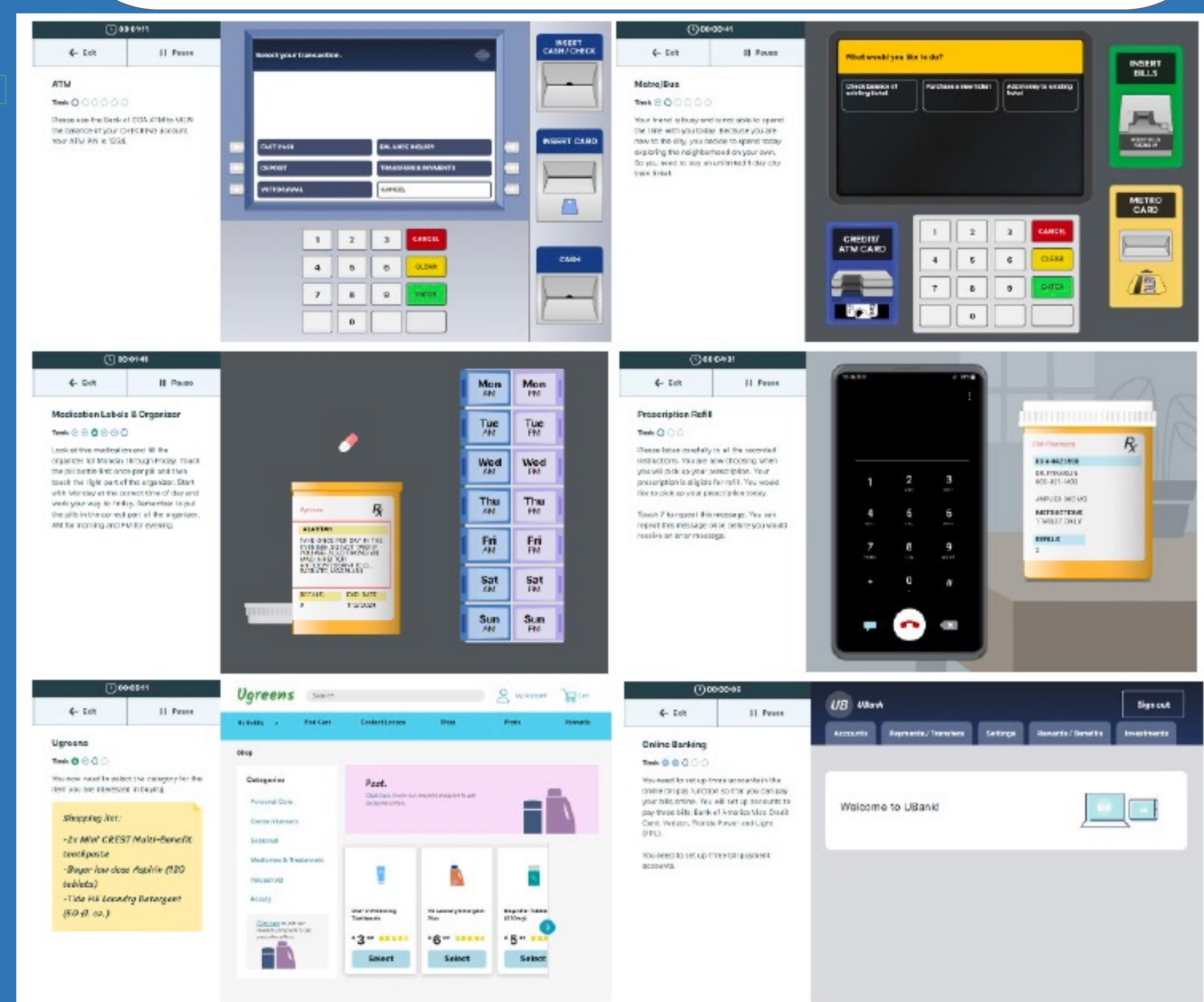
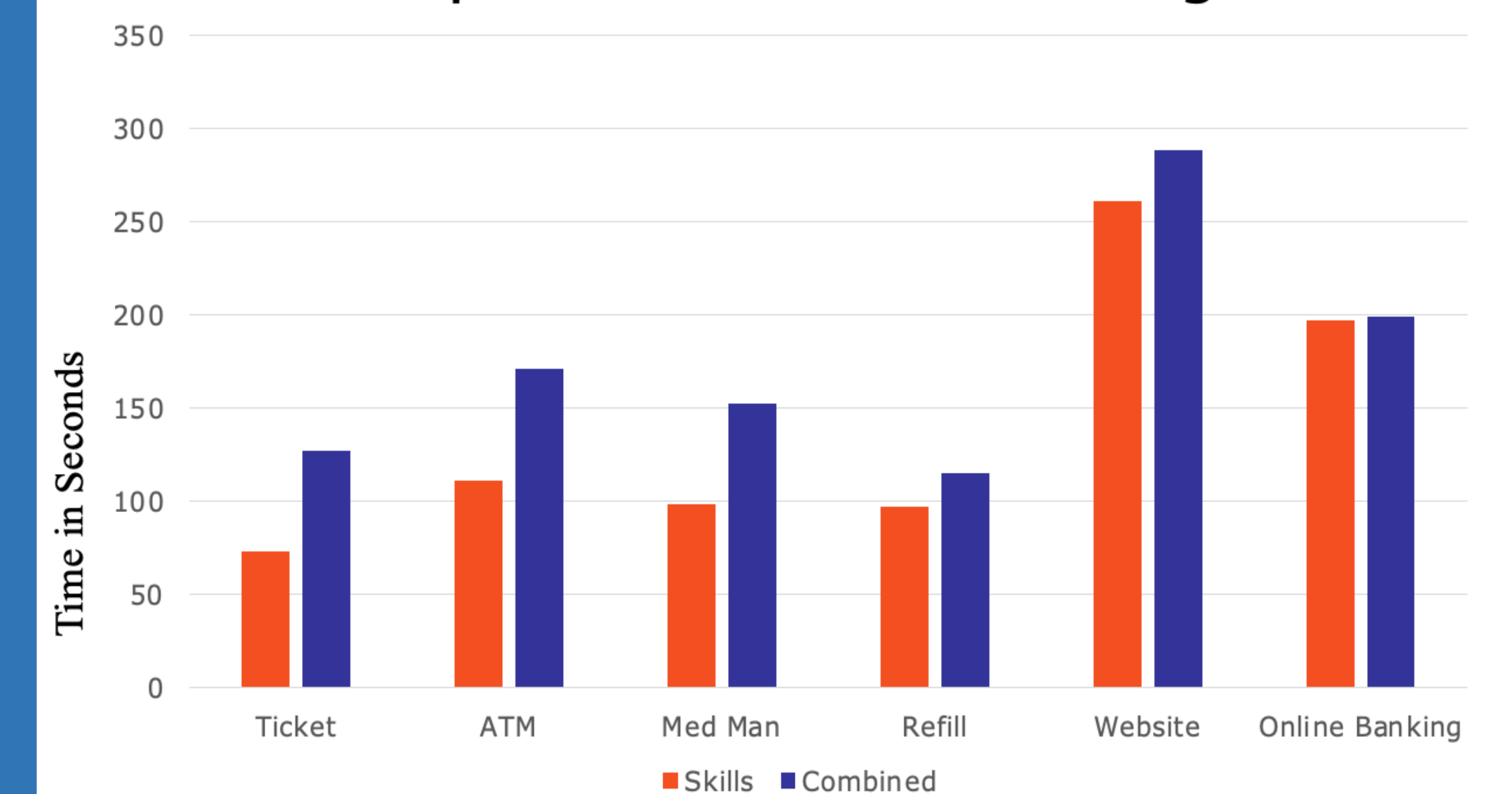
Results

- Both groups improved on all 6 tasks.
- Effect sizes were consistent with prior results.
- The MCI participants improved more rapidly with combined training, having greater gains per training session, despite fewer total training sessions: 6.7 per task vs. 10.7 for skills only.

Training Gains Across Simulations; Baseline to Final Training



Training Gains Across Tasks by Condition MCI Participants: Gain Per Training Session



Implications

- Substantial training gains with remote training across conditions and populations.
- Training gains highly similar to previous in-person studies.
- Gains are facilitated by combined training.
- Fewer total training sessions because of the design.
- Drop out was markedly lower than previous study with concurrent skills and cognitive training.