Individual Differences in Educational Engagement with a Digital Health Solution

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Background

❖ Diabetes self-management education and support (DSMES) is an effective and cost-effective strategy to improve patient behavior and outcomes (Chatterjee et al., 2018)

❖ However, patient access to and completion of DSMES programs remains challenging

❖ The growth in mobile devices offers new opportunities to widely reach patients with DSMES with digital health platforms (Greenwood et al. 2017)

❖ Understanding engagement patterns with DSMES resources on such platforms could provide insights that guide targeted support and outreach

Research Question

❖ Thus, our research aimed to answer the following question:

What individual characteristics are associated with greater likelihood of engaging with diabetes education material within a digital health platform?

Methods

Sample and Data

❖ Data from 1,185 T2D users of a digital health solution who engaged with its education feature
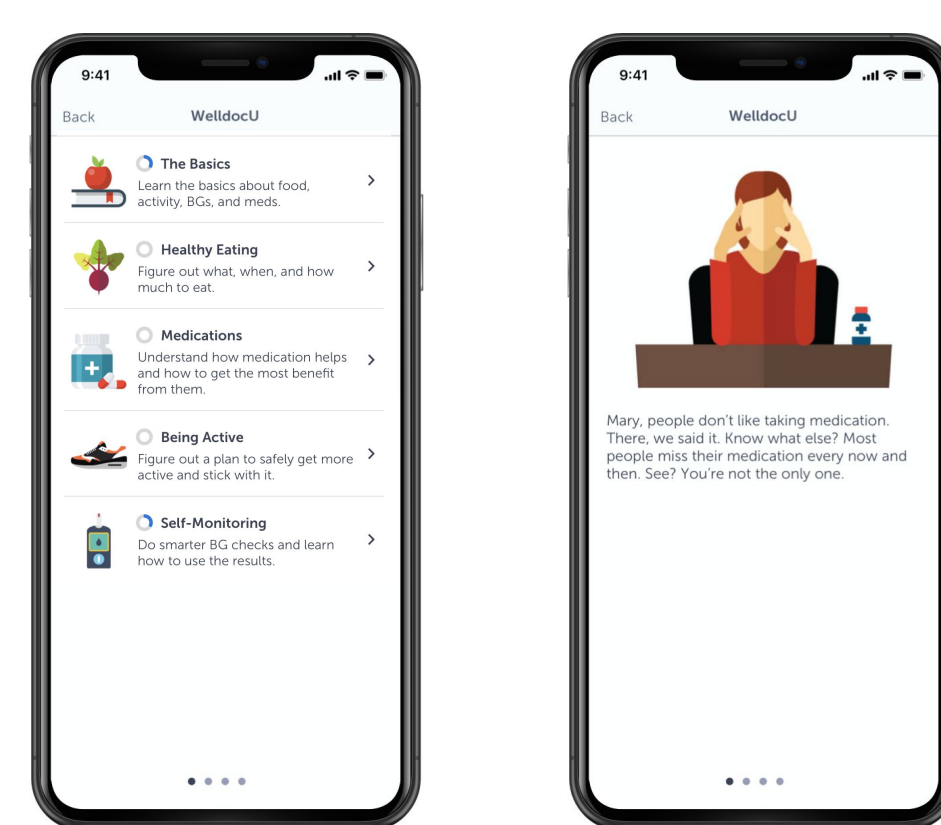

Figure 1. *Screenshots of digital health solution.*

Methods Cont'd

Digital Health Solution

❖ Retrospective data on users of an FDA-cleared digital platform for managing diabetes (BlueStar®, Welldoc Inc., Columbia, MD)

❖ This digital health solution is a primarily mobile platform that facilitates self-monitoring of diabetes management and provides automated coaching (Quinn et al., 2008, 2011; Dugas et al., 2020)

DSMES Content

❖ Educational material jointly digitized by ADCES and Welldoc Inc., and organized to address the ADCES7™ Self-Care Behaviors

❖ Includes short courses covering topics related to the **8 core activities** in diabetes management (medication, eating, problem solving, etc.) and tailored to a treatment plan

❖ **Each course consists of multiple lessons**, and the digital health solution records when users begin and finish each course and their corresponding lessons

Analysis

❖ We perform logistic regression to explore characteristics associated with completing at least one course (since courses are not mandatory)
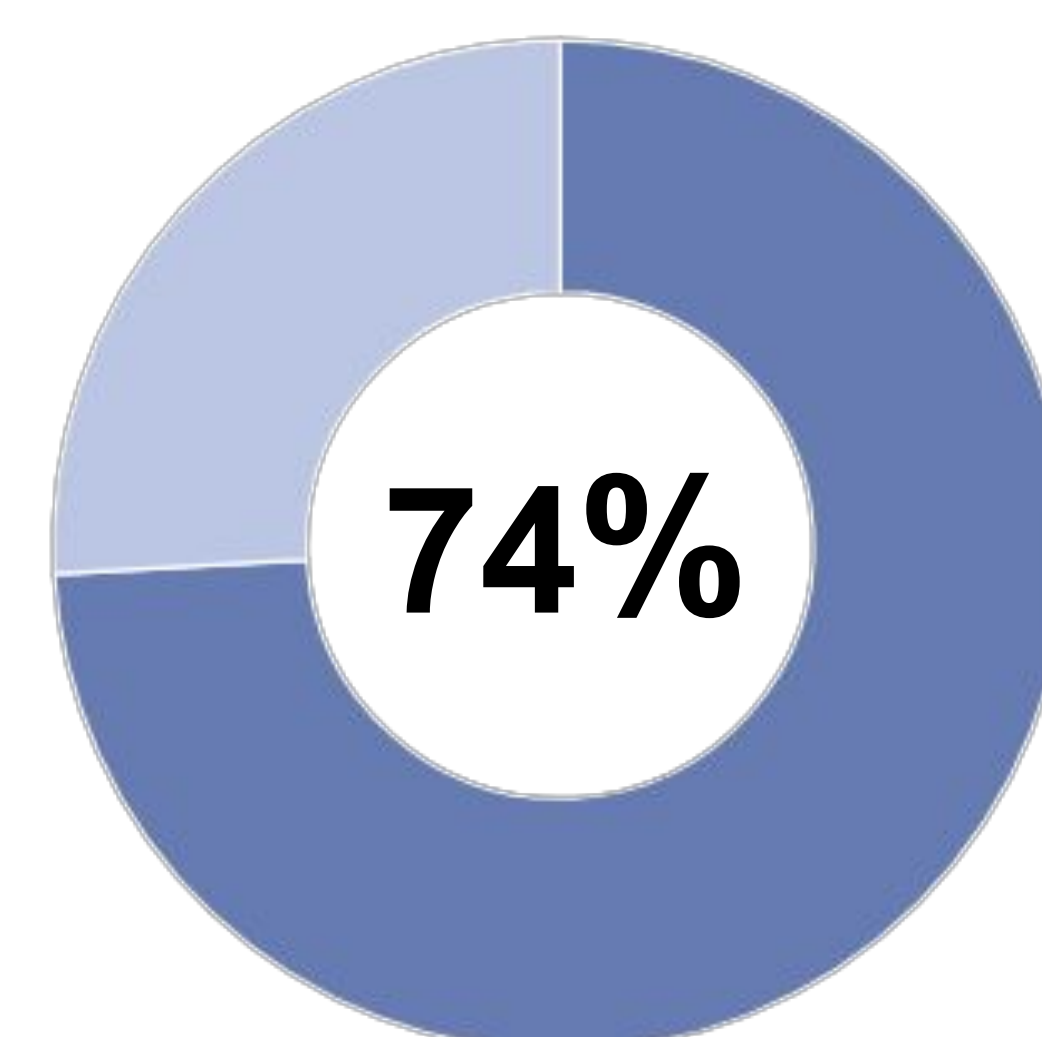
Results

74%

Figure 2. *Percent of sample who complete at least one* **lesson.**
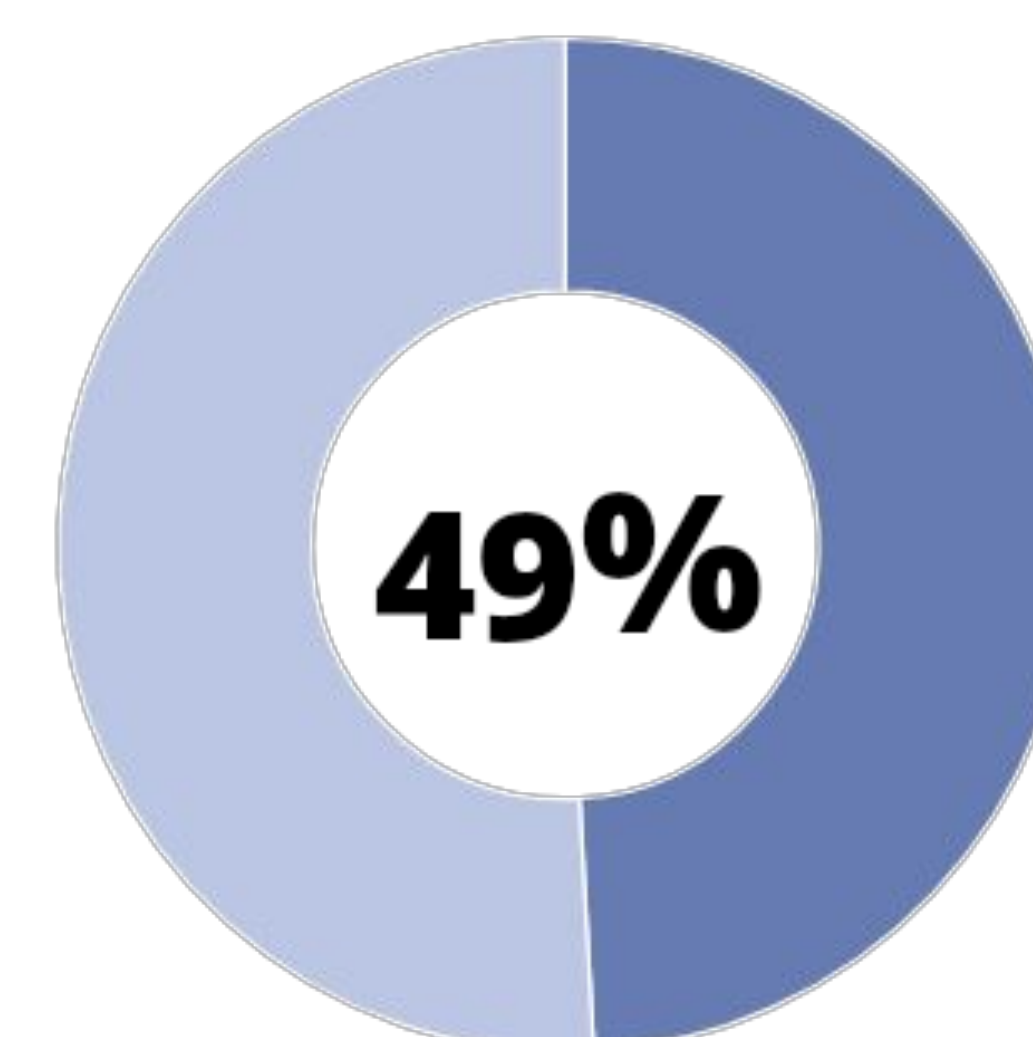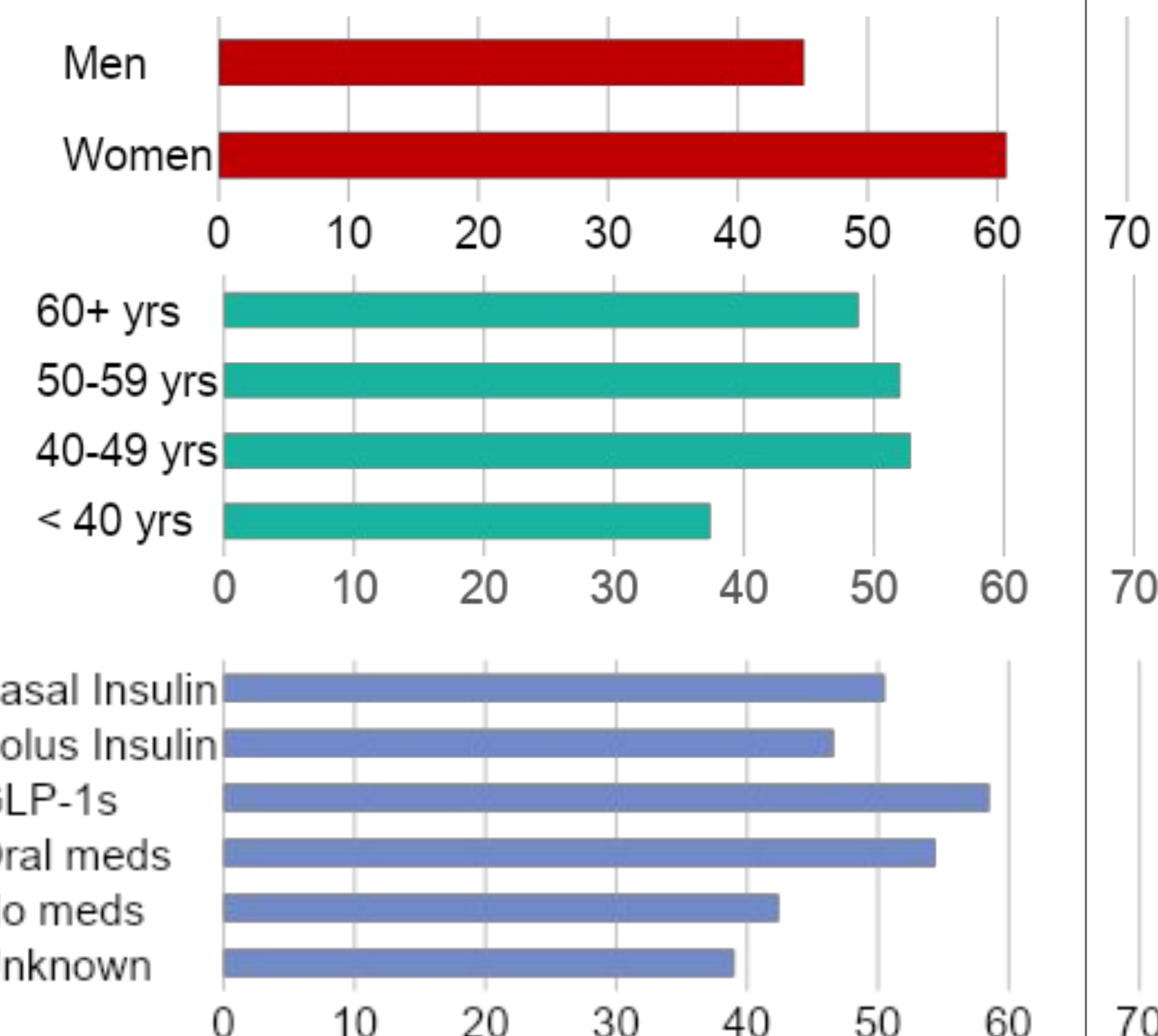

49%

Figure 3. *Percent of sample who complete at least one* **course.**

Logistic regression revealed the following users were <u>more likely</u> to complete at least one course:

❖ **Women** compared with men (b = 0.35, *p* < .001)

❖ **Older users** compared with those under 40 years of age, (multiple *b* > 0.46, *p* < .05).

❖ Those prescribed **oral medications** (b = 0.47, *p* = .02) and **GLP-1s** (b = 0.57, *p* = .03) compared with those with no medication

Fig 4. **Proportion of Users who Completed At Least One Course by Demographics**

Conclusion

❖ Digital health platforms may be a useful and scalable medium for delivering individualized DSMES

❖ Future research is focused on tailoring education content based on demographics, engagement patterns, and treatment plans as well as correlating education behaviors with outcomes