

MAPPING YOUR DAY:
EXPLORATORY EVALUATION OF A
MOBILE HEALTH APPLICATION TO
SUPPORT ACTIVITIES OF DAILY
LIVING IN OLDER VETERANS WITH
COGNITIVE IMPAIRMENT

C.P. Vaughan^{1,2}, X. Cui^{2,3}, S. Chen², J. Kelleher³, C. Gerber³, M. Golden⁴, S. Zola⁴

¹Birmingham/Atlanta VA GRECC, Atlanta, Georgia, UNITED STATES

²Emory University, Atlanta, Georgia, UNITED STATES

³Atlanta VAHCS, Atlanta, Georgia, UNITED STATES

⁴MapHabit, Atlanta, Georgia, UNITED STATES

INTRO

MapHabit is a novel mobile health application that allows users and/or caregivers to develop personalized maps that aid a person living with cognitive impairment in the recall of steps needed to complete ADL's, such as bathing, toileting, and dressing.

The purpose of this study is to determine the feasibility, acceptability, and preliminary impact of a mobile health application providing tailored guidance to aid in the recall of steps to complete activities of daily living (ADL's).

METHODS

✓ Fourteen Veterans (100% male, age 65 ± 9.5 years, 71% Black) were recruited from a single VA cognitive disorders clinic.

🧠 Baseline cognition was assessed using the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS).

📱 After initial training and development of selected ADL maps with a staff member, participants were given an iPad to use the MapHabit application.

📄 At three month follow up, participants completed a questionnaire regarding perceived change.

Analyses included descriptive statistics and the Wilcoxon signed rank test

RESULTS

13/14 (93%) completed the study
Baseline RBANS indicated significantly impaired cognitive function
Nine participants were living with a spouse
Eight participants reported needing assistance with ADL's

All participants reported they would recommend the MapHabit system to a colleague and 85% reported willingness to participate in a future study

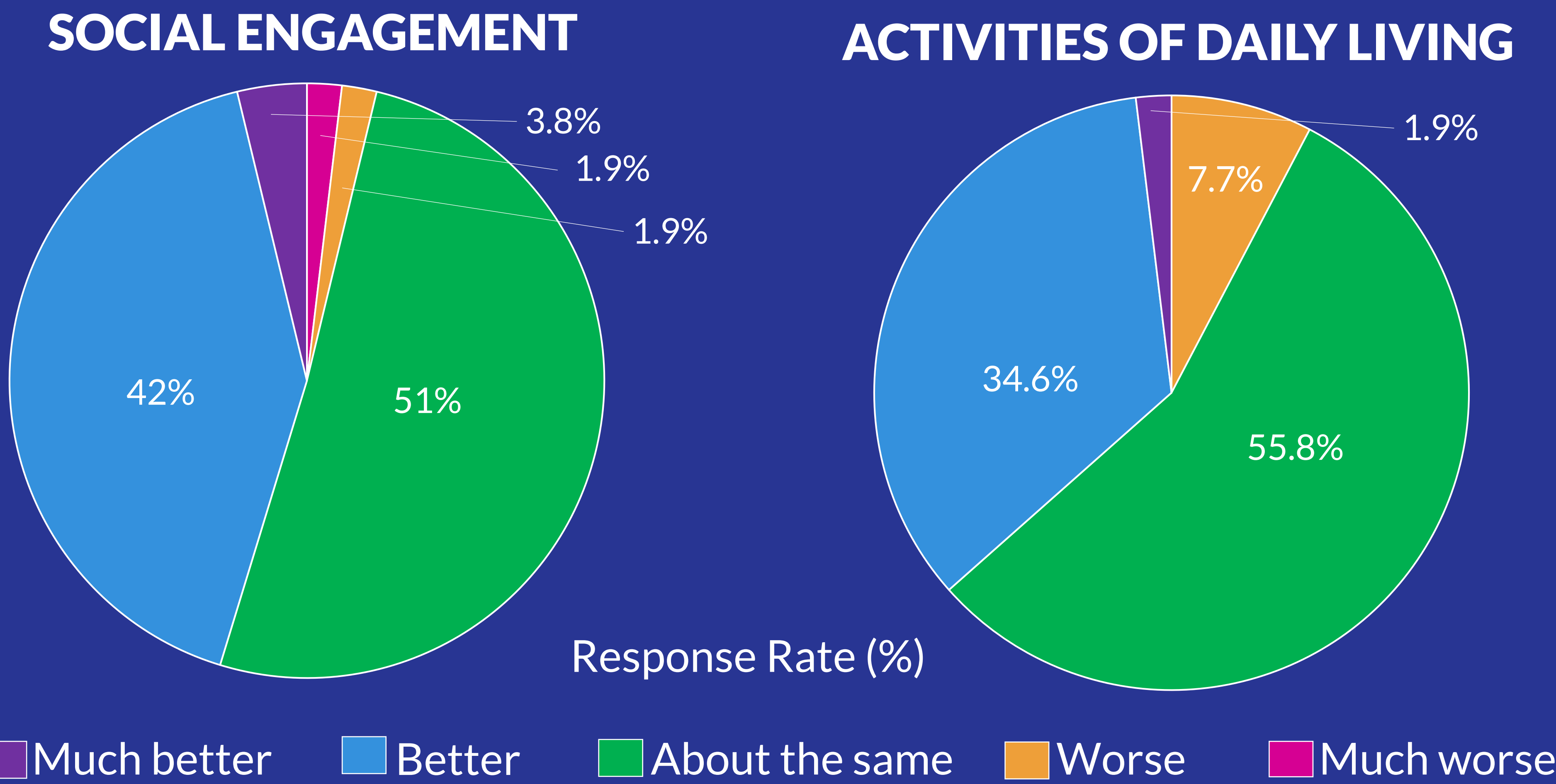
DISCUSSION

Older male Veterans with cognitive impairment were willing to use a mobile health application to assist with completion of ADLs and reported positive preliminary effects. A larger study with longer term follow-up will determine if the MapHabit system provides strategies to enhance ADL independence in the setting of ongoing cognitive decline.

FINANCIAL DISCLOSURE

S. Zola and M. Golden are co-founders of MapHabit. Funding for this project was provided by an award to Emory University from the Georgia Research Alliance.

After three months of using the MapHabit system, participants reported perceived improvement in social engagement and performance of ADL's compared to baseline.



	Median (95% CI)	p-value
ADL	3.50 (3.00,3.75)	0.049*
Mood	3.42 (2.75,3.83)	0.118
Social	3.62 (3.25,4.00)	0.014*
QOL	3.75 (2.75,4.50)	0.087
Memory	3 (2.00,3.00)	0.530

p-value: Wilcoxon signed rank test

ADL: Independence, Ability to Carry Out ADLs, Ability to Complete ADLs, Reminders to Completed ADLs

Mood: Mood, depression, Anxiety, Frustration, Anger, Coping Ability.

Social: Social Interaction, Social Engagement, Expressions of Appreciation, Cooperation.

QOL: Quality of Life, Enjoyment of Life

Memory: Memory



U.S. Department of Veterans Affairs

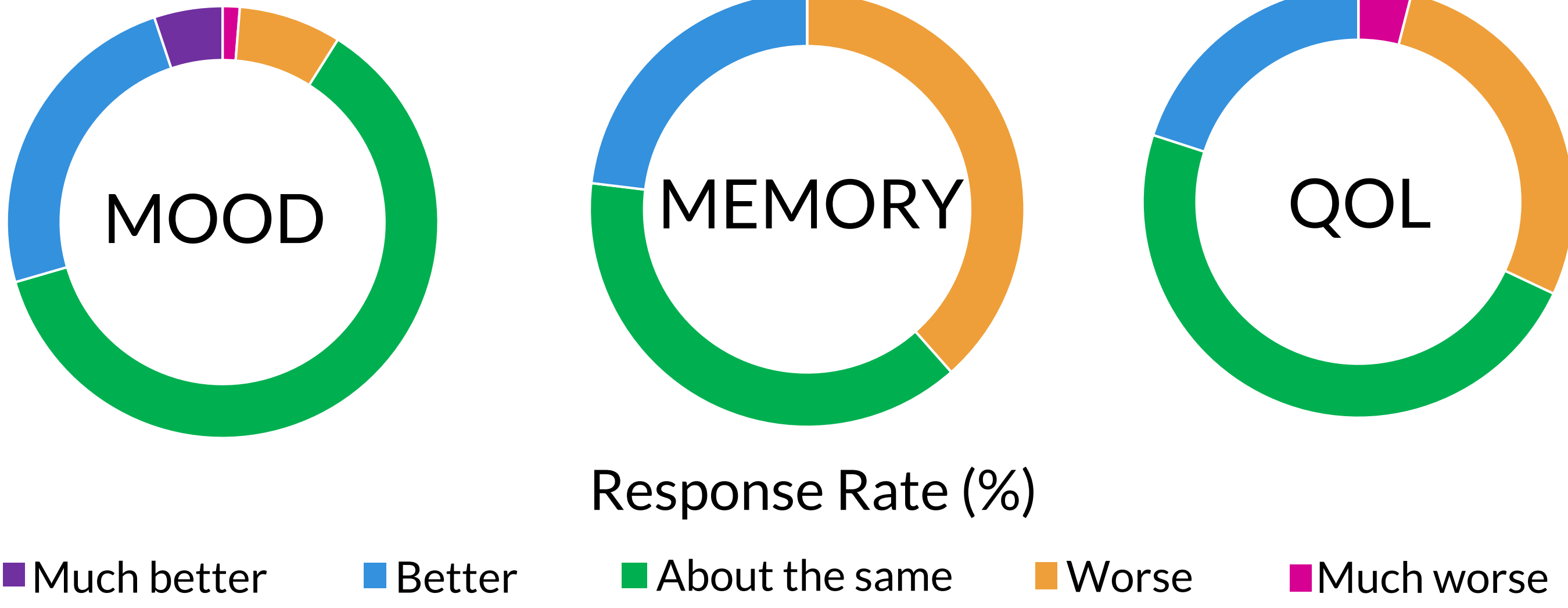
Atlanta VA Health Care System

#AGS20 ANNUAL SCIENTIFIC MEETING

BASELINE RBANS (n=14)

	Mean (SD)
Immediate Memory Score	70.50 (18.68)
Visuospatial Score	67.36 (10.62)
Language Score	85.57 (14.19)
Attention Score	74.64 (11.88)
Delayed Memory Score	62.00 (18.58)
Total Scale Score	63.07 (13.30)

ADDITIONAL EXIT QUESTIONNAIRE RESULTS

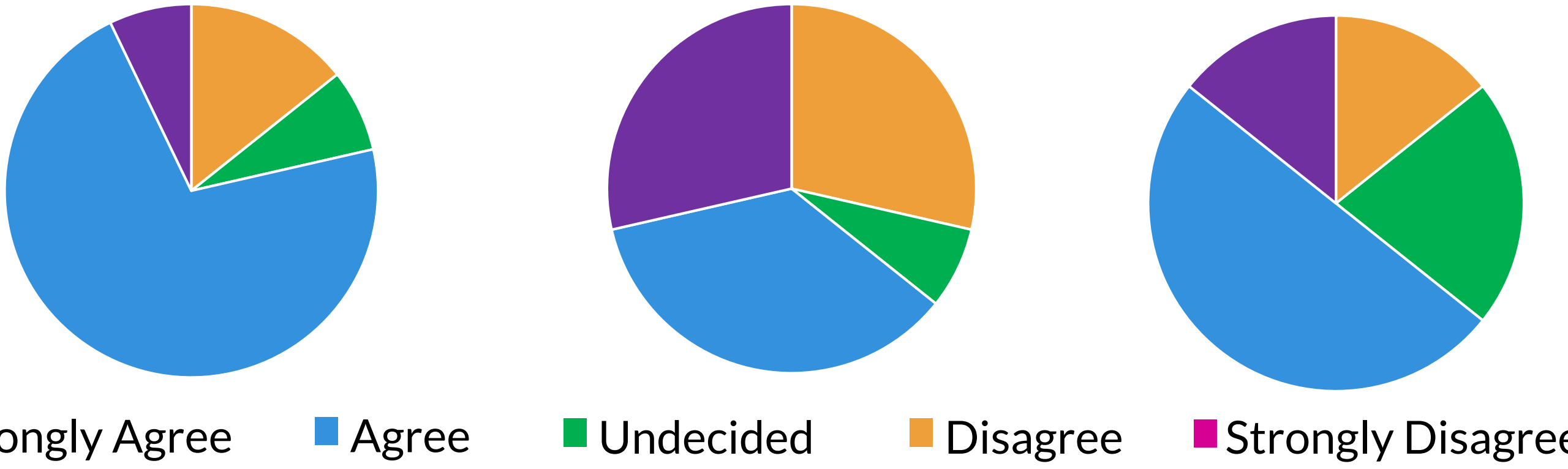


KNOWLEDGE OF TECHNOLOGY

I know how to use technology such as smart phone, iPad, or computer to find helpful health resources on the Internet (%)

I have used technology such as smart phone, iPad, or computer to find health resources on the internet (%)

I feel comfortable using technology to find health resources without assistance (%)



MAPHABIT APPLICATION

