Using Remote Evaluations to Cognitively Test African American Communities Reduces Racial Disparities and enhances Alzheimer's Disease Awareness

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Background

- African Americans are at greater risk for cognitive decline and development of Alzheimer's Disease than any other ethnic population. Systemic and financial barriers block access to healthcare in many African American communities in the United States, preventing possibility for evaluation and treatment.
- The California Cognitive Assessment Battery, created by Neurobehavioral Systems, Inc. of Berkeley, CA, provided a take-home and remotely administered platform that ensured a convenient and safe cognitive evaluation, allowing for increased diversity in scientific research and cognitive health evaluation among African American communities.

Objectives

- Our aim is to examine the usability of the 30-test, California Cognitive Assessment Battery among healthy African American adults regardless of educational attainment and age.
- The addition of this model to existing research may lead to increased use of virtual cognitive tools to advance accessibility to health care in communities with people of color.

Methods

- The sample consisted of overall healthy, community-dwelling African American adults (n =12, age range 22 – 69 years) from the City of Oakland in California, USA, 33.3% having obtained an education ranging from a high school diploma to a graduate degree.
- Virtual assessments were conducted via an at-home CCAB toolkit set-up, which contained a Surface Pro tablet, mouse, headphones, and USB hub with an internet modem.

Methods (Cont.)

- Participants were repeat-tested on two consecutive days with the 30-test battery from March through April 2021.
- We observed usability of technology in relation with education level and age, in that neither education nor age would determine computer usage, which was ranked as "never", "less than 1 hour per week", "less than 1 hour per day", "1-2 hours per day", "2-3 hours per day", "3-4 hours per day", "4-6 hours per day", and "more than 6 hours per day".

Results

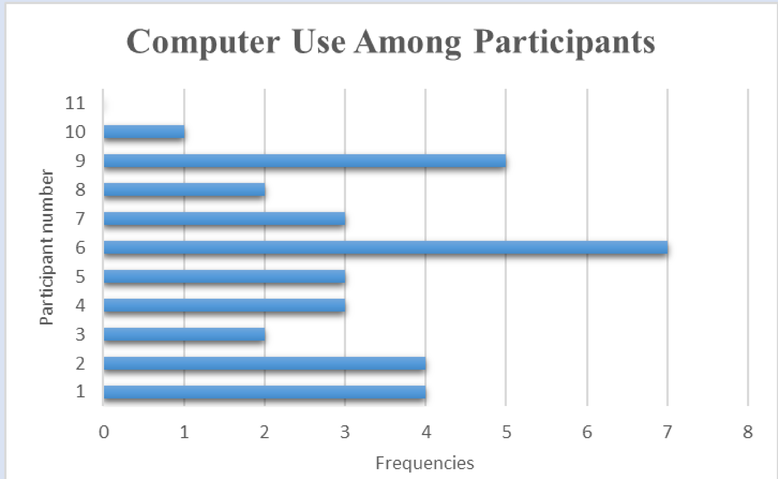

Figure 1. Computer User Frequency

- Figure 1 shows the frequency of computer use for each participant. The Frequencies are denoted as 0 = "never" to 7 = "more than 6 hours per day".
- Eleven of the twelve participants provided information about their computer using habits. Therefore, the participant denoted "6" on the graph is participant "7" on Table 1, who is among some of the older individuals in the group and holds a high school degree.

Results (Cont.)

Participant	Gender	Age (years)	Computer Use	Education Type
1	Female	55	2-3 hours per day	Associate's Degree
2	Female	54	2-3 hours per day	High school Diploma
3	Male	43	Less than 1 hour per day	High school Diploma
4	Male	39	1-2 hours per day	Bachelor's Degree
5	Female	36		High school Diploma
6	Female	66	1-2 hours per day	High school Diploma
7	Male	68	More than 6 hours per day	High school Diploma
8	Decline to answer	22	1-2 hours per day	Bachelor's Degree
9	Male	48	Less than 1 hour per day	High school Diploma
10	Female	69	3-4 hours per day	High school Diploma
11	Female	68	Less than 1 hour per week	Graduate/Professional Degree
12	Female	63	Never	High school Diploma

Table 1. Participant Information

- Table 2 provides information on the twelve participants of the study.
- 58% of those who participated were female; and there were four more participants with a high school degree than a bachelor's, master's, and graduate degree combined.
- 42% of the participants are older adults, predicting that there are possibly more individuals 65^{+} that can undergo cognitive evaluations virtually.

Conclusions

- The 30-test battery was completed by 100% of the twelve participants on both trial days.
- Education and age were observed to have no bearings on how frequently participants used a computer. Therefore, access to technological toolkits that help in clinical cognitive evaluation may be better in helping to reach African American communities.
- Future research should explore implementation of programs that promote cognitive evaluation in underserved older adults.