ACTIVITY SELF-SURVEYING OF OLDER ADULTS USING SMARTPHONES

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INTRODUCTION

Forty-six older adults (average age 72 years) were successfully trained to use a Smartphone with personal digital assistant standard programs (date/address book, to-do, memo, e-mail, and a program called SurveyApp for capturing information about daily activities. Forty-two participants went on to complete a 3-month use test of the Smartphone and survey software. The device was a Samsung i300 running Palm OS-based applications.

METHODS

Training Procedures and Measurements: The participants were presented with identical curriculums and the same amount of information was covered each day in every class. An instructor and an assistant taught each of the classes. In the course of the class three measures were collected. Following the data input training the participants were shown a game requiring the letter entering skills to progress through the game. The game was demonstrated on the video projector and then the participants were asked to play. Their first score was recorded. At the completion of the training, a mastery test was given. The test required the participants to complete a set of real world tasks that were aided by utilizing each of the core programs in the Palm OS; address book, date book, memo pad, and to-do list. The older adults were given 45 minutes to complete the 4 tasks. They were encouraged to use the quicksheets they had been given but also were told that they could feel free to ask for help. If they did ask for help a set of boxes appeared under each task description and the instructor checked a box. At the conclusion of the exam the tasks and total help requests were tallied. [1]

Use-Test Procedures and Measures: Following training, the older adults took the PDA's home. They were requested to carry the PDA's with them to ensure they completed as many surveys as possible. SurveyApp™ sounded an alarm twice per day at random, between 8 AM and 8 PM each day, at least 2 hours apart. The older adults were asked to limit their voice calls to 5 minutes per day to keep the minute usage within the budgeted plan. Participants were told they could use the e-mail features as much as they wished and always feel free to make emergency calls regardless of usage. Every 30-days for 3 months, the participants returned for an interview. The participants completed paper and pencil PDA usage, social network, and activity questionnaires, and a symbol recognition quiz. The individual's PDA was backed up included the databases containing their SurveyApp™ information and contacts database. On the second of three interviews the individuals completed four fluid tasks from the Crystal-Fluid sampler [2].

RESULTS AND DISCUSSION

Over 4000 observations where used to create a list of available activities that totaled 44 categories. Reading, TV, and eating at home were the most common subcategories. Participants reported being alone about 37% of the time and with a spouse about 38% of the time. They were in the company of a single friend about 6%, in small groups about 13%, and large groups (6 or more) about 5% of the time. Participants reported being in a negative mood (very depressed or sad) less then 4% of the time, a neutral or so-so mood just under 10% and in a positive mood (happy or very happy) 86% of the time.

Fig.1 Summary of Activity Frequencies.

A majority of the participants were not only successful, but embraced the technology and took advantage of its tools to improve medication adherence, as a memory aid, an organizer, and as a communication device for both voice and data. The conceived of and welcomed additional opportunities to utilized the device to improve the quality of their lives. Research is now underway to replicate the techniques using web-based survey software on an iPhone platform.

REFERENCES

[1] Sterns, A. A., (2005). Evaluation of a Curriculum Design and Program to Train Older Adults to Use Personal Digital Assistants. The Gerontologist, 45, 828-834.
[2] Cattell, R. B, & Cattell, K. A. (1963). Culture fair intelligence test.