Usage and Engagement in a Digital Intervention for Adults with Intellectual Disabilities who are Parents of Infants

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Early Childhood & School Readiness

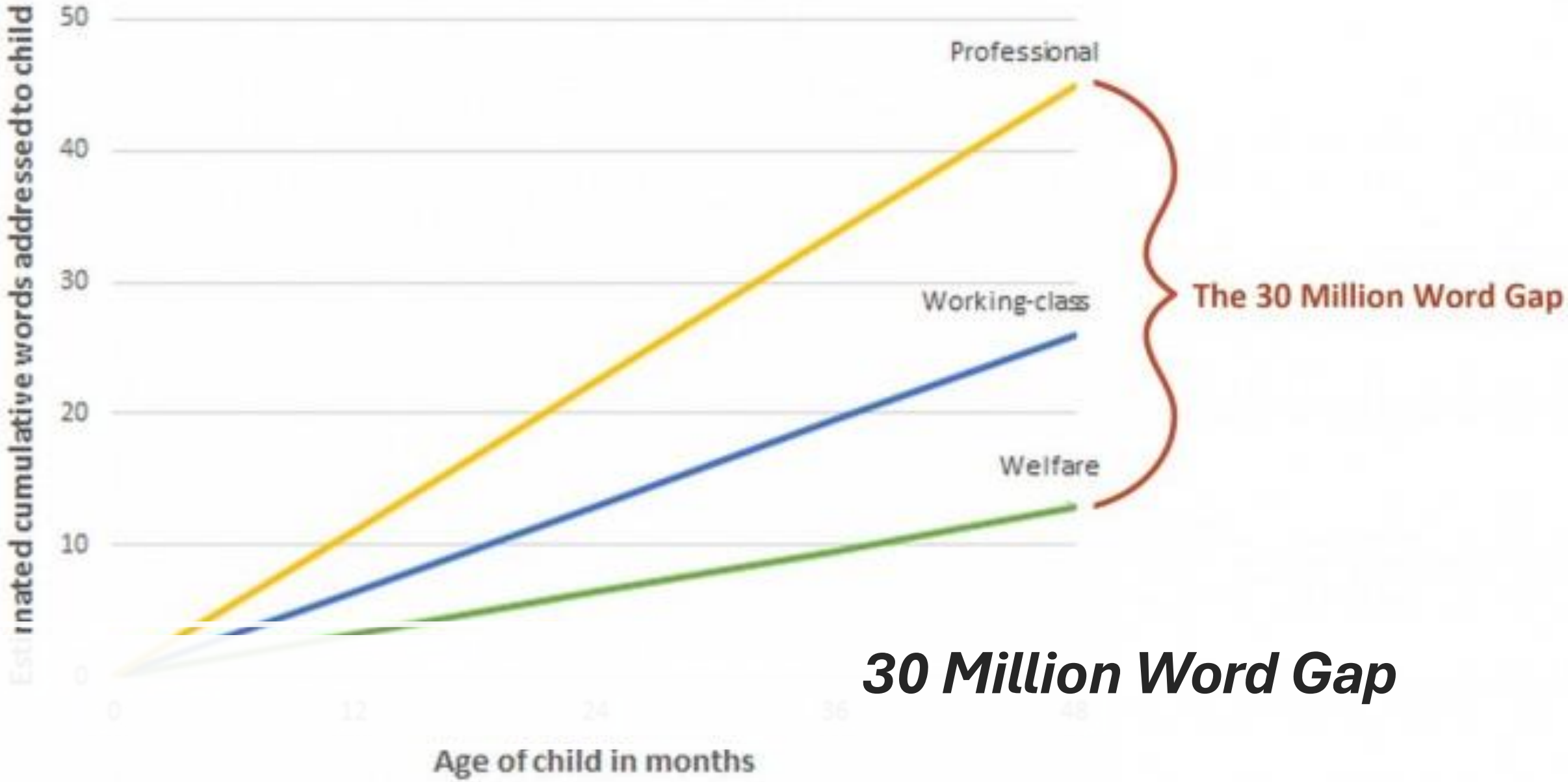
- Beginning in infancy and continuing throughout early childhood
- Positive difference in children's developmental outcomes
- Long-term savings in human cost and social expenditures

Parent behaviors can promote school readiness

Four specific responsiveness strategies for promoting school readiness:

1. Maintaining vs. redirecting children's attentional focus and interests;
2. Contingent responsiveness;
3. Rich language input; and
4. Warm sensitivity.

Number of Words Heard by Children Differs Across Income Groups



30 Million Word Gap

Hart & Risley, 1995

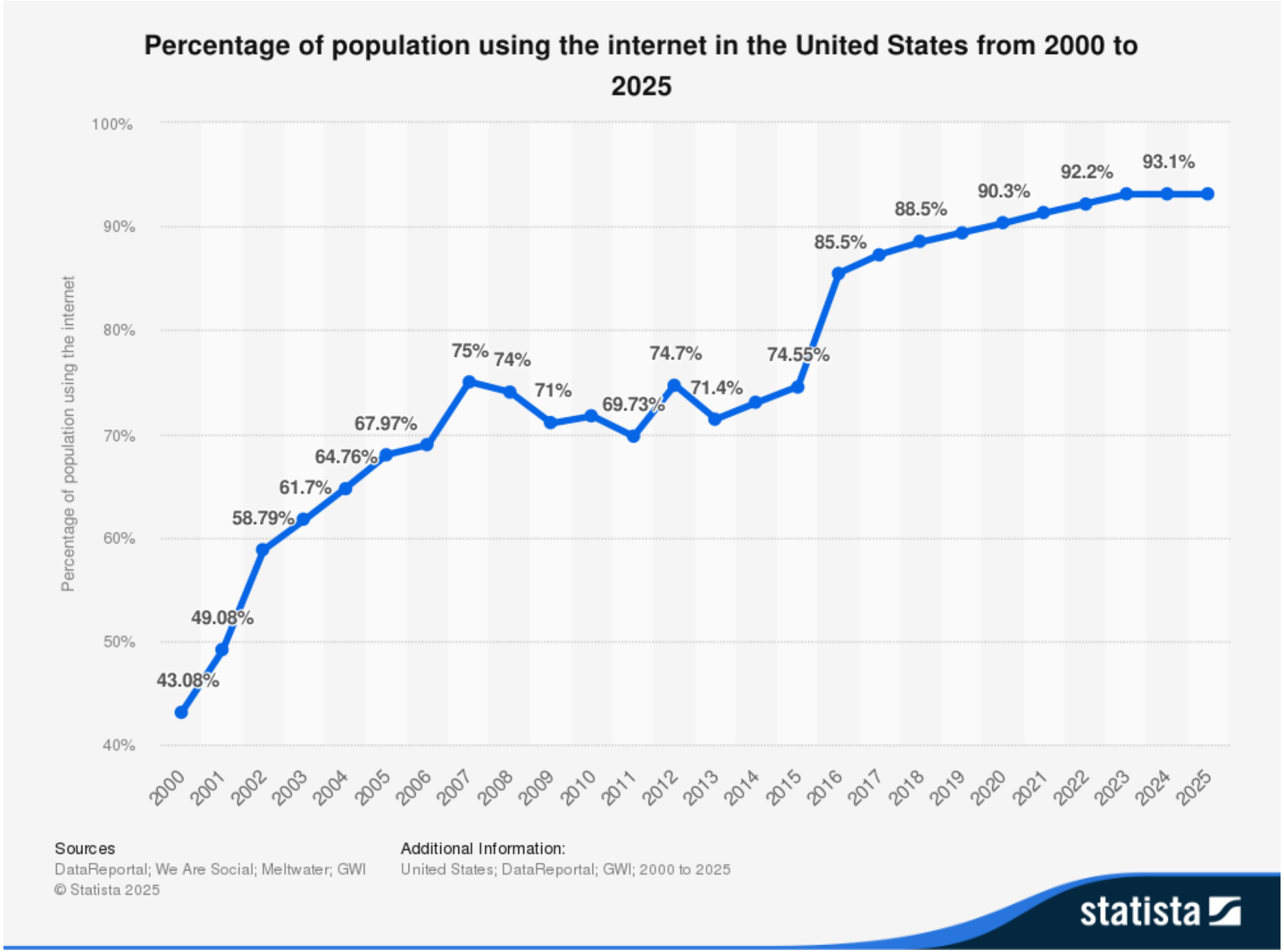
Parents with Learning Difficulties

- ~12% of U.S. women of childbearing age have a physical, hearing, vision, or cognitive disability (Horner-Johnson et al., 2016)
- Mothers with cognitive delays can:
  - Be less knowledgeable about contraceptives
  - Be at higher risk for child protective services
  - Have higher rates of stress
  - Have babies with lower birth rate
  - Have increased risk for postpartum hospital admissions and emergency department visits

(Feldman et al., 2002; Akobirshoev et al., 2017; Parish et al., 2015; Brown et al., 2017)

Barriers to Parenting Services

- Distance
- Few professionals
- Rural areas at higher risk due to poverty & isolation



http://www.pewinternet.org/Data-Tools/Download-Data/~/media/Infographics/Trend%20Data/January%202009%20updates/Internet%20Diffusion%201%206%2009.jpg

Americans with a disability are less likely than those without one to have traditional computer, smartphone

% of U.S. adults who say they have the following

	Any disability	No disability	No disability - any disability DIFF
Desktop or laptop computer	62	81	**+19**
Smartphone	72	88	**+16**
Tablet computer	47	54	+7
Home broadband	72	78	+6
All of the above	26	44	**+18**

0 20 40 60 80 100

Note: Statistically significant differences in **bold**. The difference values shown are based on subtracting the rounded values in the chart. Respondents who did not give an answer are

Home visiting program for mothers of infants at risk (very low birth weight)

- Can we adapt a home visiting program for 100% delivery via tablet?
- Is it effective?
- Is it easy to use/acceptable?

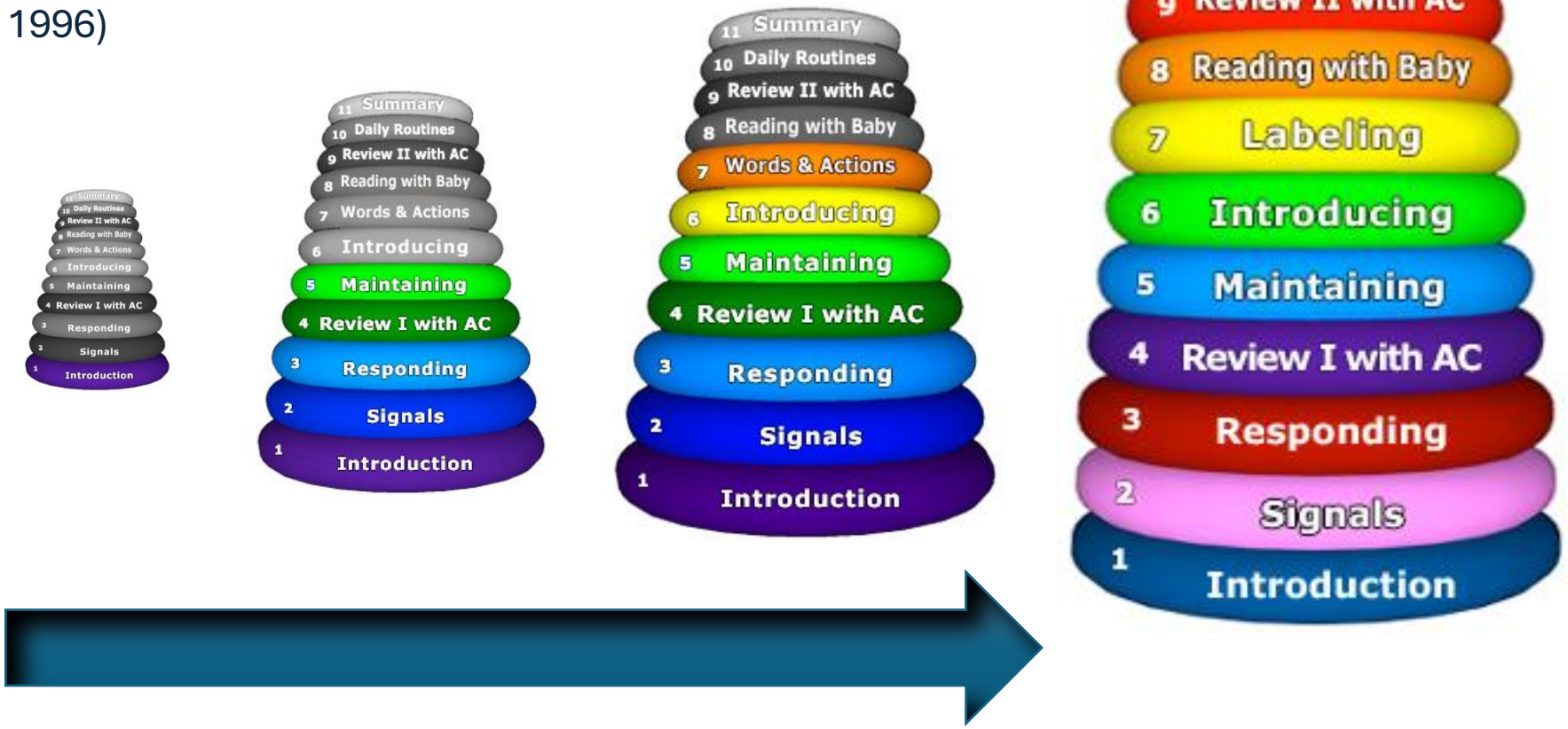
Covid Context:

- digital nature of this intervention facilitated using more socially distant methods.
- created a more acceptable and conventional environment for digital interventions.

PALS

PLAY AND LEARNING STRATEGIES

(Landry & Smith, 1996)



https://playandlearning.org/research/

IDD Adaptation

- Creating an authentic context for parents with cognitive delays through production of additional video exemplar videos of parents with cognitive delays and their infants.
- Reducing maternal actions required to access program features and using image icons rather than text to reflect system functions (e.g., coach contact button).
- ~~Exploring the combination of in-home face-to-face in and distal coach contact (i.e., phone or videotelephony~~)

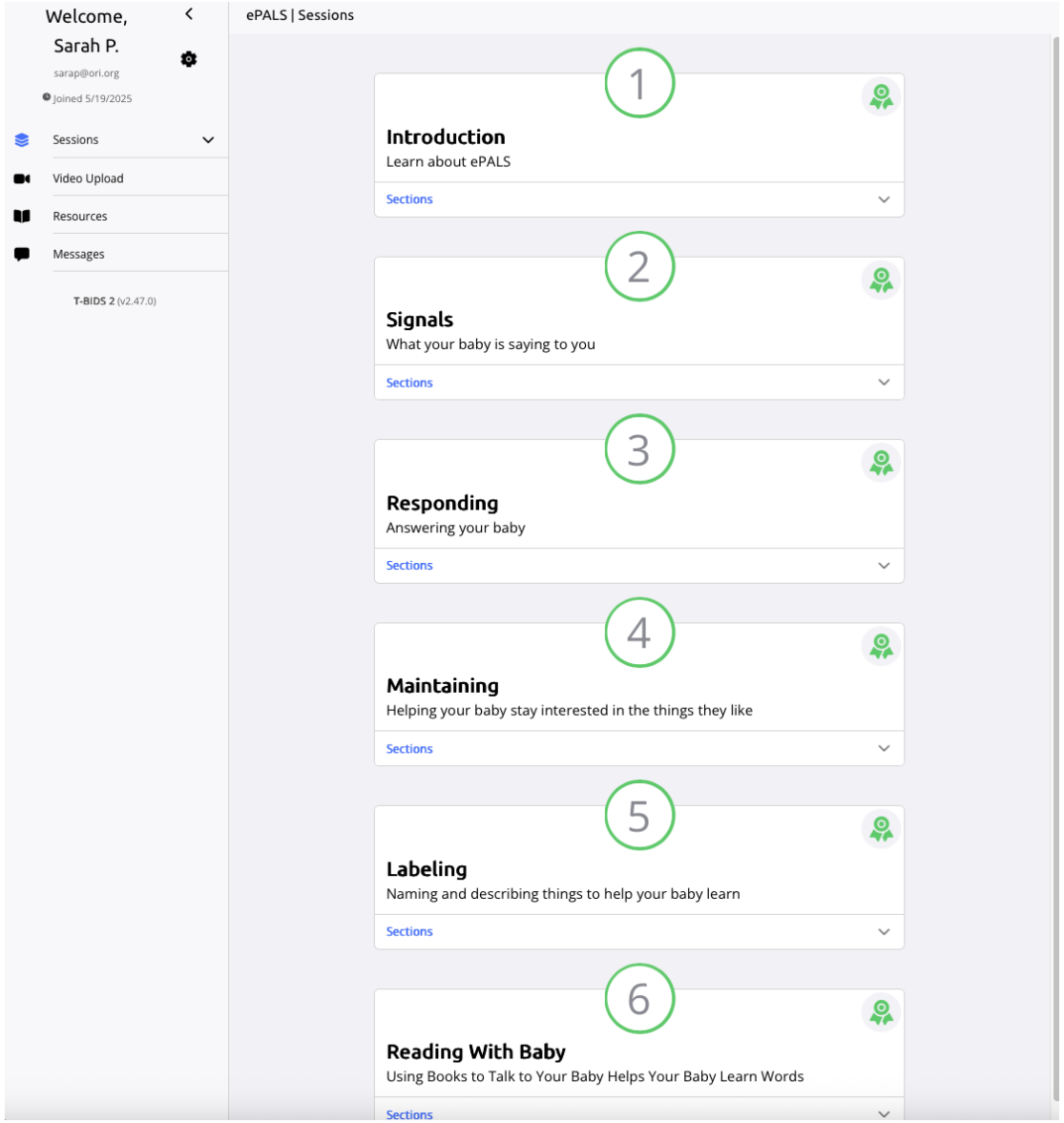
Covid pivot to go all distal

Adapted ePALS

Reduced from 11 sessions

6 online learning sessions

1. Introduction to App
2. Signals
3. Responding
4. Introducing & Maintaining Interest
5. Labeling & Describing
6. Reading with baby



Original PALS Video: Labeling

New Video for Adaptation

Engagement in Parenting Interventions

- Greater engagement, higher dosage received → greater positive effects
- Previous ePALS studies: 68%-89% of participants completed the intervention
  - Completion = completed 9 out of 11 modules

(Baggett et al., 2010; Baggett et al., 2018; Feil et al., 2020)

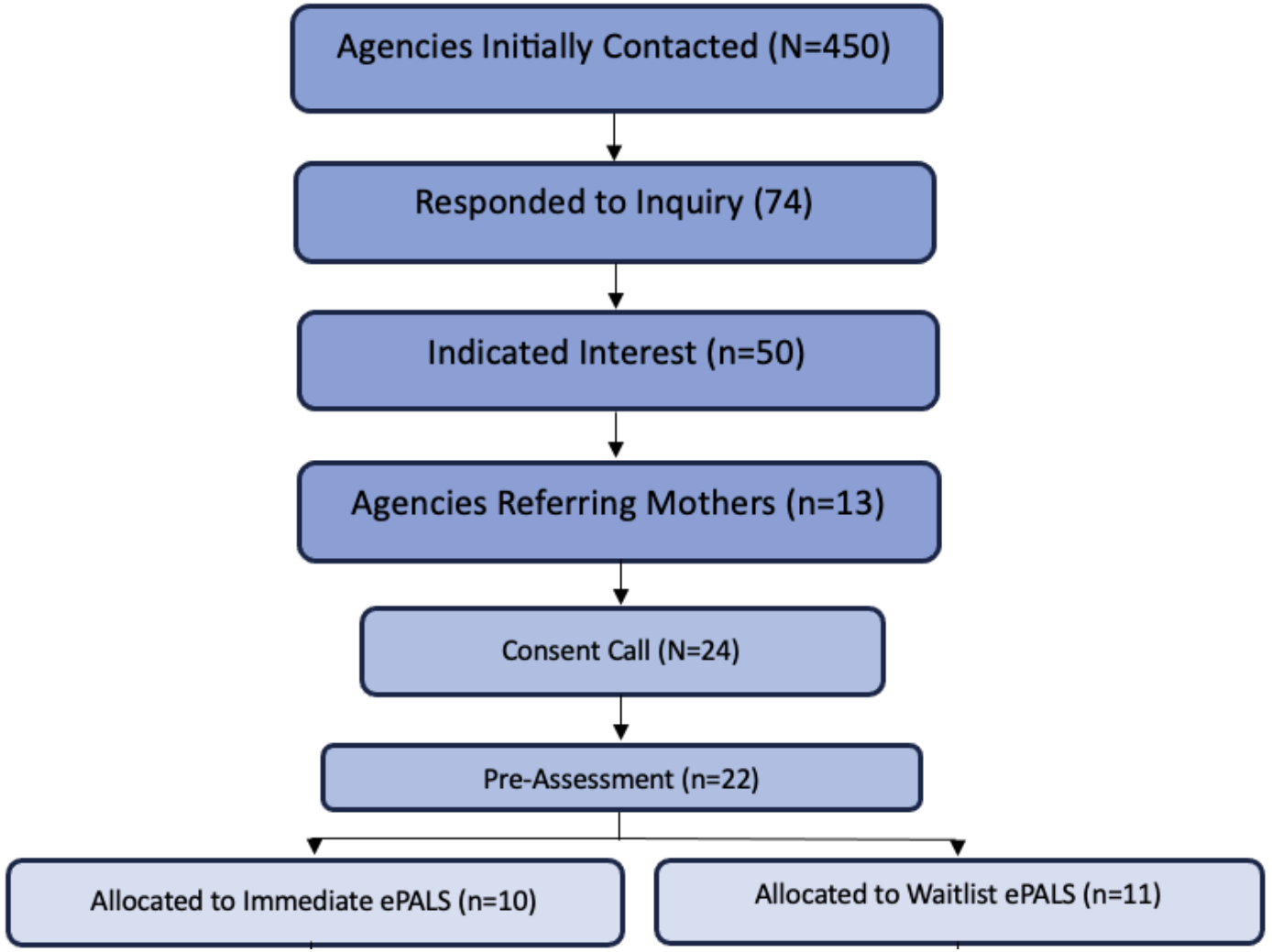
- Individuals with IDD may have varied support needs for engaging in online interventions

(MacHale et al., 2023)

Purpose of the Current Project

- ~~conduct a randomized control trial to evaluate the effectiveness of ePALS for adults with intellectual disabilities who are parents of infants~~
- examine the feasibility of an adapted digital parenting intervention for parents with intellectual disabilities, including usage of the digital platform, engagement with the intervention, and acceptability

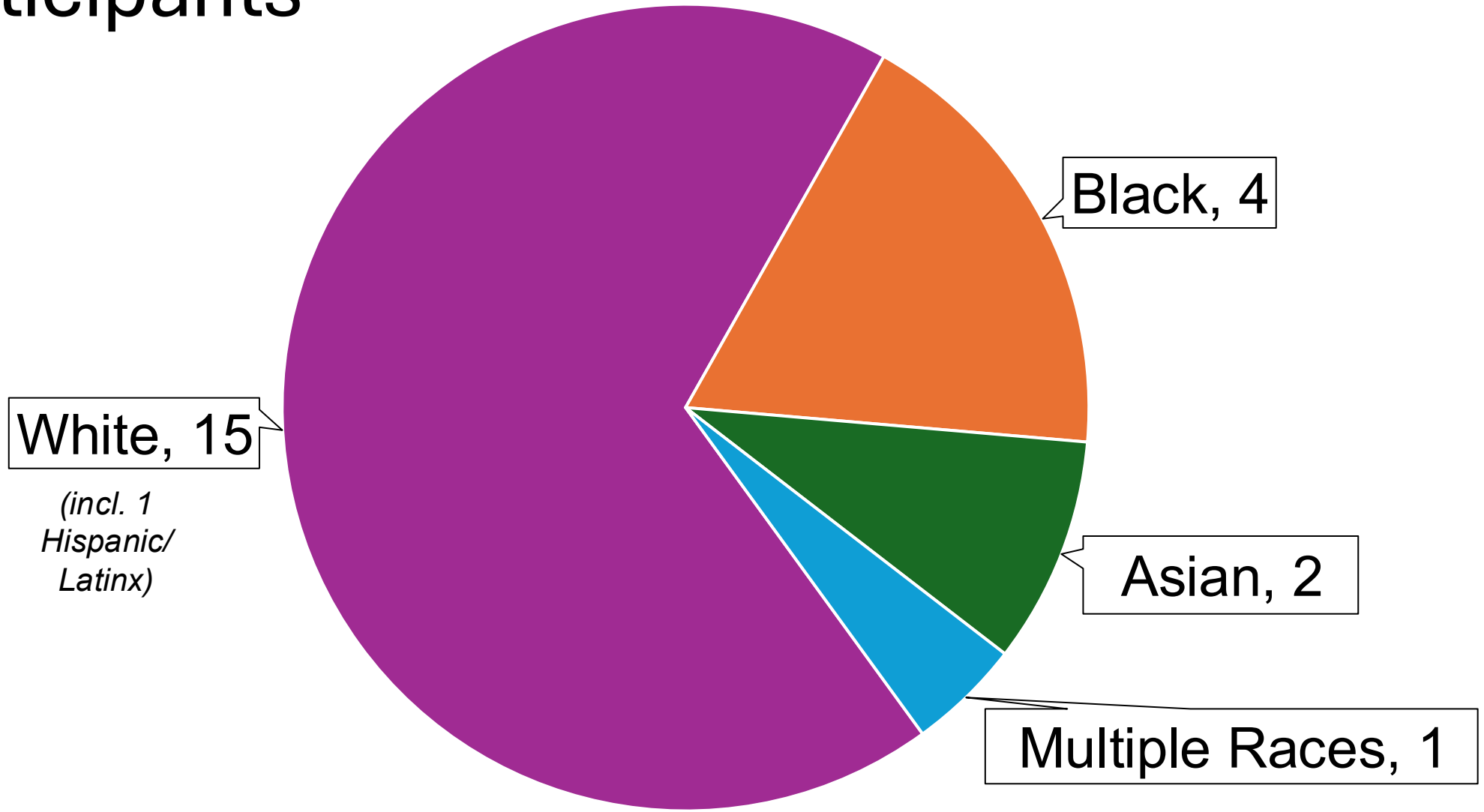
Participant Recruitment



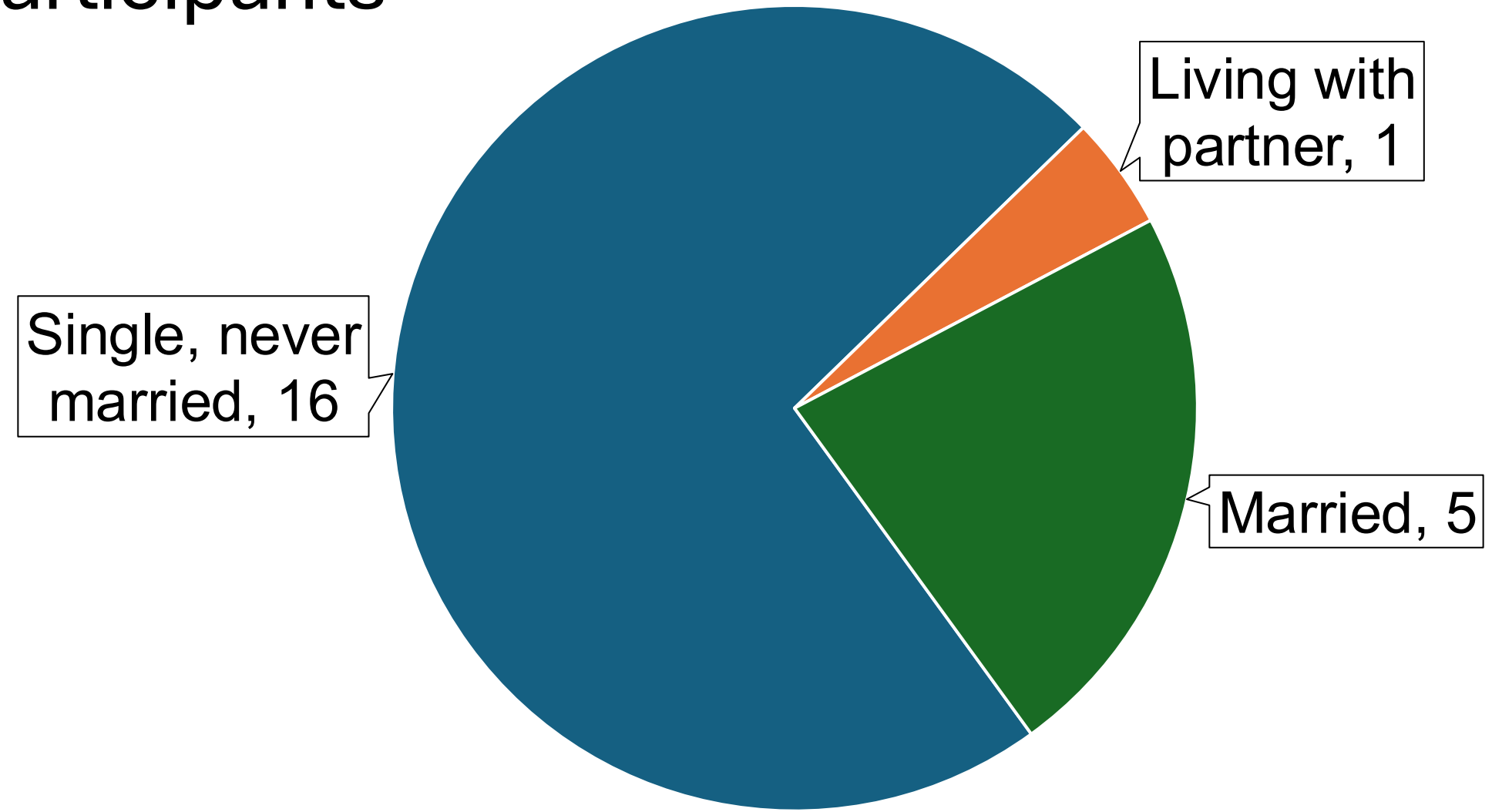
Participants

- Average age: 28.19 years
  (range = 20-38 years)

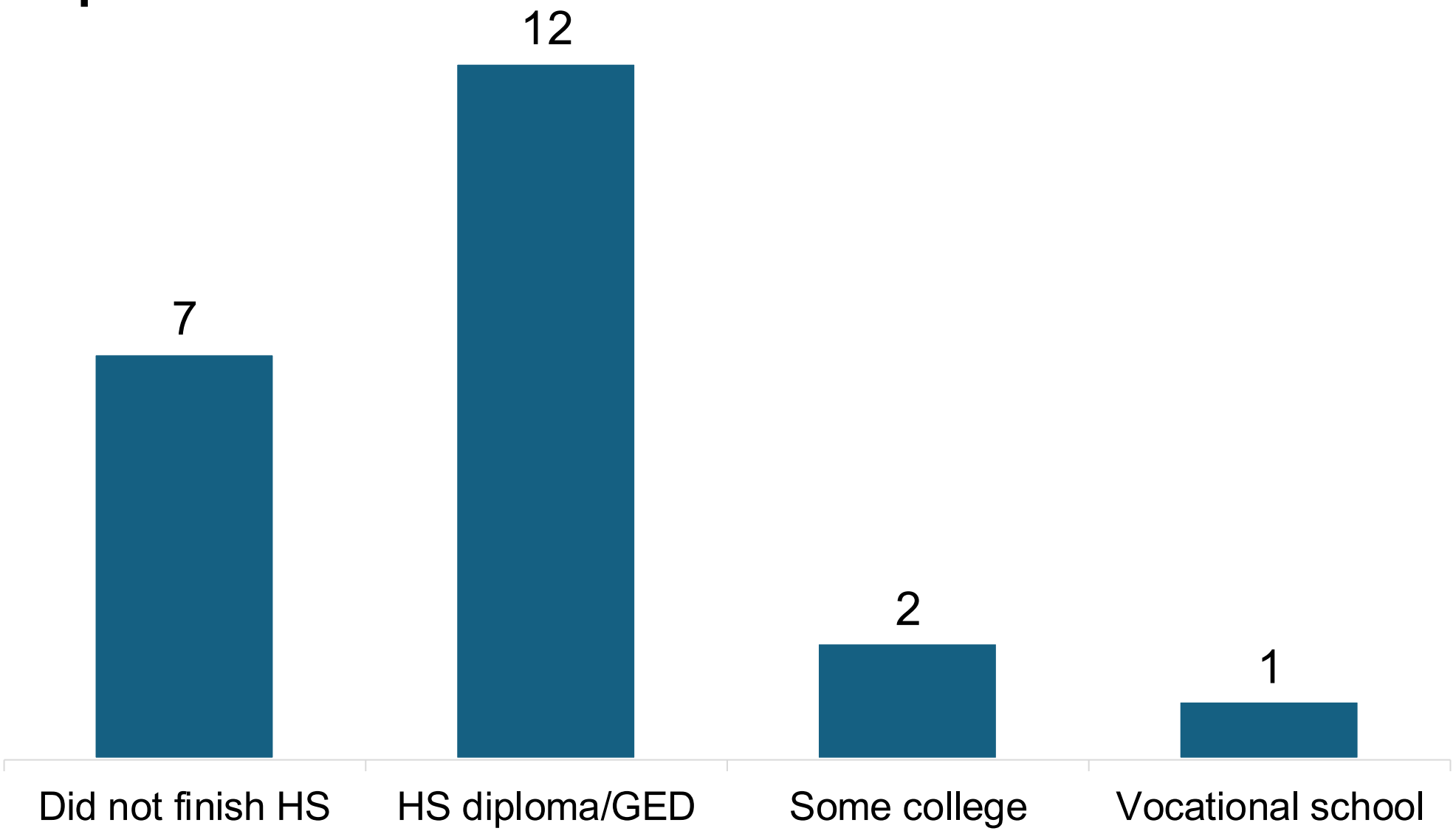
Participants



Participants



Participants



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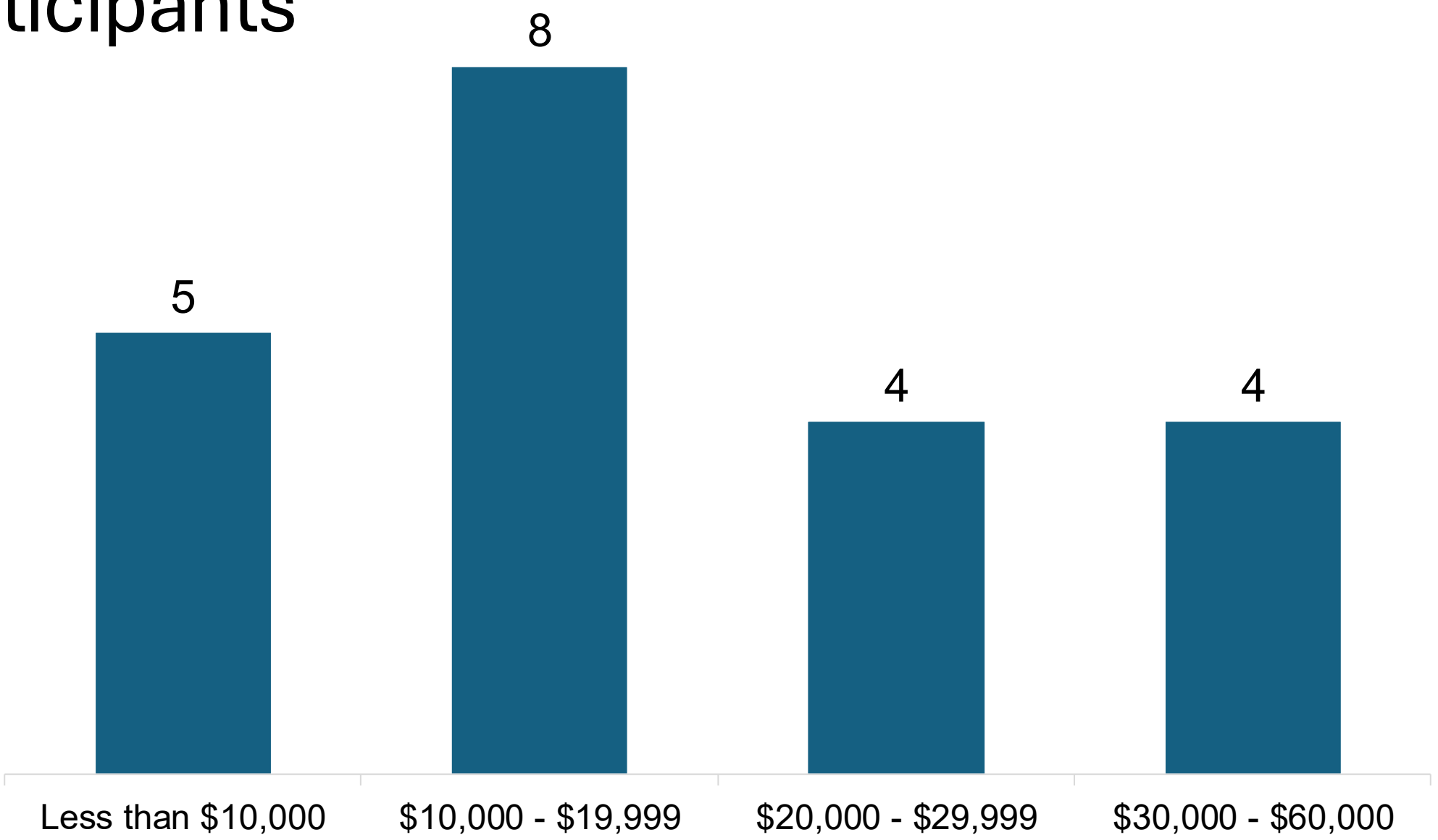


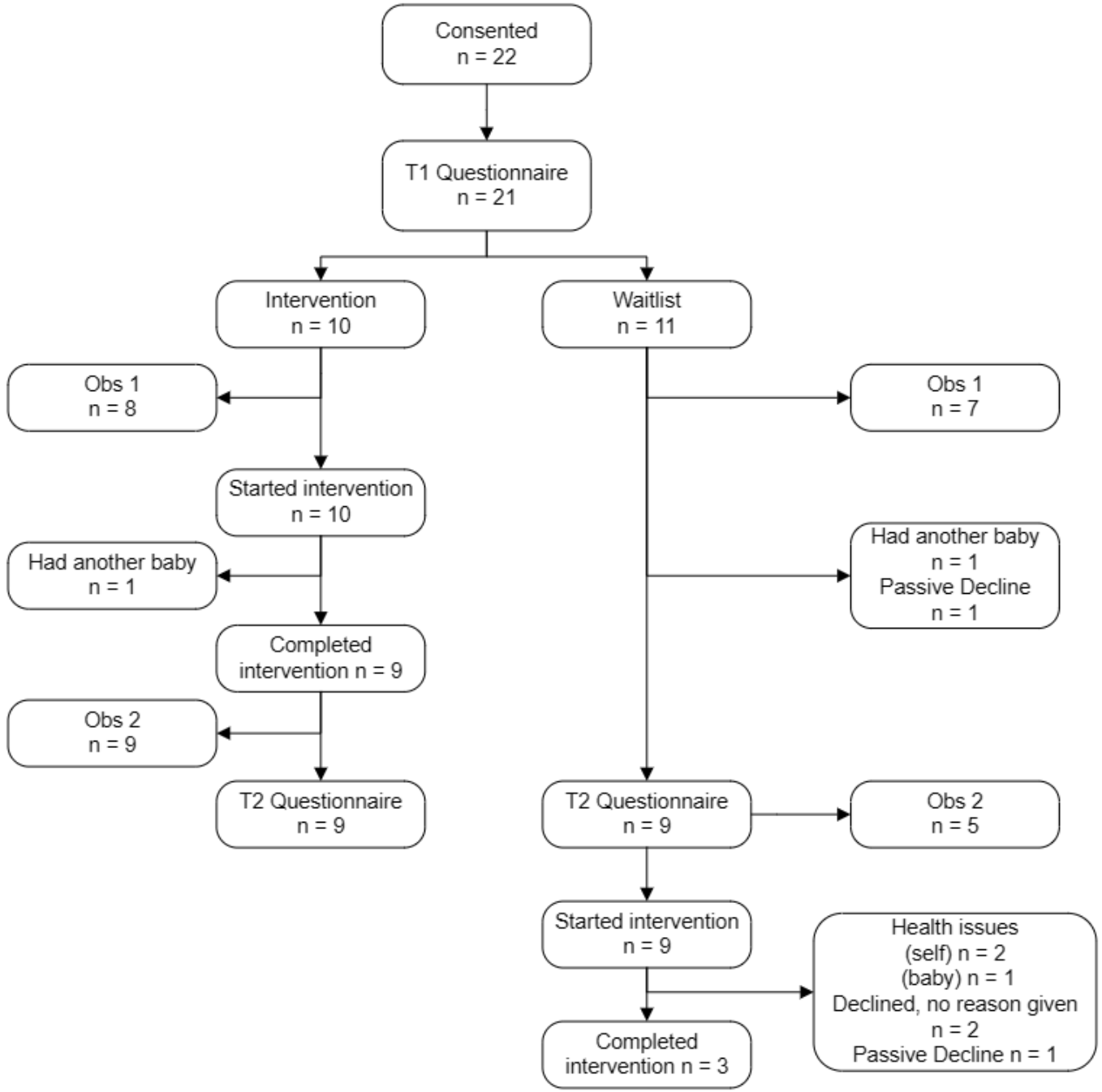
Additional Demographics

Vineland Adaptive Behavior Composite (ABC)

- Average or above average: (n = 5)
- Borderline impairment: (n = 12)
- Mild impairment: (n = 3)

Work and Social Adjustment Scales (WSAS)

- Low impairment: (n = 2)
- Moderate impairment: (n = 7)
- Severe impairment: (n = 11)


Consented
n = 22
T1 Questionnaire
n = 21
Intervention
n = 10
Waitlist
n = 11
Obs 1
n = 8
Obs 1
n = 7
Started intervention
n = 10
Had another baby
n = 1
Had another baby
n = 1
Passive Decline
n = 1
Completed
intervention n = 9
Obs 2
n = 9
T2 Questionnaire
n = 9
T2 Questionnaire
n = 9
Obs 2
n = 5
Started intervention
n = 9
Health issues
(self) n = 2
(baby) n = 1
Declined, no reason given
n = 2
Passive Decline n = 1
Completed
intervention n = 3

Set Up

- ePALS delivered via online platform (TBIDS)
- Participants provided with a free tablet and wireless internet
- Unique username and password

Measures

Usage measures

- Usage duration
- Percentage of pages viewed
- Response rate
- Response accuracy

Intervention timeline

Intervention duration

Measures

Intervention acceptability

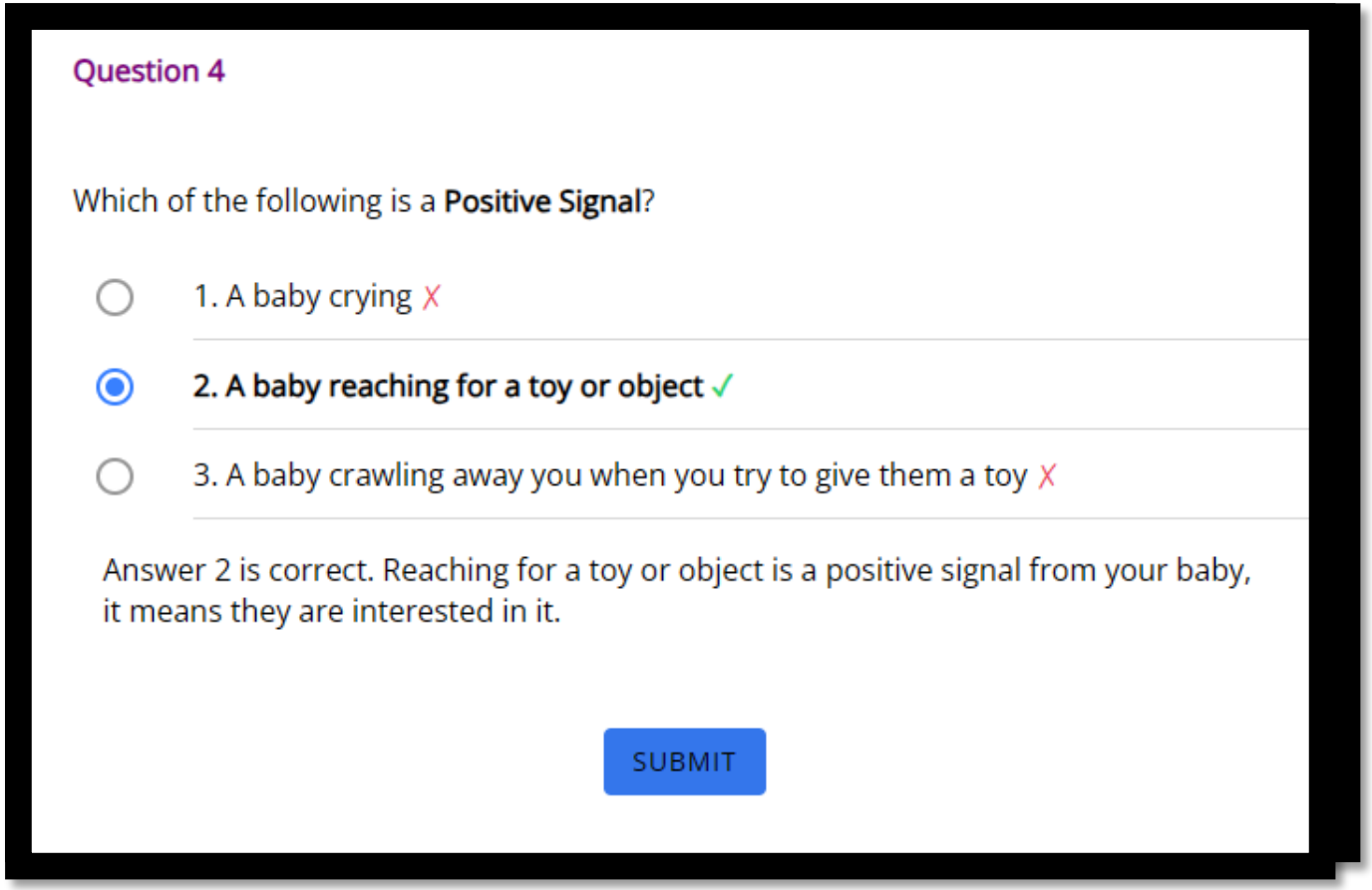
- Post-intervention questionnaire, intervention group only
- Acceptability of coaching, acceptability of ePALS overall

Online Session Organization

- Introduction/session objectives
- Review of prior skills learned
- New skills learning
- Active response opportunity
- Daily activity to practice the skills learned in the session

Active Response Opportunities

- Not required to respond
- Any response→ general feedback



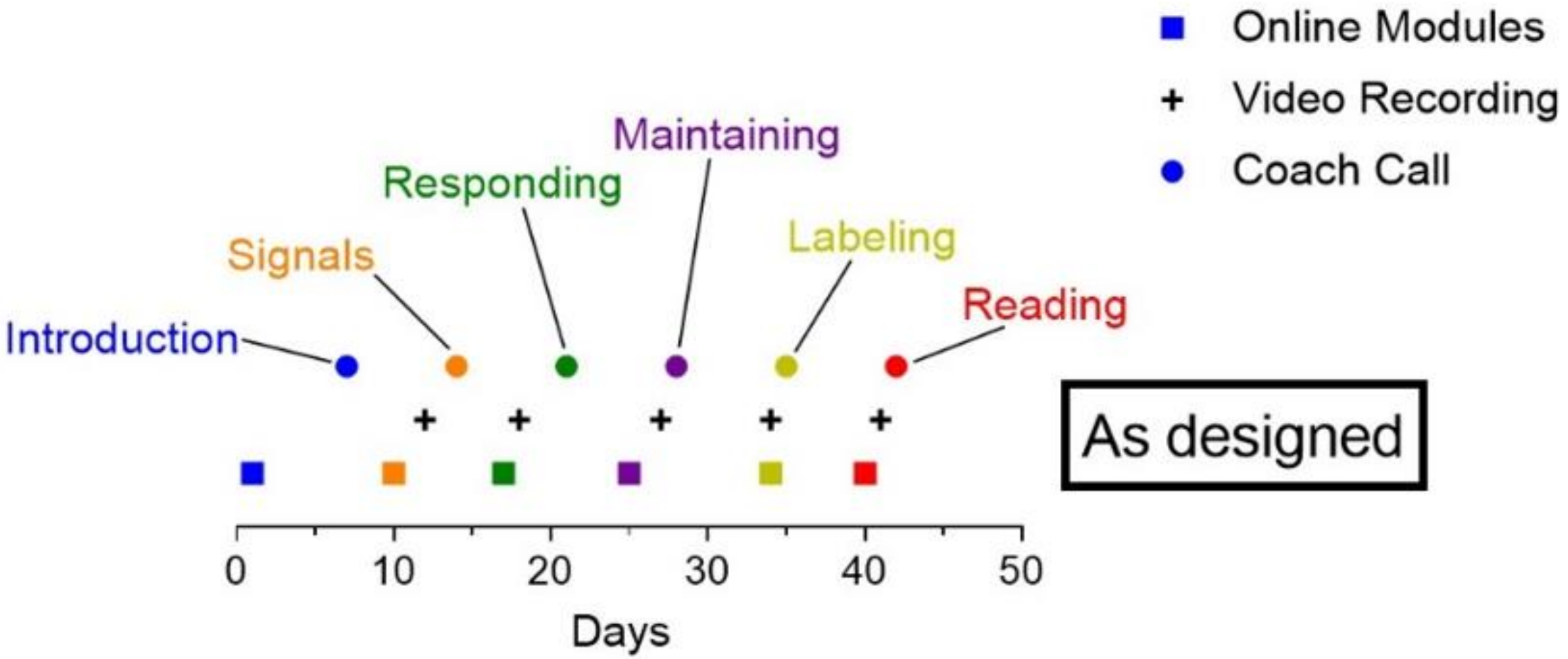
Video Recordings

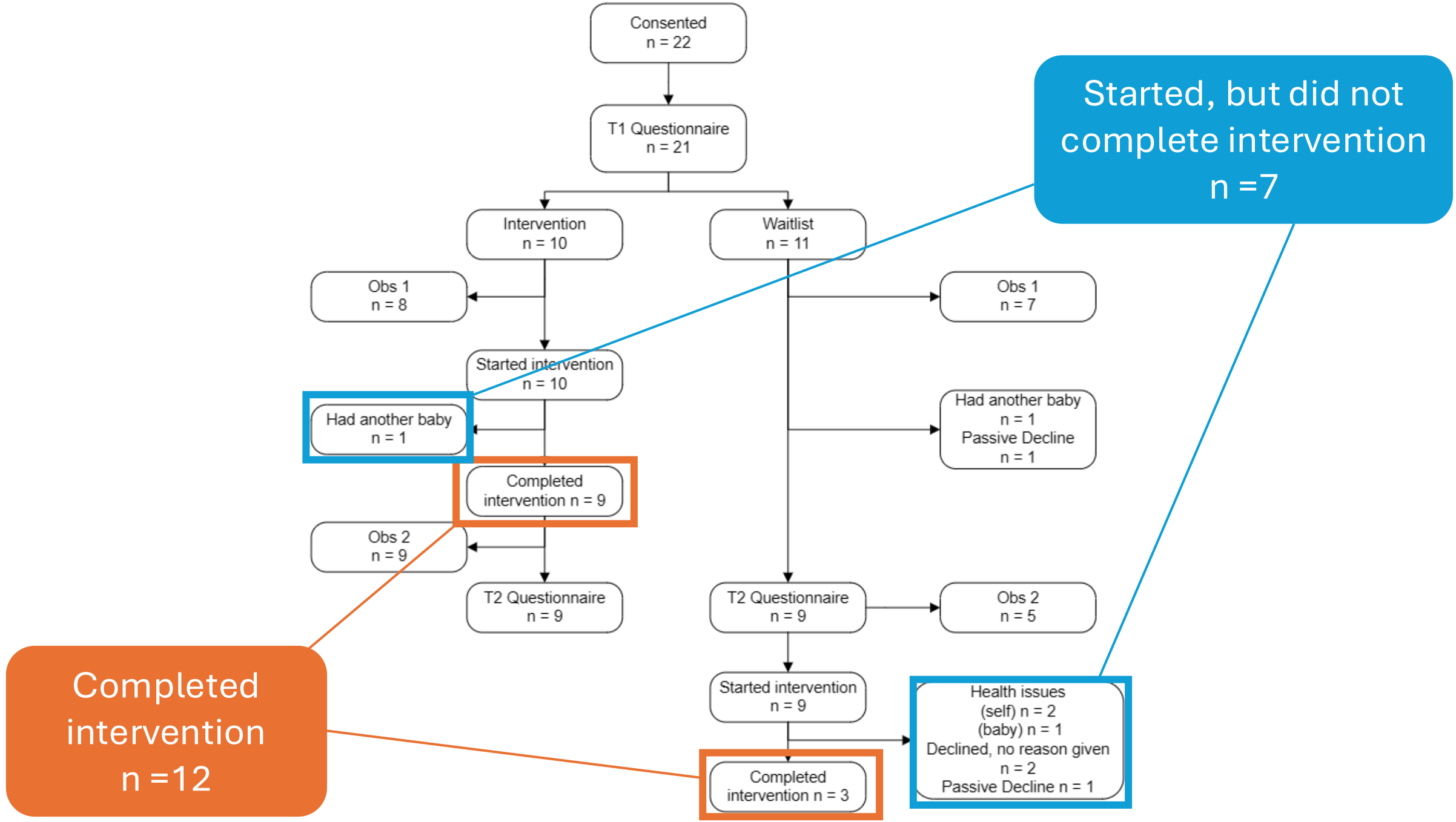
Participants instructed to record brief videos of themselves practicing skills with baby

Coach Calls

- Checking in about practicing previous skills
- Celebrating successes
- Problem solving barriers
- Reviewing participant video recording
- Facilitating reflection
- Praise for appropriate use of skills
- Planning for practicing skills

Intervention Timeline




Consented
n = 22
T1 Questionnaire
n = 21
Intervention
n = 10
Waitlist
n = 11
Obs 1
n = 8
Obs 1
n = 7
Started intervention
n = 10
Had another baby
n = 1
Had another baby
n = 1
Passive Decline
n = 1
Completed
intervention n = 9
Obs 2
n = 9
T2 Questionnaire
n = 9
T2 Questionnaire
n = 9
Obs 2
n = 5
Started intervention
n = 9
Health issues
(self) n = 2
(baby) n = 1
Declined, no reason given
n = 2
Passive Decline n = 1
Completed
intervention n = 3
Started, but did not complete intervention n =7
Completed intervention n =12

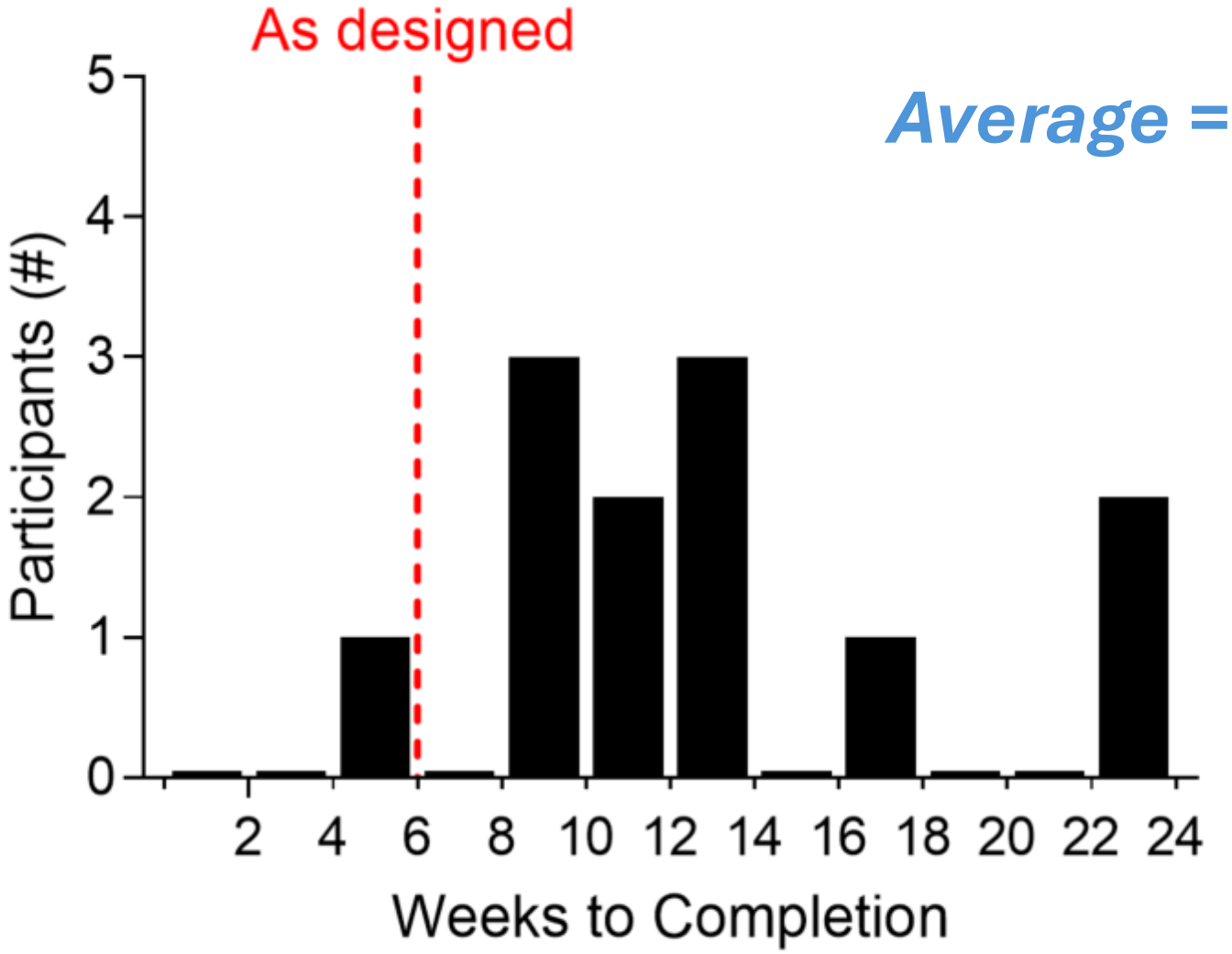
Completed intervention (n = 12)

	Usage Duration (min)	Pages Viewed (%)	Response Rate (%)	Response Accuracy (%)
Introduction	20.52	99%	n/a	n/a
Signals	32.07	98%	79%	92%
Responding	29.60	98%	78%	95%
Maintaining	35.94	97%	78%	95%
Labeling	31.19	96%	87%	98%
Reading	21.91	96%	84%	87%

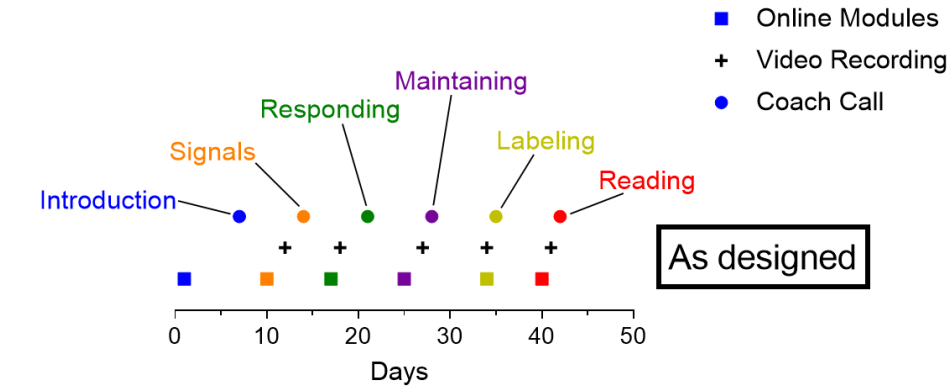
Did not complete intervention (n = 7)

		Usage Duration (min)	Pages Viewed (%)	Response Rate (%)	Response Accuracy (%)
Introduction	n = 6	9.61	48%	n/a	n/a
Signals	n = 4	10.99	55%	50%	92%
Responding	n = 3	14.21	68%	67%	80%
Maintaining	n = 2	21.23	78%	70%	90%
Labeling	n = 1	3.69	100%	100%	80%
Reading	n = 1	3.88	100%	89%	50%

Intervention Duration

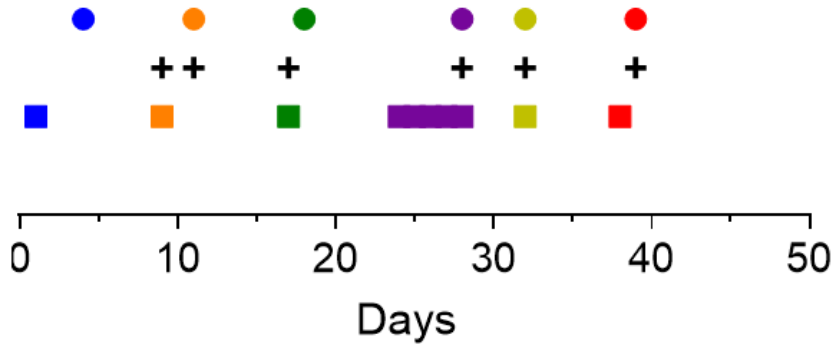


Average = 13 weeks



As designed

1115



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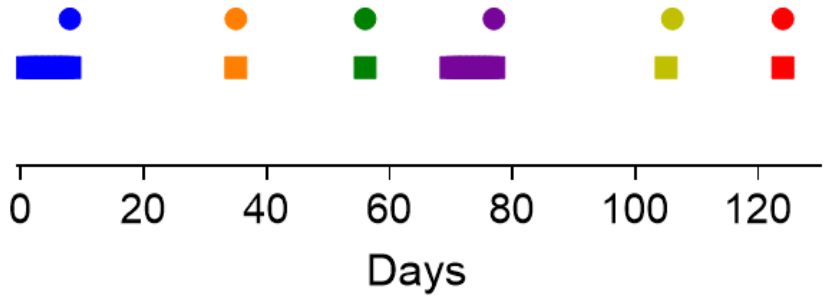

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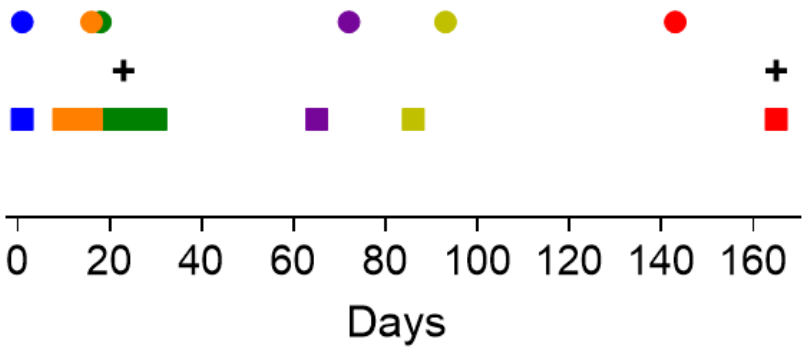

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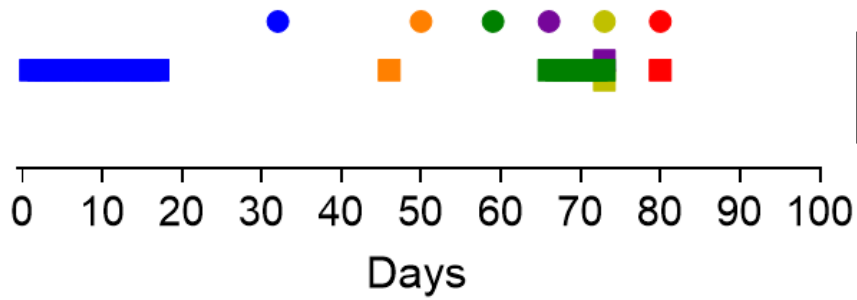
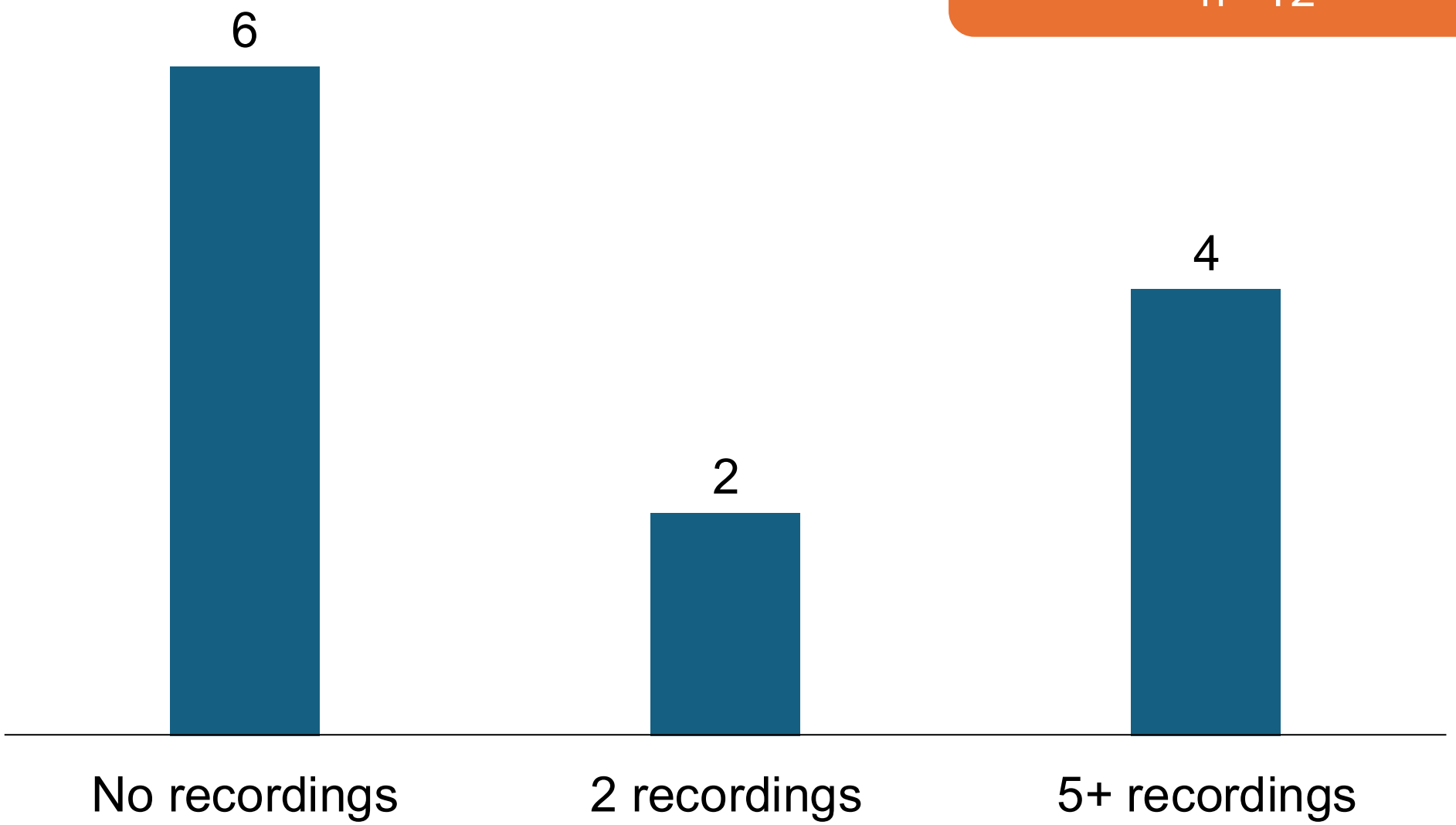


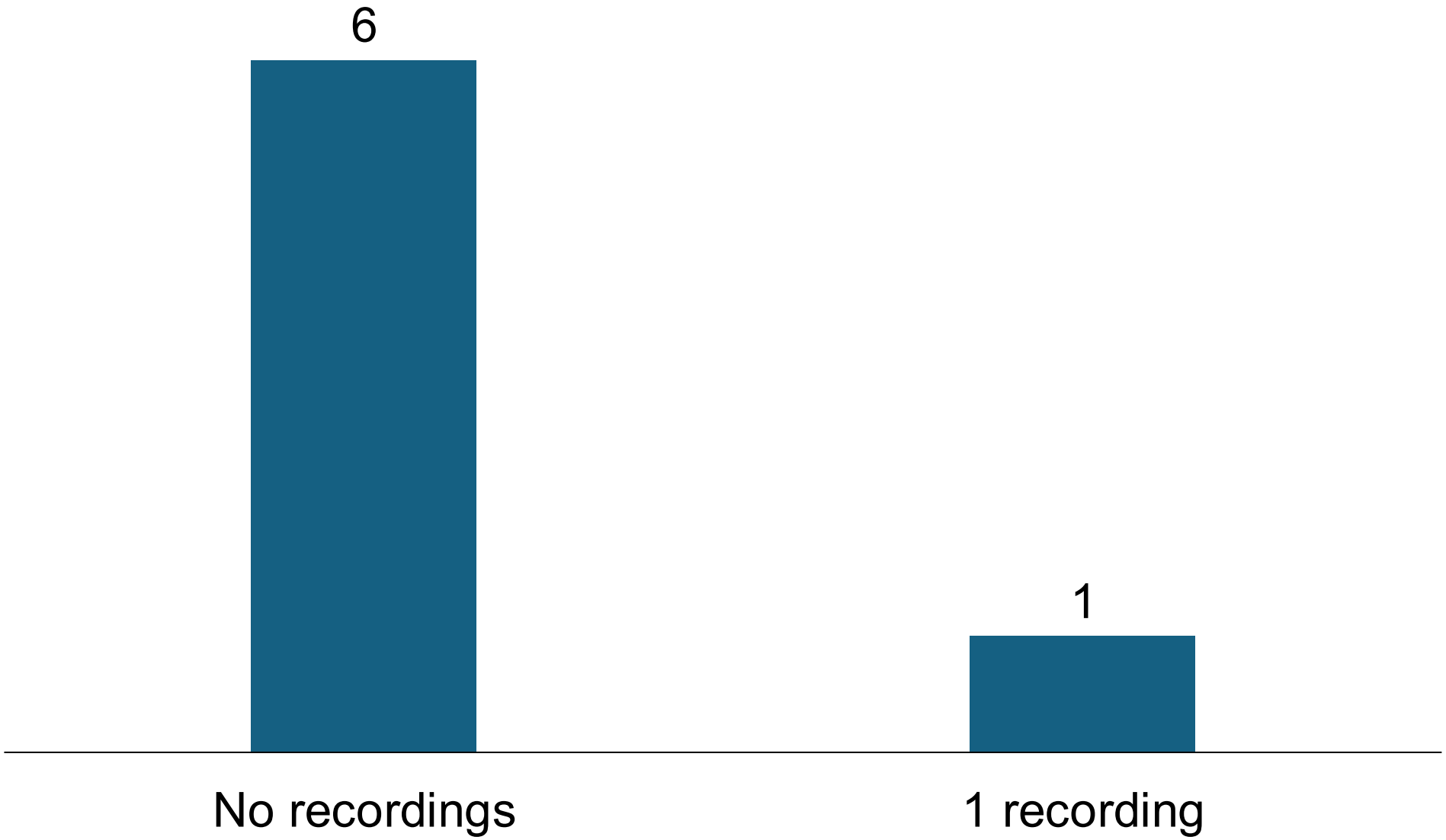
Video Recordings

Completed intervention
n =12

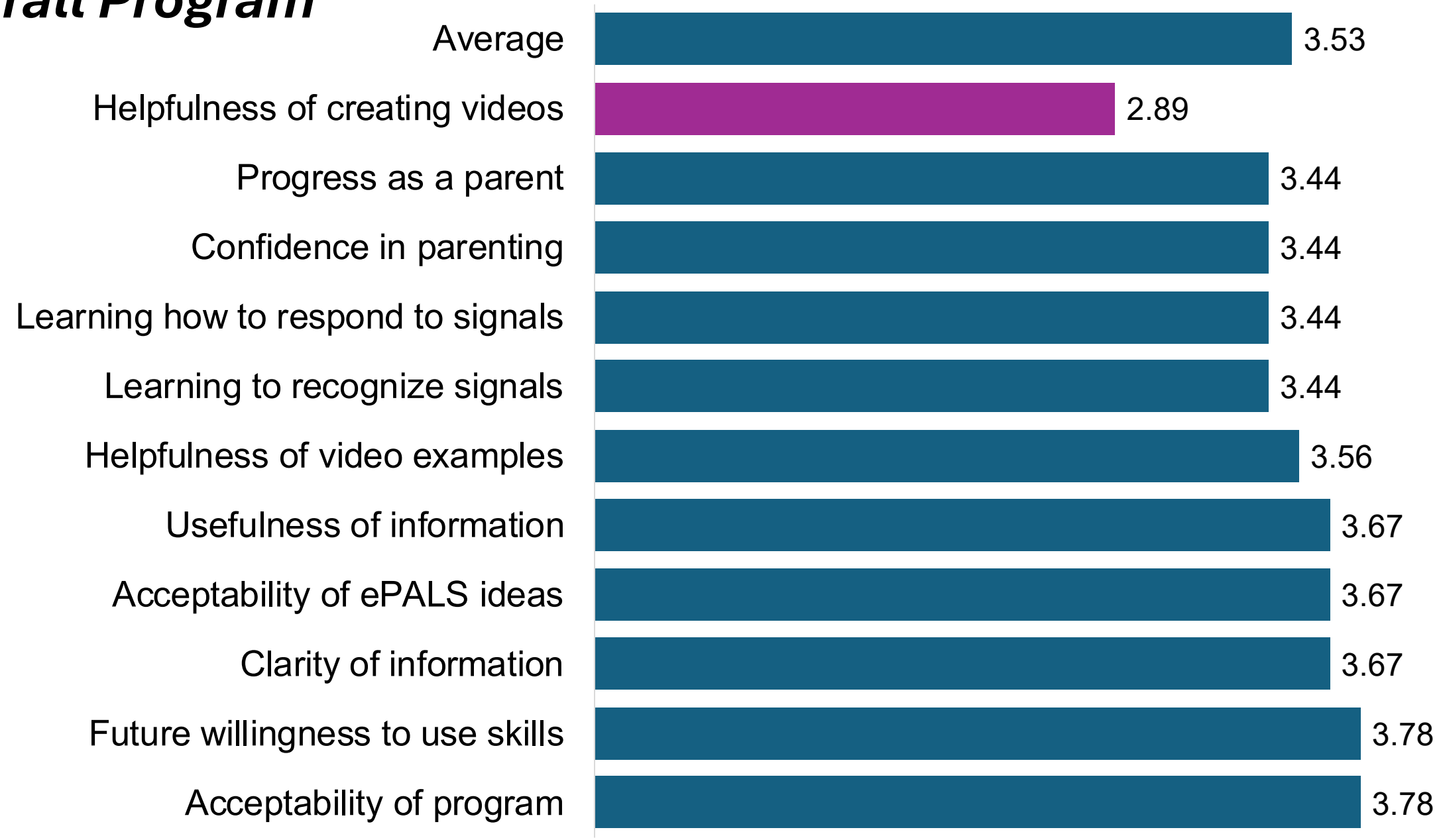


Video Recordings

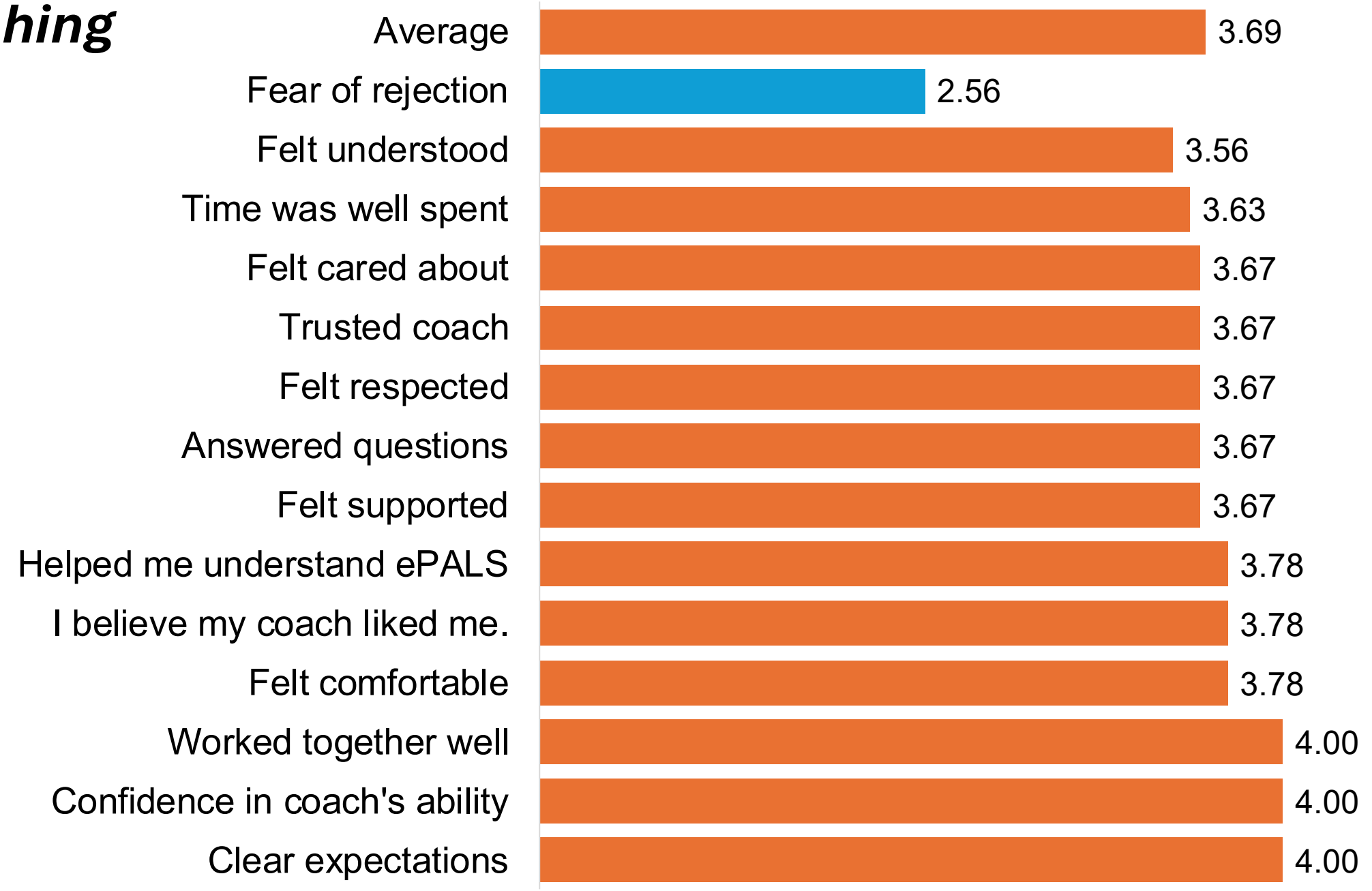
Started, but did not complete intervention
n =7

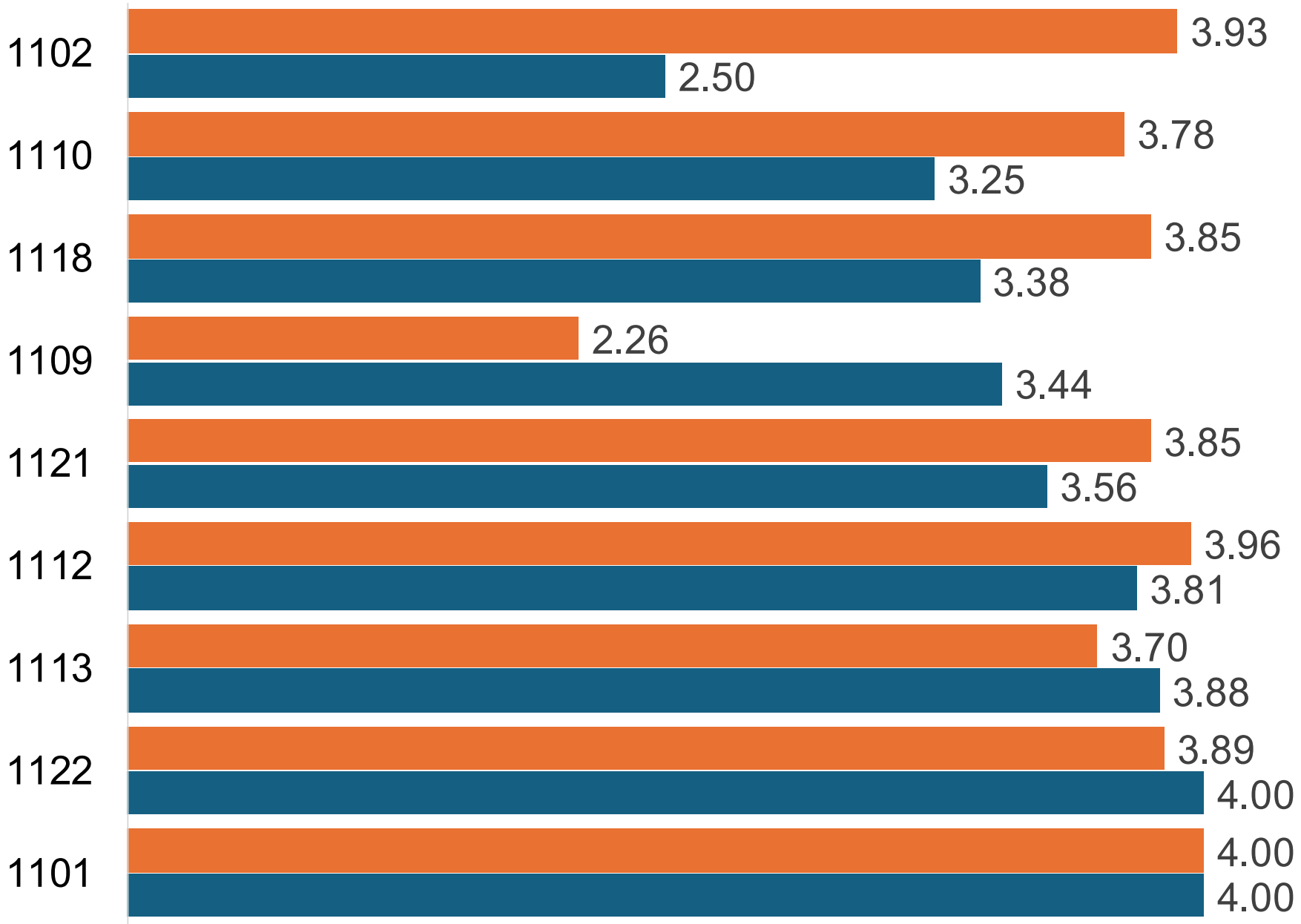


Overall Program



Coaching


Average
3.69
Fear of rejection
2.56
Felt understood
3.56
Time was well spent
3.63
Felt cared about
3.67
Trusted coach
3.67
Felt respected
3.67
Answered questions
3.67
Felt supported
3.67
Helped me understand ePALS
3.78
I believe my coach liked me.
3.78
Felt comfortable
3.78
Worked together well
4.00
Confidence in coach's ability
4.00
Clear expectations
4.00

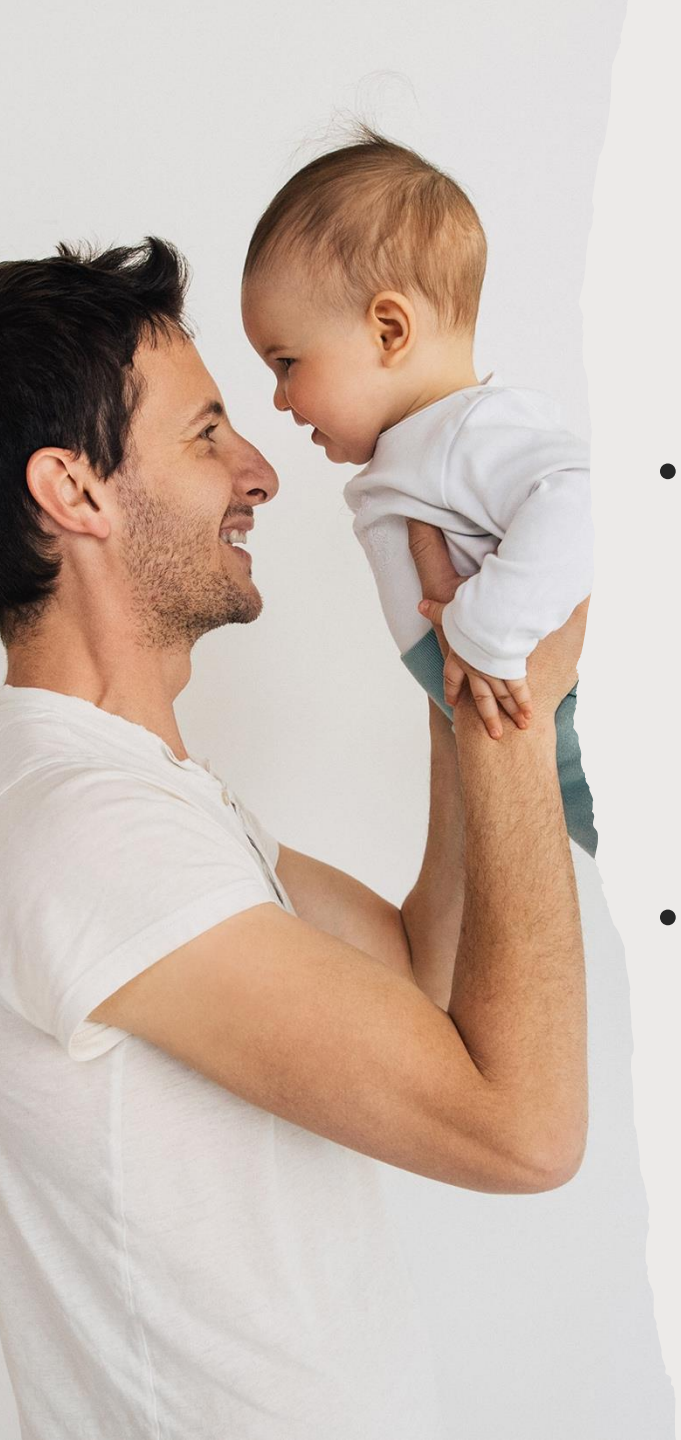

1102
3.93
2.50
1110
3.78
3.25
1118
3.85
3.38
1109
2.26
3.44
1121
3.85
3.56
1112
3.96
3.81
1113
3.70
3.88
1122
3.89
4.00
1101
4.00
4.00

Open-Ended Question:
What would you change about the ePALS program?

- Nothing (n = 4)
- Not sure (n = 1)
- Video chat platform should work better (n = 1)
- Less making videos (n = 2)
  - In person would be better (n = 1)

Findings and Implications

- More participants completed the program in immediate intervention group (90%) compared to waitlist group (33%)
  - Delays to start of intervention → decreased interest in intervention?
- Intervention timeline: longer than expected
  - Coach calls every other week potentially more feasible



Findings and Implications

- Video recorded practice: limited uptake, lower acceptability
  - What would make video recording more feasible?
  - Would synchronous practice and feedback be preferred?
- Active response opportunities: moderate uptake, high accuracy
  - Possible that participants inclined to respond correctly were more likely to respond overall, participants inclined to respond incorrectly less likely to respond
  - What if responses were required?

Limitations and Future Directions

- Challenges with recruitment and retention
- Supports for online learning
- More input from IDD community

Questions and Discussion

Thank you!

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