Digital biomarkers in cognitive impairment

The goal of this survey is to ask your opinion on the use of technology to detect memory-related diseases at an early stage.

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1) Are you over the age of 21?   ○ Yes
                                    ○ No

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2)

You are being invited to take part in a research study. The purpose of this study is to know your opinion regarding the use of digital biomarkers for early diagnosis of diseases that may affect someone's memory. Your participation is voluntary. The survey should take approximately 15 minutes. We do not expect any risks or discomforts; however, if you were to experience any, please contact Dr. Sylvia Josephy at sylvia.josephy@umassmemorial.org. With this research, we hope to advance the understanding of public opinion regarding digital biomarkers in the context of cognitive impairment diagnosis. Your information will remain confidential, and there will be no tools to link your answers to you in any way. No compensation will be provided to take part in this survey.

Conflicts of Interest Statement: There are no conflicts of interest.

Will you share any results with me? We aim to publish the results from this survey within the next year.

This research is being overseen by an Institutional Review Board. An IRB is a group of people who perform independent review of research studies. You may talk to them at (508) 856-4261 or irb@umassmed.edu.

○ Agree   ○ Disagree

Explanations:

a. Mild cognitive impairment: problems with memory that do not limit someone's independence.

b. Dementia: problems with memory that do limit someone's independence.

c. Many changes in the brain that cause dementia happen before noticeable symptoms begin. It is therefore extremely important to find ways to detect these changes early, and find treatments to prevent the disease from progressing.

d. Digital biomarkers: technology that can monitor behavior with the goal of detecting changes and identifying diseases. This can be done through smart phone applications.

Demographics

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3) Age (years)

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4) Sex

○ Male
○ Female
○ Other
○ Prefer not to answer

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5) Highest degree earned

○ No high-school
○ High-school
○ College
○ Post-graduate studies

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6) Are you a healthcare professional?

○ Yes
○ No

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7) Have you been diagnosed with some type of cognitive impairment or dementia?

○ Yes
○ No

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8) Do you have a relative who has been diagnosed with mild cognitive impairment or dementia?

○ Yes
○ No
○ Prefer not to answer

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9) Do you own a smartphone (for example, an iPhone)?

○ Yes
○ No

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10) On a scale of 1 to 5 (5 being an expert), how experienced are you with technology such as computers?

○ 1 ○ 2 ○ 3 ○ 4
○ 5
(5 corresponds to expert)

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11) On a scale of 1 to 5, 5 being that you completely agree, can you learn and remember things as easily as you did 10 years ago?

○ 1 ○ 2 ○ 3 ○ 4
○ 5
(5 is you completely agree)

If recommended by your doctor, would you be willing to have an application on your phone which monitors your text messages and emails? Respond regarding the following specific aspects that would be monitored (Scale of 1 to 5, 5 being that you completely agree)

		1	2	3	4	5
12)	Monitoring of how long your written sentences and paragraphs are?	○	○	○	○	○
13)	Monitoring of spelling errors?	○	○	○	○	○
14)	How accurately you hit each key?	○	○	○	○	○

15) There is currently is no cure or effective treatment for dementia. Tools such as behavior monitoring could diagnose diseases earlier in time. Knowing the above, would you be willing to have your behavior monitored on your smart phone? (Scale of 1 to 5, 5 being that you completely agree)

○ 1   ○ 2   ○ 3   ○ 4
○ 5
(5 is you completely agree)

If you were concerned about having such an application on your smartphone, please rate which would be your main concerns (with 5 being highly concerned):

	1	2	3	4	5
16) Privacy	○	○	○	○	○
17) Anxiety regarding a potential diagnosis	○	○	○	○	○
18) Impact on health insurance	○	○	○	○	○
19) Impact on life insurance	○	○	○	○	○
20) Financial impacts	○	○	○	○	○

21) Other:

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