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Abstract for Poster

But Will They Use it? Factors Influencing Sustained Use of a Digital Memory Notebook Application by Individuals with Mild Cognitive Impairment

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Background: Advances in technology have fueled new opportunities to improve external compensatory devices. The Digital Memory Notebook (DMN) is an iOS tablet application (app) developed in collaboration with older individuals with mild cognitive impairment (MCI) to support functional independence. To understand users for whom DMN training was beneficial, we examined data from a pilot clinical trial for factors that influenced sustained use of this compensatory tool.

Method: Twenty-five participants (M age = 72; M education = 16; 48% female) with MCI learned to use the DMN app in 5-6 (two-hour) training sessions delivered within one-month. Participant use of the DMN app was then monitored through real-time collection of data usage metrics for an additional three months. Based on app use during the third-month post-training, participants were divided into DMN user (N = 13; M daily distinct uses = 4.5) and non-user (N = 12) groups. Demographics, clinician ratings, baseline clinical measures and DMN usage metrics were all examined.

Result: No group differences emerged in demographics, pre-morbid ability estimate (High Average), or clinician ratings of motivation, comprehension, insight and competency during training sessions. DMN non-users exhibited lower scores on standardized measures of global cognitive status (Low Average vs. Average) and memory (Borderline vs. Low Average), and self-reported poorer everyday memory. DMN usage metrics captured during training revealed no group differences in week one (sessions 1-2). By week two (session 3), DMN non-users showed fewer daily distinct uses of the DMN (4 vs. 8). During weeks 3 and 4, DMN non-users continued to show fewer daily distinct uses as well as fewer interactions with all sections of the app (i.e., calendar, daily event scheduling, notes and journal). Non-users also demonstrated poorer use of advanced app functions during training (e.g., high priority scheduling, reminder alarms, picture use, prospective memory use).

Conclusion: Individuals with MCI who were actively using the DMN three-months post-intervention were less cognitively impaired, demonstrated greater DMN use as early as week two of training, and made use of advanced functions. Next steps include increasing DMN use through early adaptive learning and continued automated booster training.