

Background

- ❖ 35% of US preschoolers are overweight or obese, the highest prevalence in nearly a decade
- ❖ Prevention Plus Intervention (PPI) is the recommended first intervention for pediatric obesity treatment in primary care settings, i.e., Stage 1
 - ❖ Pediatrician-delivered motivational counseling to collaboratively set diet and activity goals
- ❖ Multiple barriers to PPI implementation:
 - ❖ Caregiver (e.g., multiple work absences)
 - ❖ Provider (e.g., no training in MI)
 - ❖ Systems-level (e.g., short length of well-child visits)
- ❖ Adapting PPI for mobile delivery may overcome barriers
- ❖ mHealth Prevention Plus Intervention (mPPI-P) intervention components:
 - ❖ **Motivation Enhancement System**
 - ❖ Technology-based eHealth intervention to build motivation
 - ❖ Introduces 3 S's, our behavioral strategies to reduce preschooler sugary drinks
 - ❖ Encourages caregivers to set a goal to use/increase use of the 3 S's
 - ❖ **Text Message Support**
 - ❖ 1-month of automated 2-way text messages to provide support and reinforcement of the 3 S's goals selected
 - ❖ Elicits barriers and facilitators of the use of the 3 S's
 - ❖ Provides tailored feedback to support use of the 3 S's

Aim

- ❖ To use a human-centered approach to inform content development for the text message intervention component

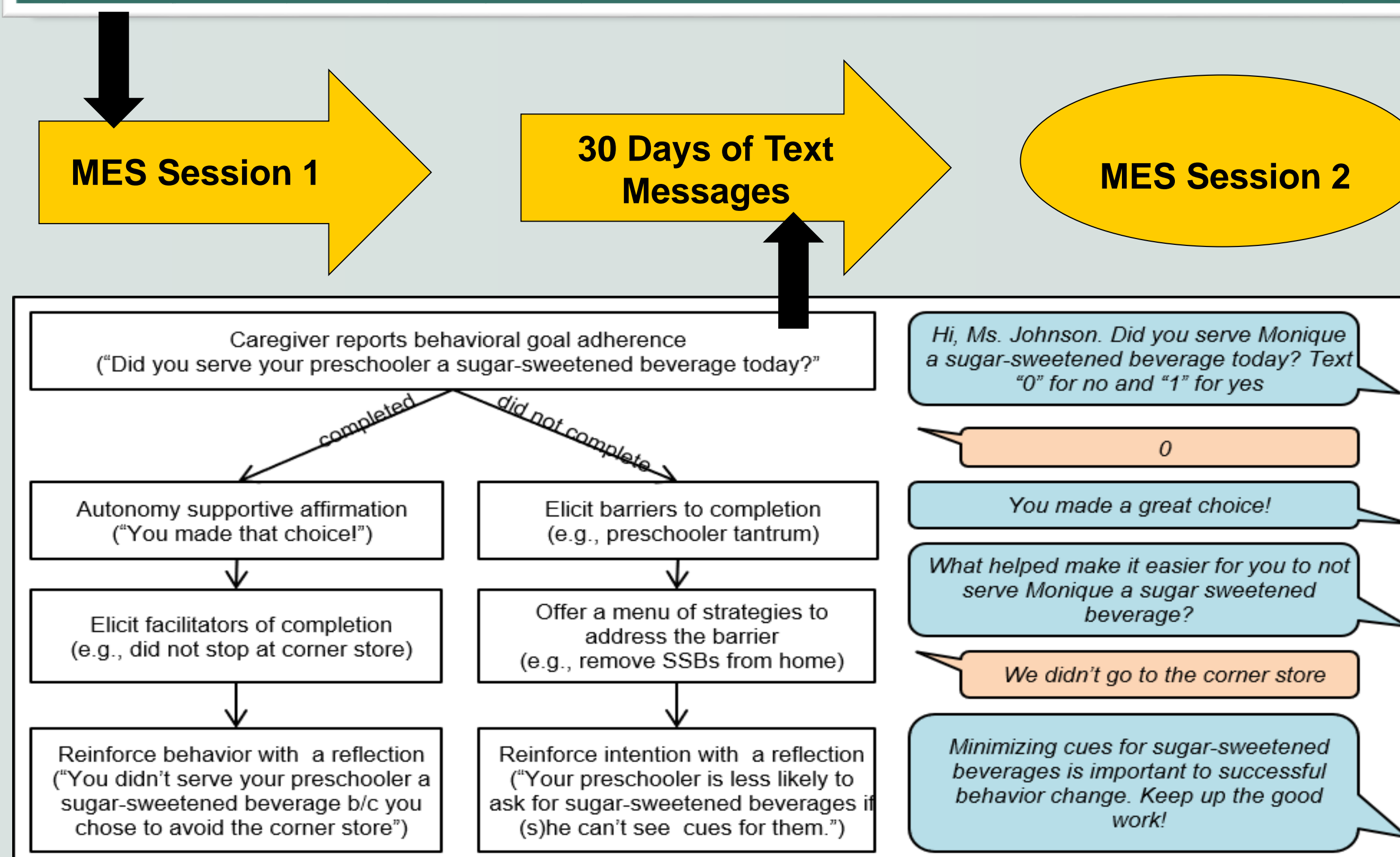
Methods

- ❖ **Participants**
 - ❖ 10 caregivers of preschoolers with overweight/obesity from low-income backgrounds
- ❖ **Design**
 - ❖ 1 study visit
 - ❖ Mixed methods
- ❖ **Measures**
 - ❖ **"Changing my Preschooler's Sugary Drink Intake" Questionnaire** (Nickelson et al., 2014)
 - ❖ Lists 28 barriers and 28 facilitators
 - ❖ Caregivers endorsed all relevant barriers and facilitators
 - ❖ Ranked the top 5
 - ❖ **Semi-Structured Qualitative Interviews**
 - ❖ Explore feasibility & acceptability of the MES intervention session
 - ❖ Understand caregivers' experiences with ranked barriers and facilitators
 - ❖ Assess feasibility & acceptability of the text messaging frequency, content, tone, and delivery
 - ❖ **Data Analysis**
 - ❖ Questionnaire data: tallied to identify the top 5 barriers and facilitators
 - ❖ Interviews: coded to consensus by two coders using the Framework Matrix Method

mHealth Prevention Plus Intervention (mPPI-P)

Strategies to reduce preschoolers' sugary drink intake:

1. Substitute water in place of sugary drinks.
2. Stop buying sugary drinks.
3. Support family change.



RESULTS

Feasibility & Acceptability of Text Messages

Component	Proposed	Caregiver Preference/Suggested Modification
Message Frequency	Daily	Prefer 2-3 times weekly "Once a day is going to start getting on people's nerves." Prefer 2-3 times daily "Knowing that my barriers are still around, that would help me a lot more."
Message Content	Goal check-in: "Did you use the '3 S's' today?" "Text '0' for 'no', and '1' for 'yes'."	More real-time suggestions and reminders "Hey, it might be mealtime and just make sure you're cutting back on SSBs" or "Did you know that you can replace juice with 100% apple juice or water."
Tone	Formal vs. Informal	Mixed feelings: "Someone on the other end of the phone constantly, like, mm, can make someone change their mind or implement healthy choices just to let someone know they care- someone cares" "You can't be too nice when you're trying to get stuff done."
Delivery	Getting program while waiting or before leaving child's doctor's office Child's doctor sending the link to complete the session	Mixed feelings: "It'll kill some time. You will learn a lot, and it'll help you out." "That's the last thing they [caregivers] thinkin' about at the doctor's office." "You'll be able to do it on your own time when it's more convenient for you." "You might just get too busy when you're at home, and you don't find the time to look at it."

Top 5 Facilitators

I want my child to avoid serious health problems. (n=6)	"I don't want my five-year-old daughter to have to prick herself and take insulin."
I want my child to be healthier. (n=6)	"It's very important when it comes to the child's health to eliminate those unnecessary sugars."
I want my child to get the vitamins, minerals, and nutrients they need. (n=5)	"I make sure he eats his fruits. I make sure he's drinkin' the water, and I'm just implementing more healthier things in him as a child hoping that it grows with him as he gets to be an adult."
I do not want my child to develop cavities or damage permanent teeth. (n=5)	"So my concern is like I don't want their teeth to be rotten. I don't want how, you know, teeth fallin'. I seen kids whose two front teeth just rotted out, you know, like over juice."
I think there are better alternatives to SSBs like milk or water. (n=3)	"If you don't buy it, then you don't have to worry about supplying it."

Top 5 Barriers

Other people may give my child SSBs when I'm not there. (n=7)	"When I turn my back, um, you know, if it's in the household or, you know, different relative or even them goin' to school they may have it [SSBs]."
It would be hard to keep my child from drinking SSBs. (n=3)	"Children are used to habits, and bad habits form over time."
SSBs are available in our house. (n=4)	"After a certain age, a child just goes in the refrigerator and grabs the juices they want. They help themselves, and because they help themselves they tend to choose not the healthiest option."
I like SSBs. (n=3)	"I just want her to be healthier all around, so it starts with me."
My child might whine, complain, tantrum if I took away SSBs. (n=5)	"Because I know he will throw a tantrum in a heartbeat over a honeybun."

Conclusion

- ❖ Most facilitators identified by the target population focus on healthy growth and development, rather than behavior, finances, or preferences
- ❖ Most barriers identified by the target population focus on inability to control others' behavior, family preferences, and SSB availability, rather than costs, health, or child preferences
- ❖ Background information behind each barrier and facilitator was gained to formulate feedback and provide problem-solving strategies that are contextually grounded for this demographic
- ❖ Information gained will inform MES adaptations and development of a bank of tailored feedback messages.

Public Health Implications

Obesity-related comorbidities and complications are a significant threat for the preschoolers with overweight and obesity. mHealth is a promising solution for maximizing likelihood preschoolers with obesity get the recommended care to change their weight trajectories.

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