Assessing the Acceptability of an eHealth Intervention to Improve Diabetes Care among Emerging Adults with Poorly Controlled Type 1 Diabetes

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The IDEA PROJECT

INTRODUCTION

- Emerging adulthood (EA) spans age 18-25 years, during the transition from adolescence to adulthood
- EAs strive for independence, value autonomy, and have decreased parental involvement
- Many EAs with type 1 diabetes (T1D) have poor diabetes management and health outcomes
- Self-determination theory (SDT) highlights the need for autonomy, self-efficacy, and relatedness
- Interventions grounded in SDT may be particularly effective to increase T1D self-management among EAs
- Few T1D interventions leverage the developmental needs of EA

PURPOSE

- Assess the acceptability of an autonomy support intervention to improve metabolic control among emerging adults

METHODS

Design
- Feasibility study
- Qualitative interviews
- Single-visit
- Part of a larger efficacy study to test a multicomponent eHealth intervention for EAs

Participants
- Ten youth with a T1D diagnosis for a minimum of six months and an elevated HbA1c (≥9%)
- Age 16-22 years (M = 17.9, SD= 2.08)
- 50% were female
- 70% African American, 20% Bi-racial, and 10% White/Caucasian
- 100% recruited from Children's Hospital of Michigan

Interviews
- Participants completed *The 3Ms* intervention prior to being interviewed
- Semi-structured interview guide to elicit participant feedback on the *3Ms* intervention
- Combination of open and closed-ended questions
- Audio recordings of interviews were professionally transcribed

3Ms
- Internet-based eHealth intervention
- Two brief (15-20 minutes) sessions
- Framed using Motivational Interviewing to increase intrinsic motivation and self-efficacy for diabetes self-management tasks → *The 3 Ms*
  - **M**edication, take all insulin doses daily
  - **M**onitor blood glucose regularly
  - **M**eals, count carbs in every meal and snack
- Figure 1 outlines sessions one and two

Figure 1. Flow Diagram of The 3Ms Intervention
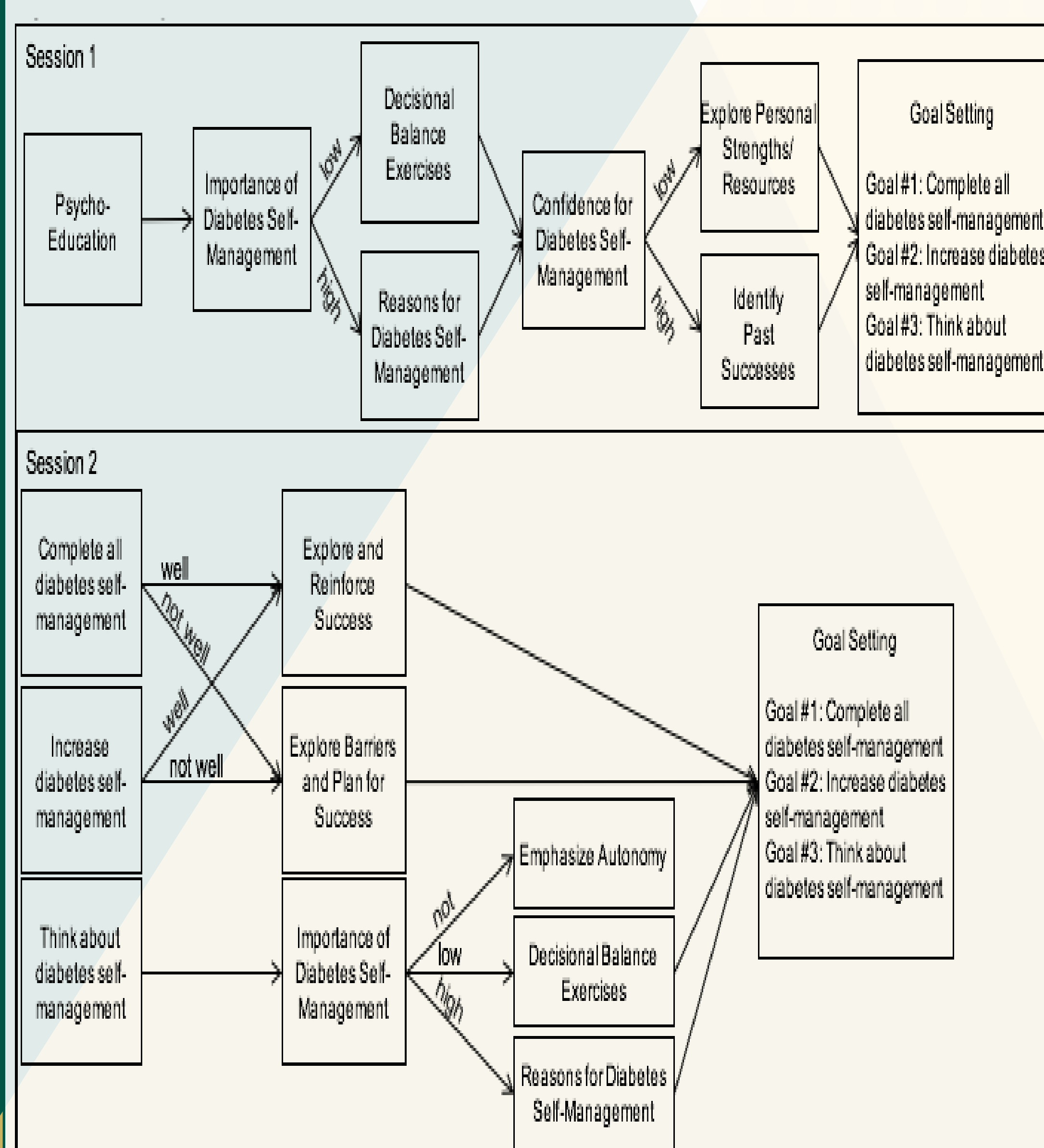
METHODS

Qualitative Data Analysis
- Framework Matrix Analysis
  - Step 1: Summarize participant responses to interview questions in a matrix
  - Step 2: Identify themes and develop descriptions supported with direct quotations
- 2 coders coded interviews to consensus

RESULTS

- Participants rated *The 3Ms* highly (M = 8.3) and would recommend it to a friend (M = 9.5)
  - Table 1 summarizes participants' perceptions
- The number and length of sessions was "About Right"
- Thematic analysis identified two primary themes each with three sub-themes
  - Developmental tasks of emerging adulthood: EA valued independence, but found assistance from authority (e.g physicians; parents) useful due to perception of T1D as "abnormal"
    - Identity assimilation
    - Preference for autonomy
    - Struggle to integrate themselves into "normal" settings
  - Impressions of the intervention: EA found the intervention useful.
    - Credible
    - Relatable
    - Helpful reminders
- Figure 2 illustrates the thematic structure
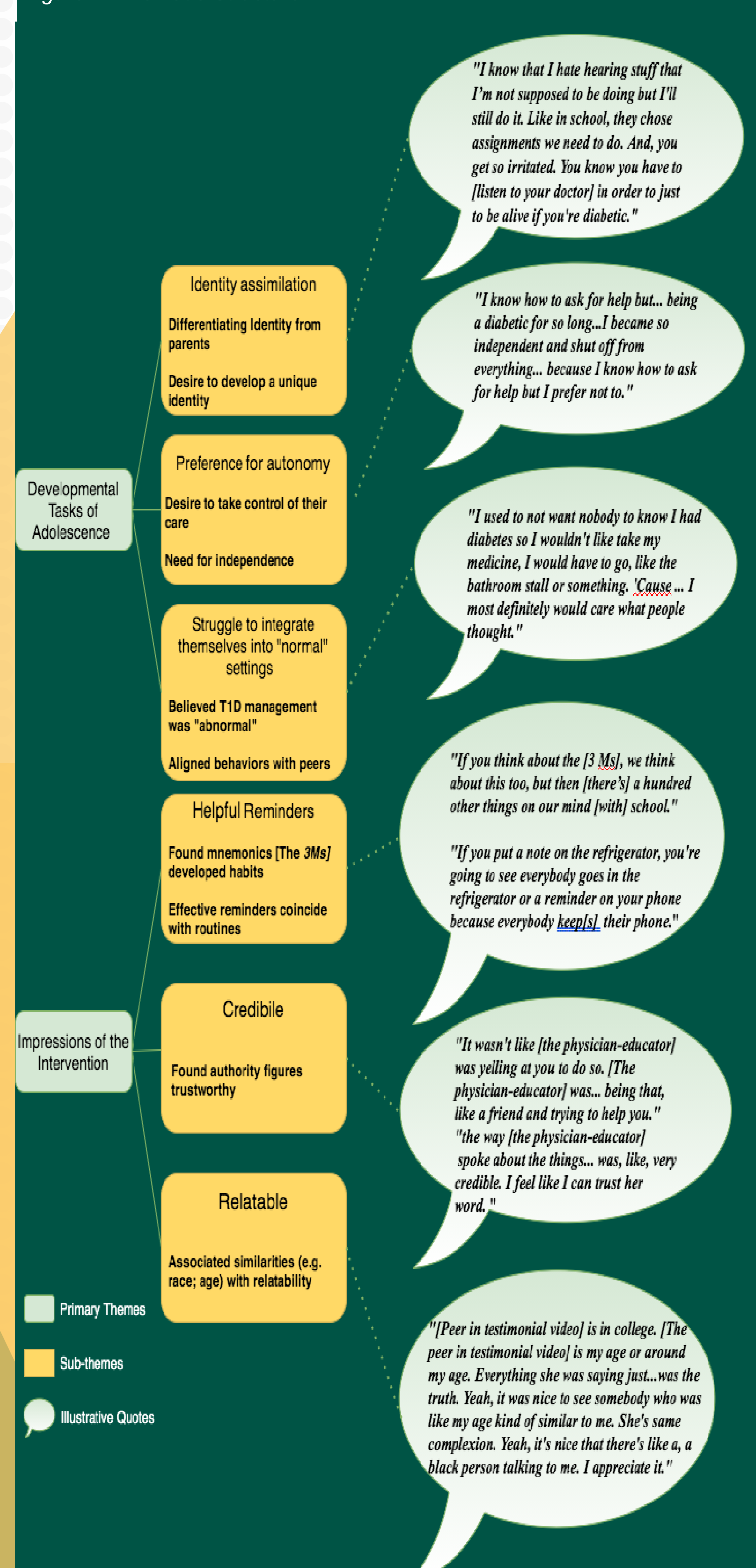
Figure 2. Thematic Structure

Table 1. *Participant Perceptions of the 3Ms Program*

Participant ID	Helpfulness Rating [α]	Willingness to Recommend Program [β]	Session Length	Number of Sessions
1	10	10	About Right	About Right
2	9	10	About Right	About Right
3	8	8	About Right	About Right
4	8	10	About Right	About Right
5	8	10	About Right	About Right
6	8	7	About Right	Too few
7	8	10	About Right	About Right
8	8	10	About Right	About Right
9	7	10	About Right	About Right
10	9	10	Too Long	About Right
Average	**8.3**	**9.5**		

[α] Specified as 1 corresponding to the program being "not at all helpful" and 10 being "extremely helpful"

[β] Specified as 1 corresponding to the program being "not at all recommendable" and 10 being "certainly recommendable"

CONCLUSION

- EAs with T1D found The 3Ms to be acceptable and appropriate
- eHealth intervention elements that were appealing included:
  - Features that align with their developmental needs, like highlighting EAs' own decision-making autonomy
  - Content that is credible and relatable, such as testimonials from youth similar to themselves

PUBLIC HEALTH IMPLICATIONS

- The 3Ms can increase access to behavioral health services to emerging adults with T1D

FUTURE DIRECTIONS

- Randomized clinical trial to test the efficacy of The 3Ms

ACKNOWLEDGEMENTS

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