Purpose:
Computer assisted cognitive rehabilitation programs (CACR) utilizing different software programs have proliferated yet little is known about user perceptions or preferences. The purpose of this study was to explore three software programs used to promote cognitive function in persons with MS.

Methods:
Evaluation data from a community-based intervention study combining group sessions and CACR homework using the web-based Neuropsychonline (NPO) program revealed participant criticisms (unpleasant audio/visual features, unsophisticated animation and limited performance feedback). An 8-week follow-up study was conducted to evaluate two other web-based CACR programs: Challenging Our Minds (COM) and Lumosity. Fourteen individuals with MS were recruited from the completed NPO study; most were college-educated White females, average age of 49 years, diagnosed with MS for over 10 years. Participants were randomly assigned to COM (N=5) or Lumosity (N=9), completed five neuropsychological tests and the Everyday Problems Test-R (EPT-R) prior to and following 8 weeks of computer training, and logged the number of sessions and time spent practicing on-line each week.

Findings:
The number of participants attaining the recommended number of minutes (1080) and sessions completed (24) was higher for Lumosity (78% minutes; 56% sessions) than COM (40% minutes; 20% sessions). Improvement on the neuropsych tests varied; yet 78% of those using Lumosity improved on the EPT-R compared to 20% of those using COM. Post-study evaluations of software usability had higher ratings for Lumosity than COM and recall of previous NPO practice.

Conclusions:
Findings from this study indicate the participants completed more minutes of practice and more sessions with Lumosity than COM, showed greater improvement on a test of everyday neurocognitive functioning (EPT-R) with Lumosity than COM, and rated Lumosity higher on usability than COM or recall of NPO. Future studies should investigate the effects of CACR practice using high-usability web-based CACR programs in other populations with more diverse demographic and clinical characteristics.

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